2025 Statistical **Report**

FuelsEurope

FUELLING EUROPE'S FUTURE

Editor: Liana Gouta

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Foreword

Dear reader,

Robust, independent, and trustworthy data are the cornerstone of informed economic and political decision-making. In line with FuelsEurope's longstanding commitment to transparency and evidence-based dialogue, the Statistical Report 2025 delivers a comprehensive overview of the fuel manufacturing industry, offering stakeholders a solid foundation to build forward-looking strategies.

The report includes data on global energy markets, products demand and international trade flows, fuel specifications, prices and margins, taxation, the integration with the petrochemical sector as well as the environmental performance of the EU fuel manufacturing industry.

The 2025 edition presents the most current insights available for the sector, drawing on the latest accessible data. It is important to note, however, that certain datasets are updated every two or four years.

In this year's edition, new graphs were added to highlight the growing consumption of biofuels in the EU, and to illustrate Europe's lagging in the development of carbon capture, usage and storage (CCUS) technology compared to other regions of the world. We have also decided to keep graphs on the EU import dependency in light of the long-lasting consequences of the Russian war on Ukraine.

We hope you find this edition insightful and informative, and that it serves as a valuable resource and trusted reference point for your work throughout the year.

Liana Gouta
Director General

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Prices & Margins

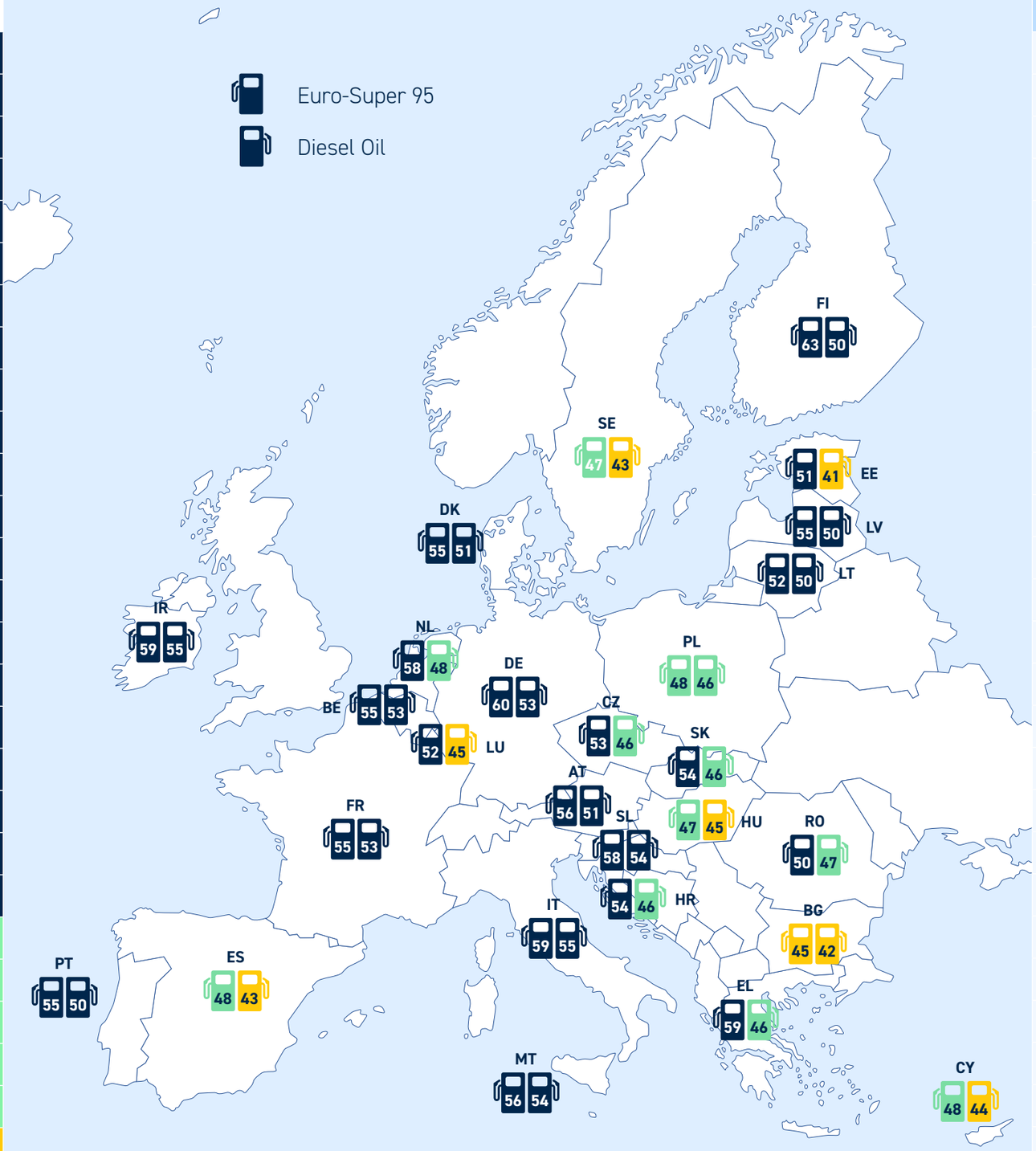
.01

FIGURE
01

TOTAL TAXATION SHARE IN THE END CONSUMER PRICE (JANUARY 2025)

Source: European Commission

COUNTRY	Euro-super 95
FINLAND	63
GERMANY	60
IRELAND	59
ITALY	59
GREECE	59
NETHERLANDS	58
SLOVENIA	58
AUSTRIA	56
MALTA	56
FRANCE	55
BELGIUM	55
DENMARK	55
PORTUGAL	55
LATVIA	55
SLOVAKIA	54
CROATIA	54
CZECHIA	53
LITHUANIA	52
LUXEMBOURG	52
ESTONIA	51
ROMANIA	50
POLAND	48
SPAIN	48
CYPRUS	48
SWEDEN	47
HUNGARY	47
BULGARIA	45



COUNTRY	Diesel Oil
ITALY	55
IRELAND	55
SLOVENIA	54
MALTA	54
FRANCE	53
BELGIUM	53
GERMANY	53
AUSTRIA	51
DENMARK	51
FINLAND	50
LITHUANIA	50
LATVIA	50
PORTUGAL	50
NETHERLANDS	48
ROMANIA	47
CROATIA	46
GREECE	46
SLOVAKIA	46
POLAND	46
CZECHIA	46
LUXEMBOURG	45
HUNGARY	45
CYPRUS	44
SPAIN	43
SWEDEN	43
BULGARIA	42
ESTONIA	41

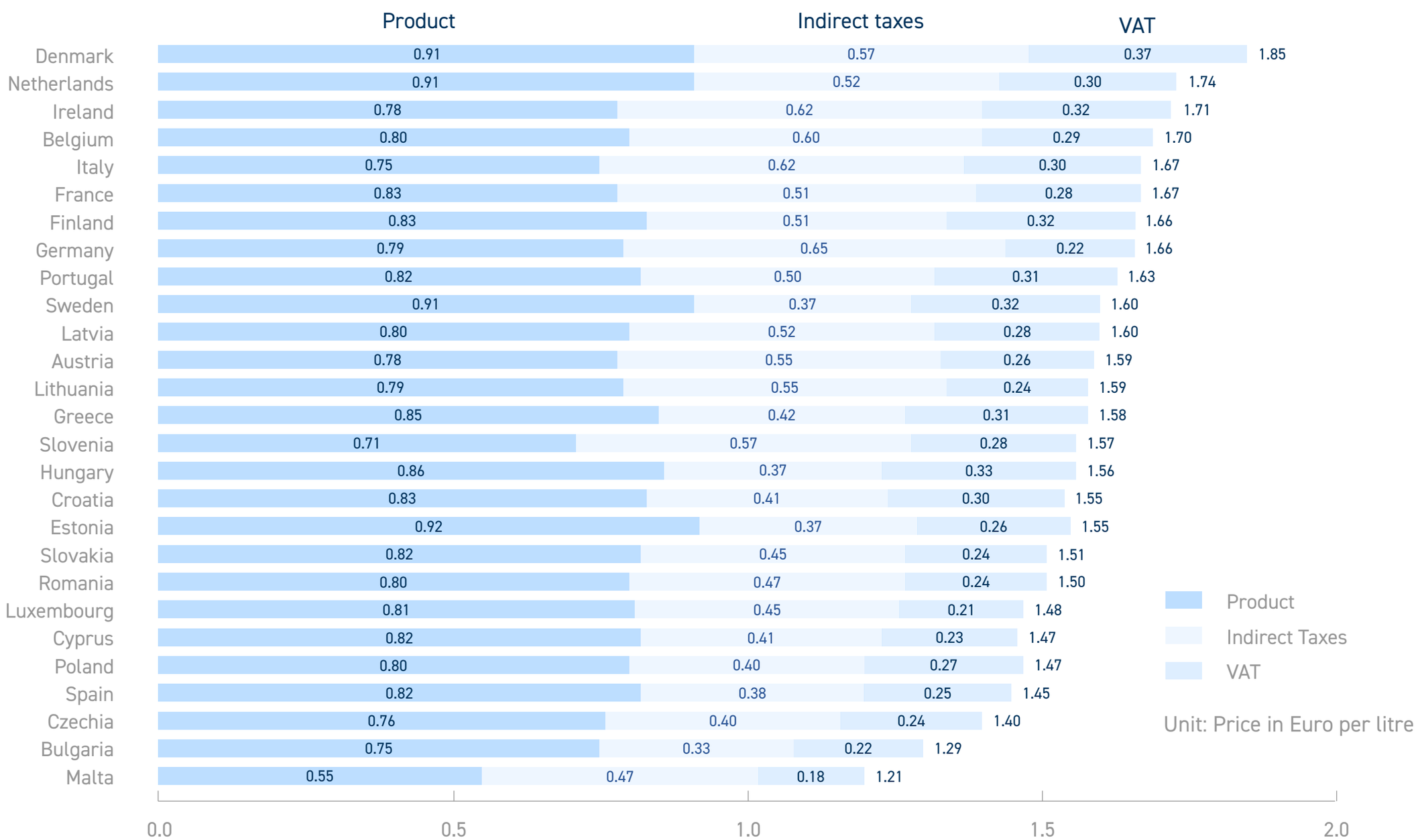
The price at the pump is driven to a large degree by tariffs and taxes which contribute substantially to Member States' revenues. On average, around half of the cost of fuel at the pump represents taxes.

After the extreme rise in fuel prices due to the Russian aggression in Ukraine and subsequent tax cuts decided by Member States in 2021, taxation level went back up.

FIGURE
02

BREAKDOWN OF AUTOMOTIVE DIESEL PRICES
ACROSS EU-27 (JANUARY 2025)

Source: European Commission



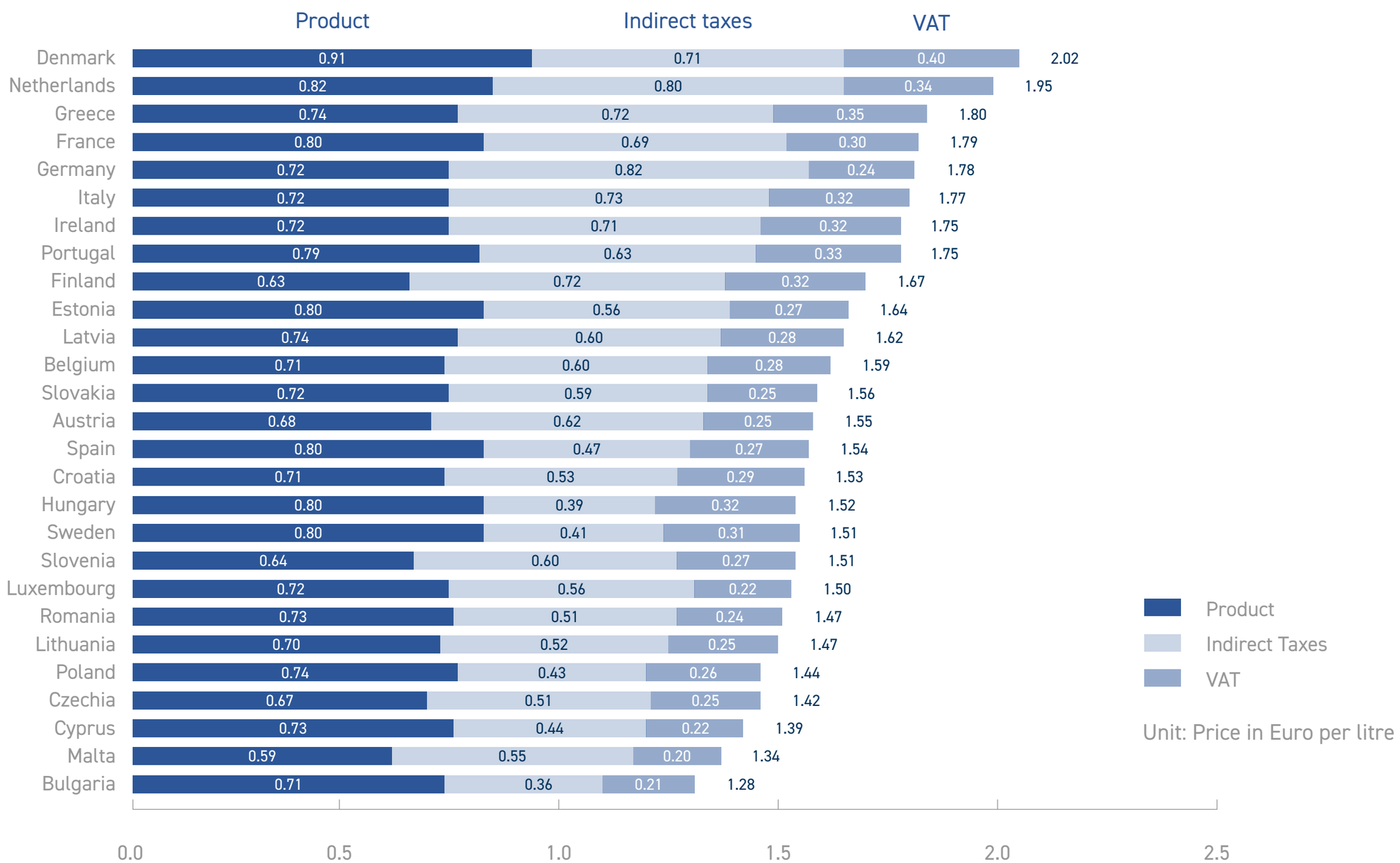
Gasoline prices were generally higher than diesel prices due to the higher tax element. While gasoline prices are still higher on average, we have witnessed that the gap has been significantly reduced. Only a fraction of the price paid at the pump contributes to the refiners income, the remainder is going to Member States and the purchasing of crude oil.

Note: Please note that due to rounding, figures may not add up.

FIGURE
03

BREAKDOWN OF AUTOMOTIVE GASOLINE PRICES
ACROSS EU-27 (JANUARY 2025)

Source: European Commission



Gasoline prices were generally higher than diesel prices due to the higher tax element. While gasoline prices are still higher on average, we have witnessed that the gap has been significantly reduced. Only a fraction of the price paid at the pump contributes to the refiners' income, the remainder is going to Member States and the purchasing of crude oil.

Note: Please note that due to rounding, figures may not add up.

FIGURE
04.a

GASOLINE AND DIESEL **UNTAXED PRICE DEVELOPMENT 2020-2025**

Source: European Commission

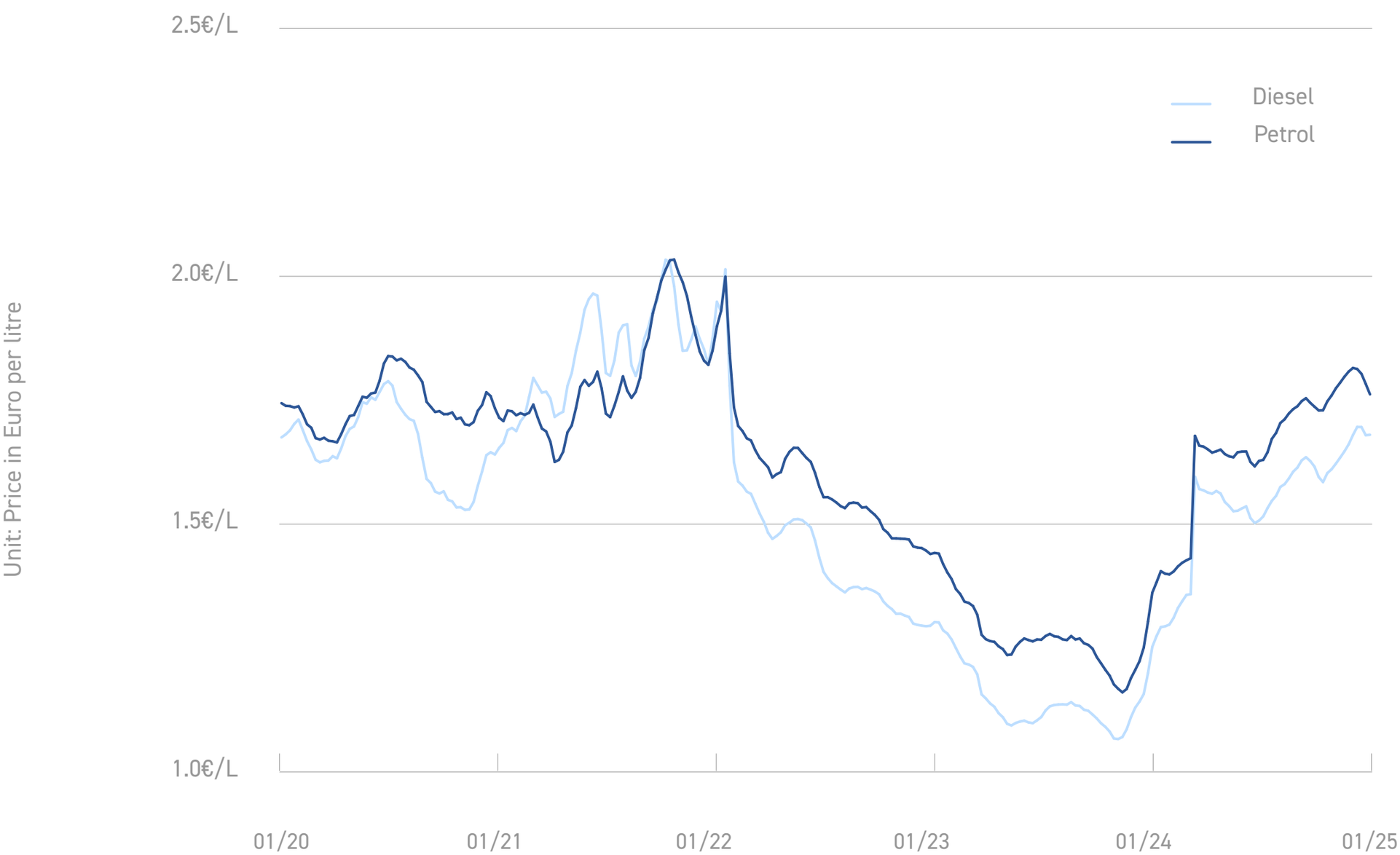
Petrol and diesel prices, which fell during the 2020 Covid-19 pandemic, rose in 2021 due to economic recovery, higher demand, and limited oil supply. Prices peaked in 2022 amid the Ukraine war and Western sanctions on Russian oil.

In February 2023, the EU banned Russian import of diesel fuel and other oil products, yet prices decreased slightly due to imports of refined oil products from the Middle East and Asia as well as a frontloading of imports from Russia ahead of the embargo. Towards the end of 2023, Houthi rebel attacks in the Red Sea caused an increase in prices. Without material disruptions to actual oil production this increase did not last but escalating geopolitical tensions in this region keeps having an impact on prices early 2024.

FIGURE
04.b

GASOLINE AND DIESEL **PRICE WITH TAXES DEVELOPMENT 2020-2025**

Source: European Commission



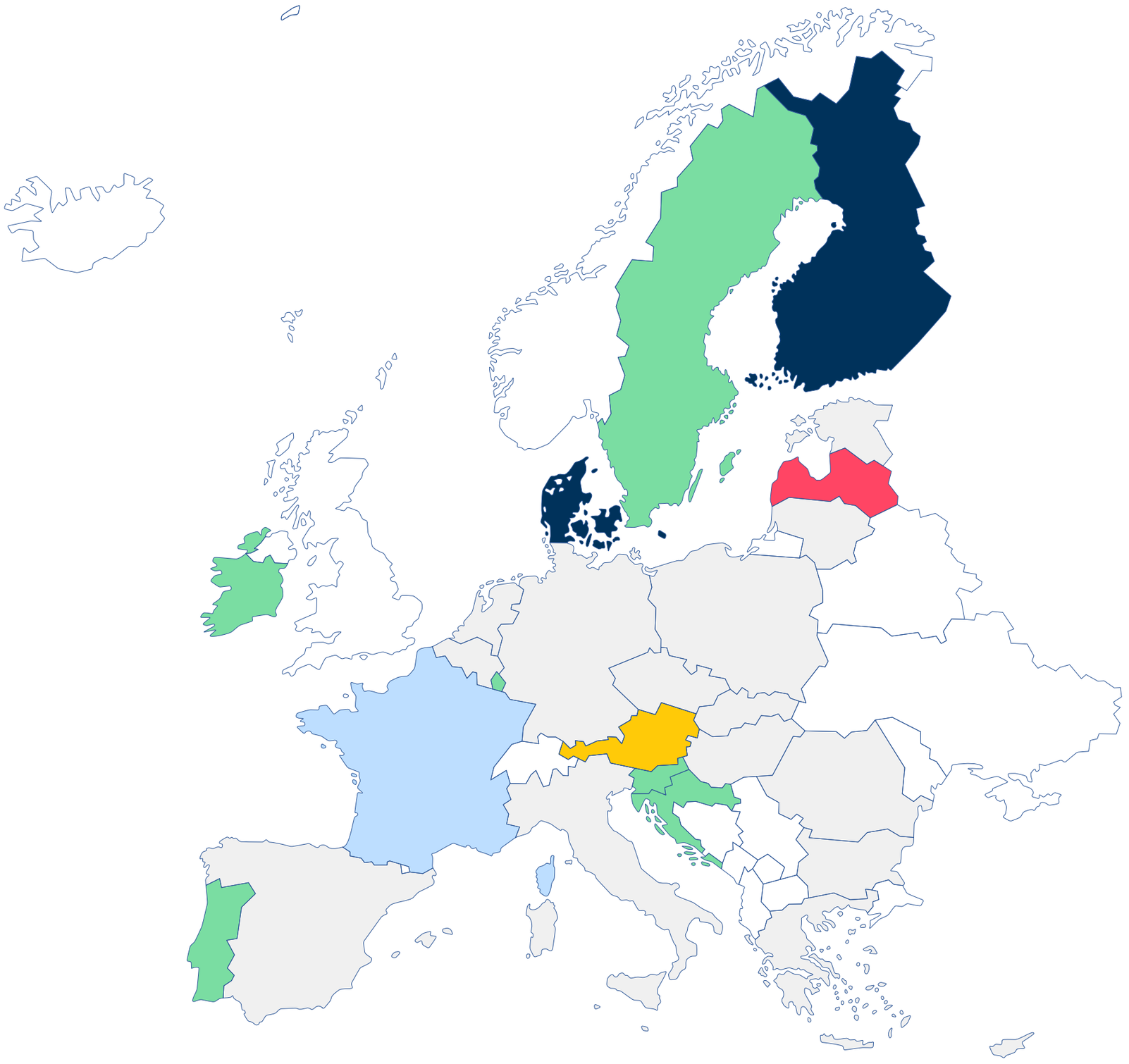
Petrol and diesel prices, which fell during the 2020 Covid-19 pandemic, rose in 2021 due to economic recovery, higher demand, and limited oil supply. Prices peaked in 2022 amid the Ukraine war and Western sanctions on Russian oil.

From March 2022, some EU countries decided to cut fuel taxes to reduce the impact of surging prices on citizens. These measures were dropped during the year 2023 with the relative stabilisation of prices. Towards the end of 2023, Houthi rebel attacks in the Red Sea caused an increase in prices. Without material disruptions to actual oil production this increase did not last but escalating geopolitical tensions in this region keep having an impact on prices in early 2024 and throughout the year, up until 2025.

FIGURE
05

TAX INCENTIVES FOR BIOFUELS
IN TRANSPORT IN EU-27

Source: ePURE, National Fuel Industry Associations, Finnish Ministry of Finance, French Ministry for Ecological Transition



No tax incentive:

Biofuels do not benefit from any tax advantages compared to fossil fuels.

Taxation based on the energy/CO_2 content:

Biofuels are taxed according to their energy content (calorific value) and their average CO_2 emissions.

No excise duty/exempted from certain taxes (components):

Biofuels are not subject to excise duties or are exempt from certain taxes. E.g. Exemption from carbon tax.

Lower tax for low biofuels blends:

Lower taxation rates are applied to biofuel blends with a percentage of fossil fuel content above 70%.

Lower tax for high biofuels blends:

Lower taxation rates are applied to biofuel blends with a percentage of fossil fuel content below 70%.

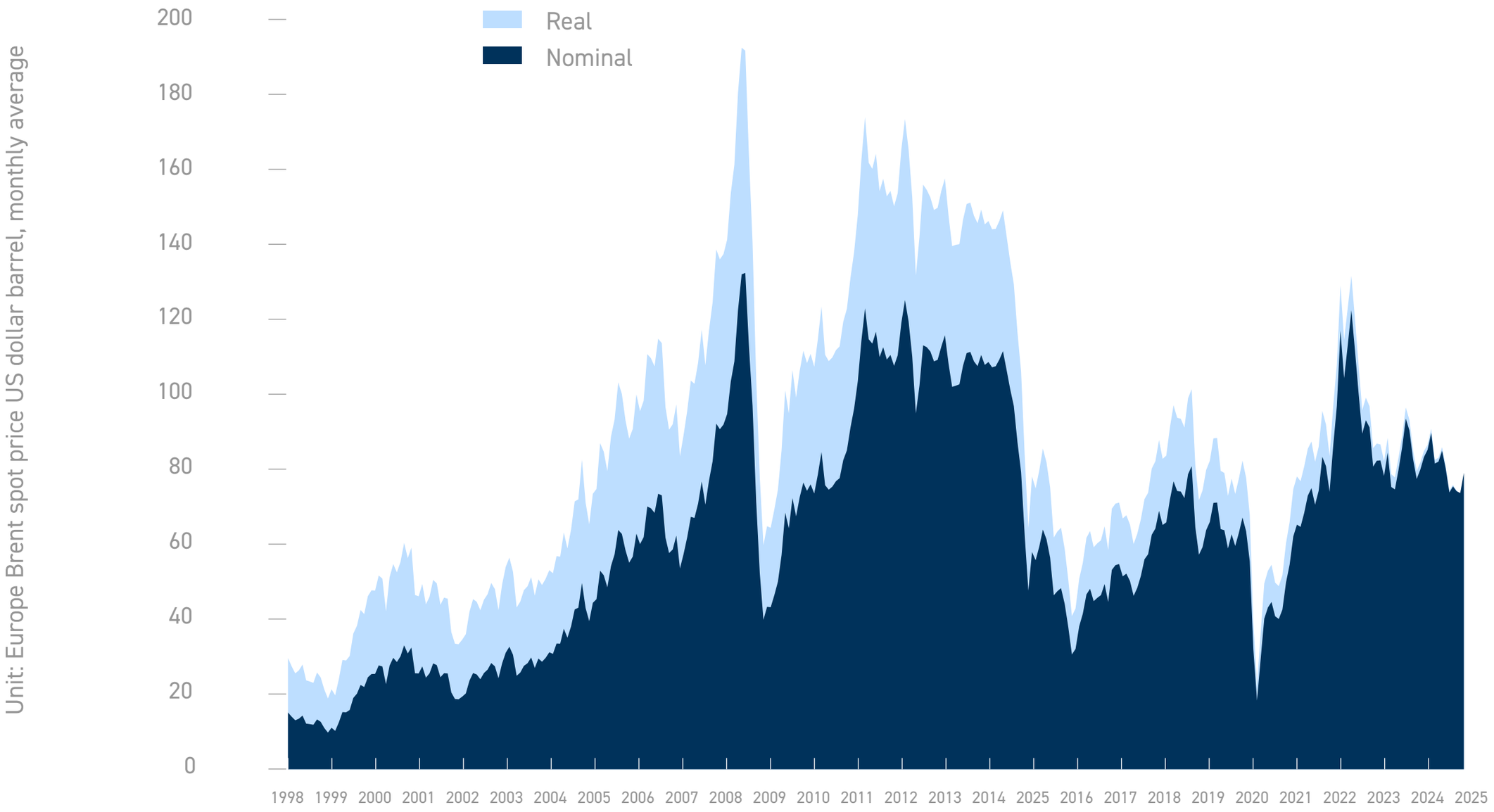
Lower tax for high and low biofuels blends

In the EU, all liquid fuels for a certain purpose or a specific sector are currently taxed at a similar level, regardless of carbon intensity. However, some EU Member States implemented specific taxation incentives to encourage the use of biofuels in the transport sector. The current revision of the Energy Taxation Directive (ETD) included in the Fit for 55 package proposes a taxation based on the climate impact of fuels and energy.

FIGURE
06

CRUDE OIL PRICE EVOLUTION

Source: Energy Information Administration



The EU refining industry operates between two global, open and transparent markets: the market for crude oil and the market for refined products. The main benchmarks are priced in dollars. The price of crude oil is set on international spot markets and reported by designated agencies. The price of oil is an important marker for the global economy and is closely watched by businesses and policy-makers.

Amid the Covid-19 pandemic and a price war between Riyadh and Moscow, demand in April 2020 reached down to a level last seen in 1995. While the oil price level bounced back, following the reopening of the global economy, it dramatically jumped to around $120/ bbl level after the breakout of the Russian war on Ukraine in March 2022 to go back to $80/bbl towards the end of 2023 and stayed stable up to January 2025.

FIGURE
07

REFINERS OPERATE BETWEEN TWO GLOBAL COMMODITY MARKETS: CRUDE MARKET AND REFINED PRODUCTS MARKET

Source: Wood Mackenzie

Unit: Average yearly prices US Dollar per barrel

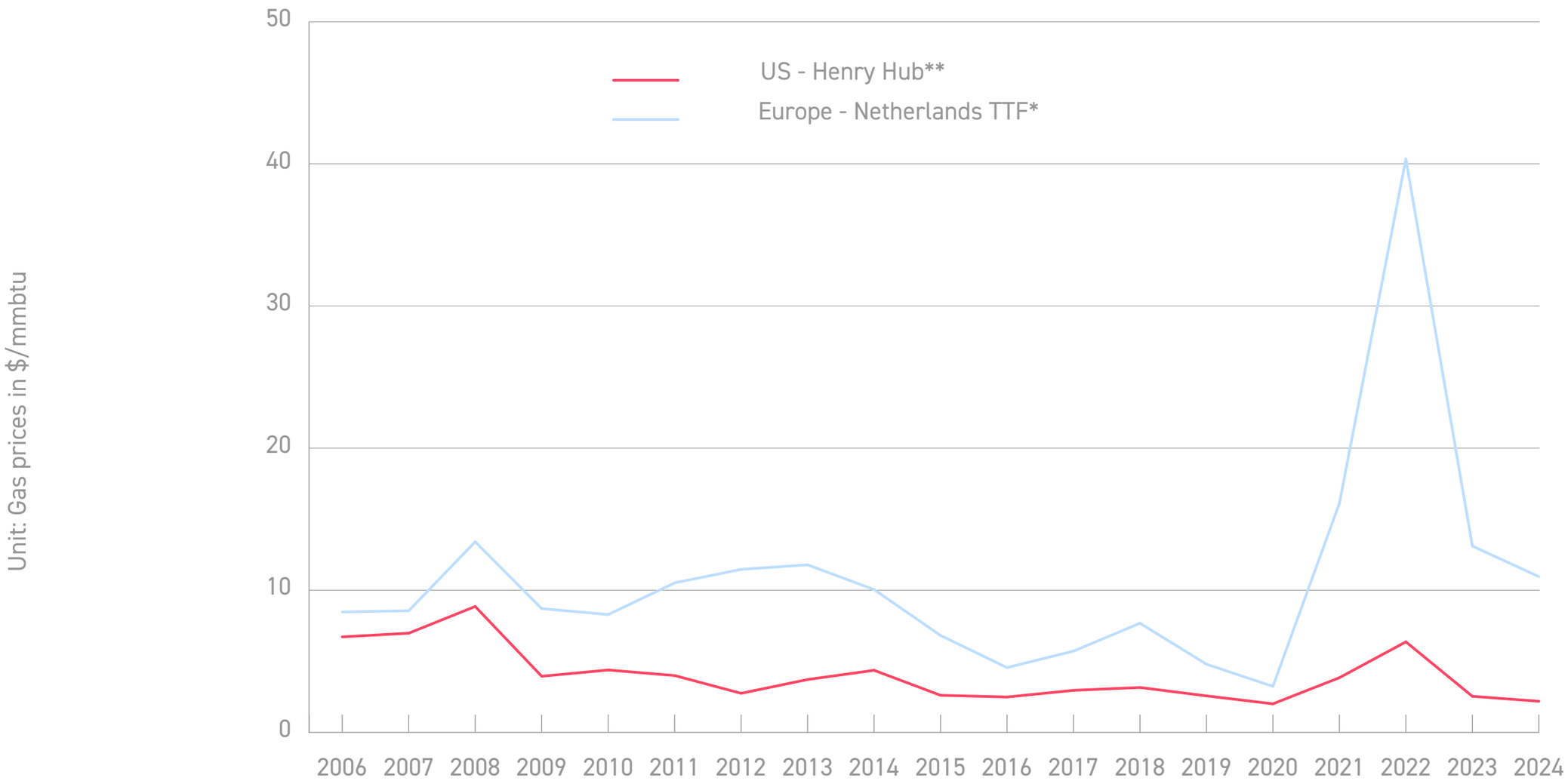
EU refining operates between two global commodity markets, the crude market and the refined products market. The 'crack spread' represents the difference between the cost of crude oil and the market sales price for refined products. Generally, product prices rise with crude prices but the drivers of the difference are many. In historic terms, the profitability has started to decline in a context of falling demand (2008).

After a first, yet small, improvement in 2012-2013 a better period started for refineries in 2015-2018. Profitability started falling again in 2019, with a record low in 2020 due to the global pandemic. The situation improved from 2022 with the end of the outbreak. In 2024, the crack spread increased, especially for diesel, as global stocks went below normal levels due to supply disruptions from geopolitical tensions.

FIGURE
08

EVOLUTION OF GAS PRICES

Source: World Bank



Since 2009, the US industry gained a significant competitive advantage over the EU industry as a result of the shale oil revolution. Gas prices around the world rose in 2021 as Covid-19 measures were lifted and economies returned to normal. Prices in Europe increased sharply in February 2022 as a result of Russia's war in Ukraine, before declining in 2023 due to a reduction in gas demand and a reinforced shift towards imports from the United States to replace Russian gas. In 2024, gas prices in Europe decreased in face of the efforts made to diversify energy sources, increasing imports of liquefied natural gas (LNG), and higher storage levels. The 2024 gas price remains above 10$/mmbtu, equivalent to the 2011-2014 price level.

Note: Prices in nominal dollars.

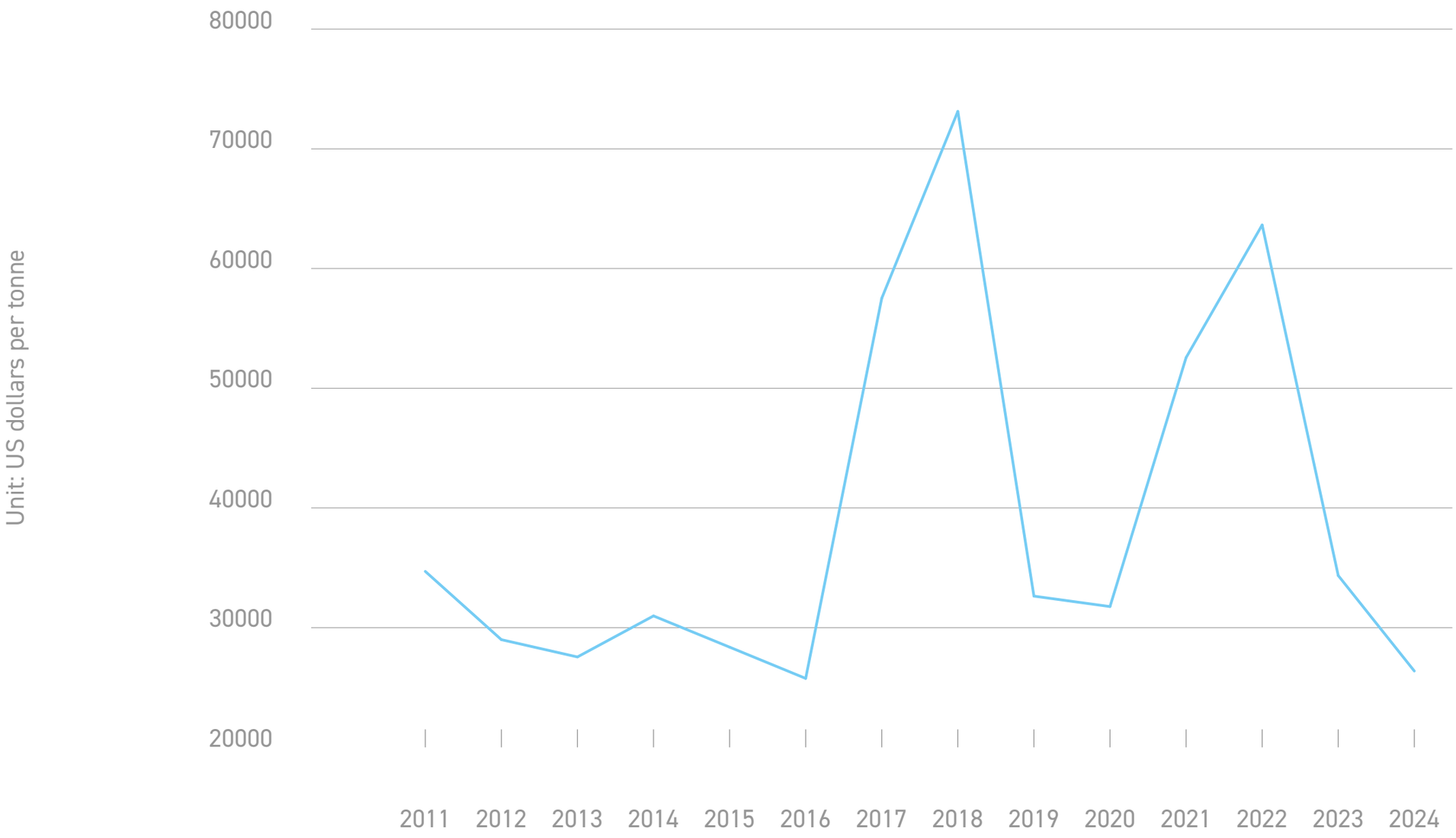
*Natural Gas (Europe), from April 2015, Netherlands Title Transfer Facility (TTF); April 2010 to March 2015, average import border price and a spot price component, including UK; during June 2000 - March 2010 prices excludes UK.

**Natural Gas (U.S.), spot price at Henry Hub, Louisiana

FIGURE
09

EVOLUTION OF COBALT PRICES

Source: Trading Economics



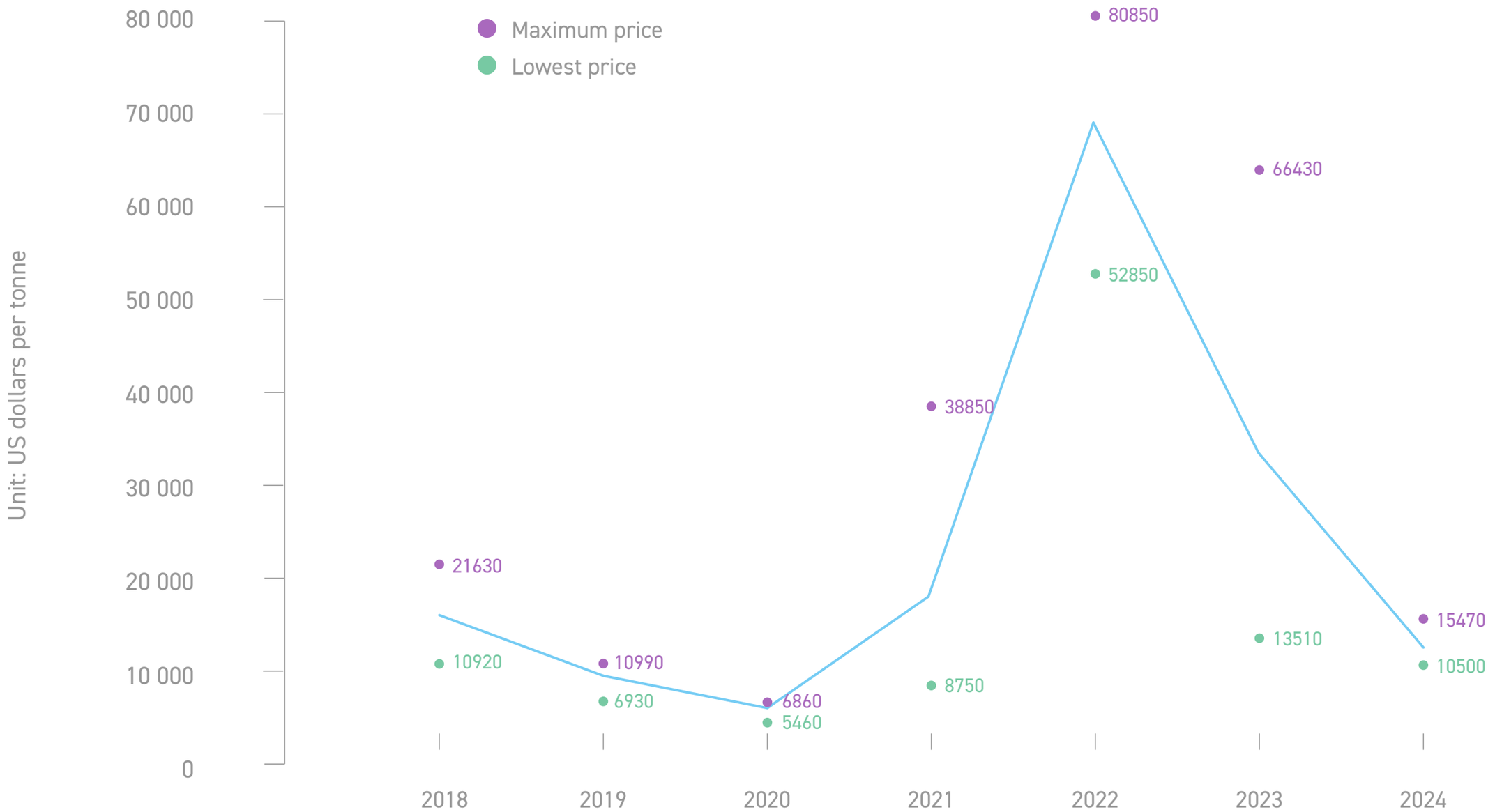
In the past years, Cobalt, a key element in lithium-ion batteries, benefited from robust growth in rechargeable batteries and energy storage due to the impressive demand for electric vehicles. Prices started decreasing in 2023 due to a hike in supply rates and a lower demand from China for its electric vehicle (EV) industry linked to the end of EV subsidies in the country. Most of 2024 cobalt prices have been on the decline due to a decreased demand from the battery sector; falling to a level which have not been seen since 2016.

Note: Prices in nominal dollars.

FIGURE
10

EVOLUTION OF LITHIUM CARBONATE PRICES

Source: Trading Economics



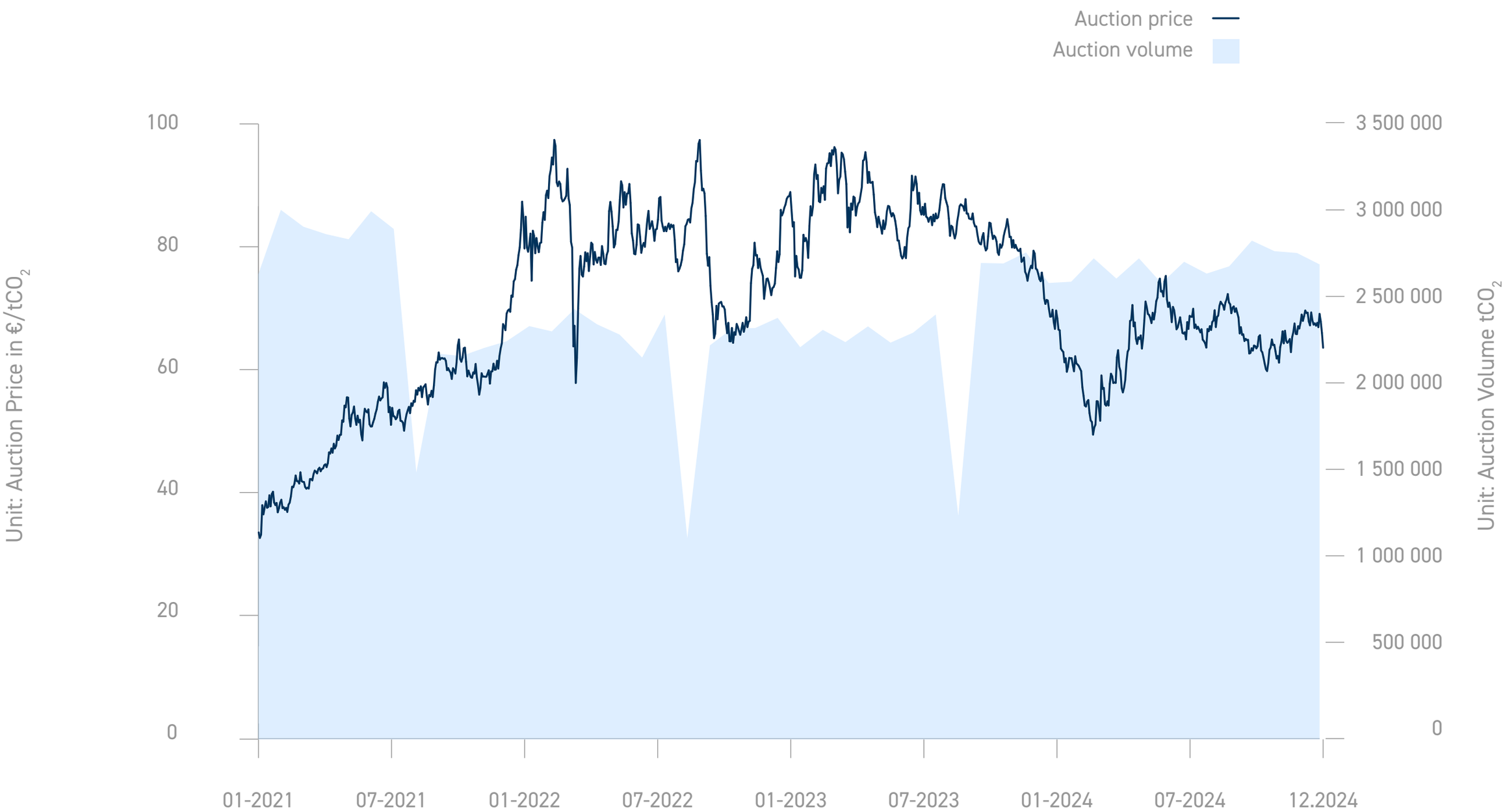
During the period 2018 and 2024, prices have experienced different levels of volatility. Between 2018 and 2020, volatility remained law since prices for lithium steadily declined until 2020, reaching its lowest. As a response to low prices, production remained low. The period from 2021 to 2023, in particular the year 2022, was marked by significant price volatility, as lithium prices jumped to their highest due to an upsurge in electric vehicle sales and depleting stocks of the battery material (i.e. China). Lithium prices dropped in 2023 following the reduction of electric vehicle subsidies in China and a rise in global supply. The decline continued into 2024, with prices falling further and becoming less volatile, primarily due to market oversupply and fluctuating demand from the EV sector.

Note: Prices in nominal dollars Exchange Rate 0.14 between CYN (Chinese Yuan) and USD (US Dollars)

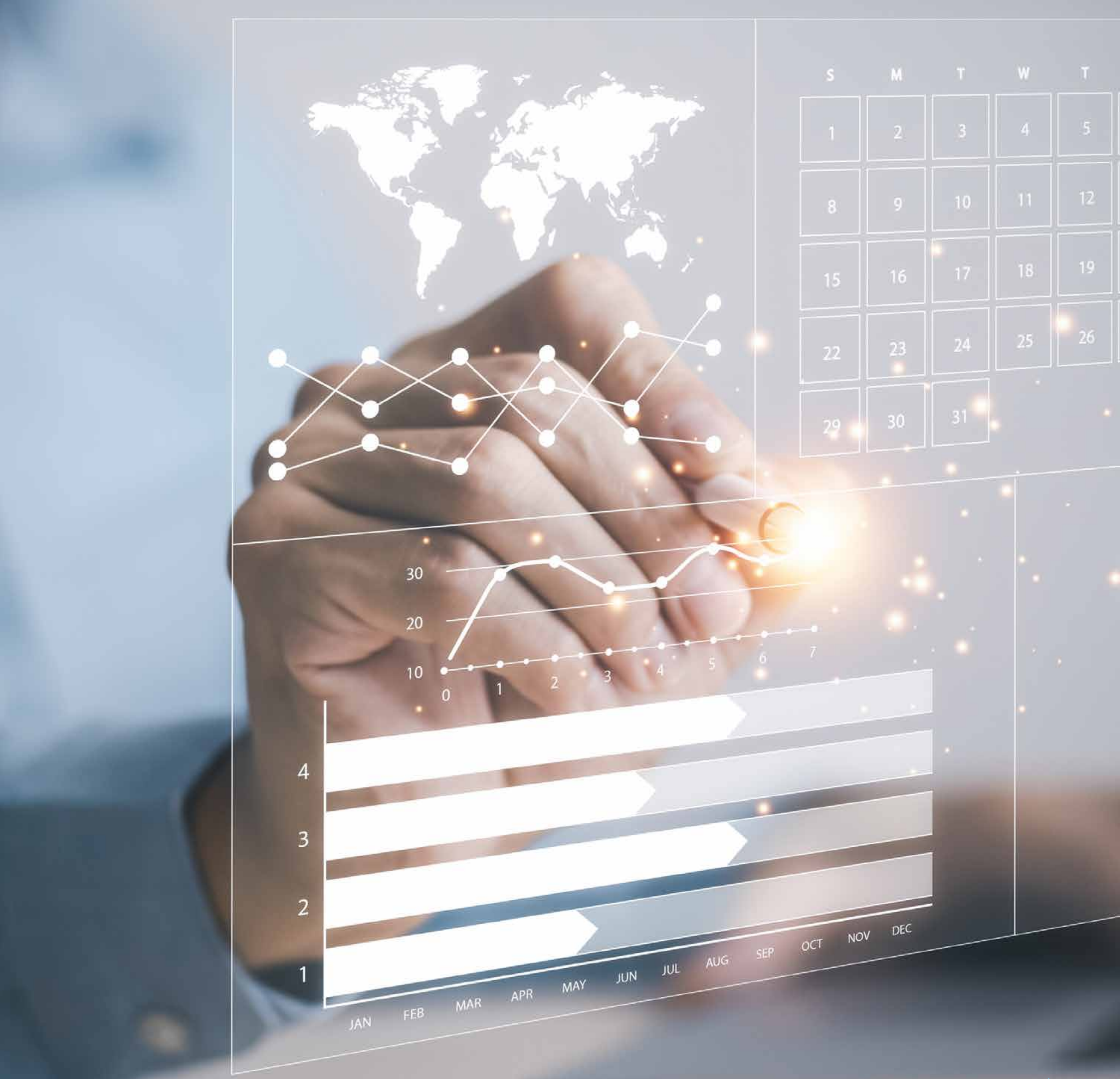
FIGURE
11

EVOLUTION OF CO_2 AVERAGE DAILY **AUCTION** VOLUME AND PRICES WITHIN EU ETS

Source: EEX, ERCST



The EU Emissions Trading System (ETS) works on a “cap and trade” principle. A cap is set to limit the volume of greenhouse gases that can be emitted by the installations and operators covered by the system. This cap is expressed in emission allowances, with each allowance granting permission to emit one metric tonne of CO_2eq (carbon dioxide equivalent). Annually, companies must surrender sufficient allowances to fully offset their emissions; otherwise, they face substantial penalties. Within the cap, companies engage in trading allowances amongst themselves. Due to the closer interaction between energy and carbon markets, the role of the EU ETS as a driver for change and its impact on investments has now increased. Traded volume is also crucial as it allows auction participants to be confident that future auctions are priced at their true value.


S M T W T
1 2 3 4 5
8 9 10 11 12
15 16 17 18 19
22 23 24 25 26
29 30 31
30
20
10
0 1 2 3 4 5 6 7
4
3
2
1
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

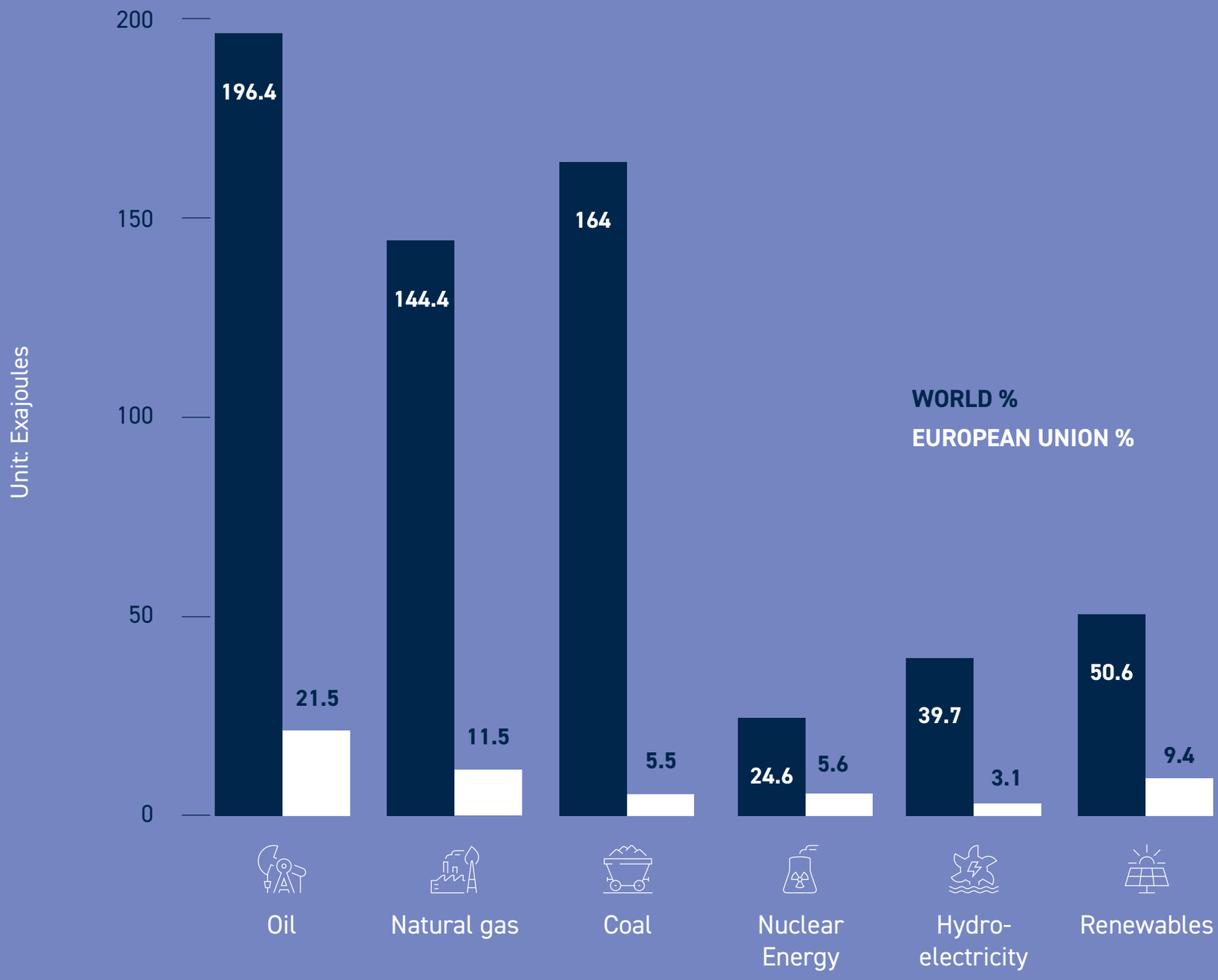
Energy

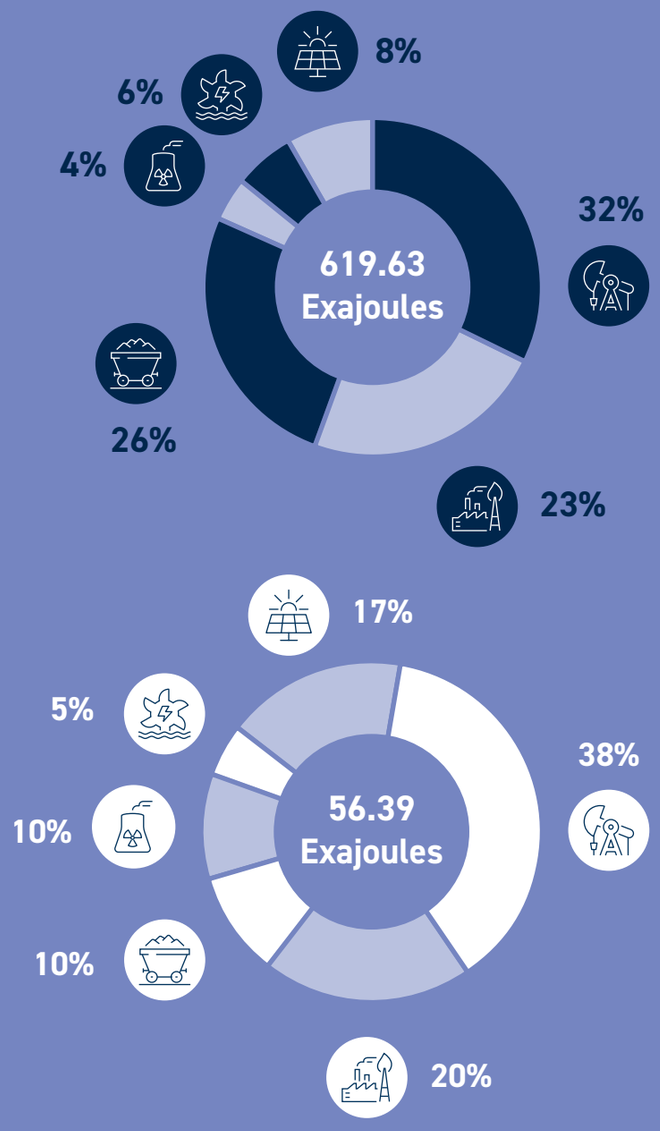
.02

FIGURE
12

WORLDWIDE ENERGY CONSUMPTION
BY FUEL TYPE IN 2023

Source: Energy Institute





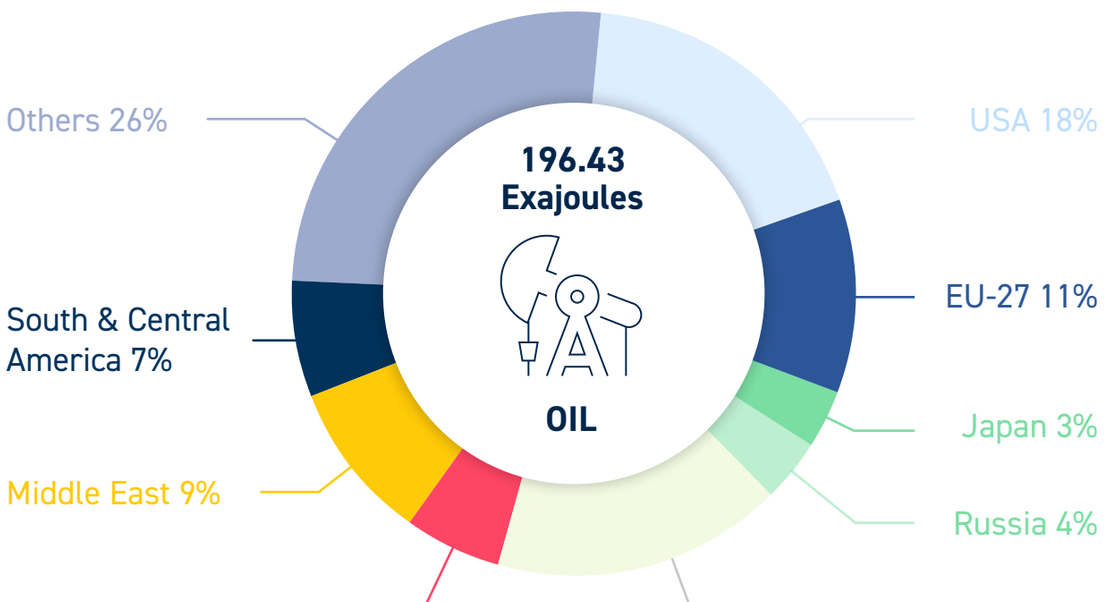
Oil continues to be the dominant fuel type in the world, now representing 32% of energy consumption in 2023, an increase of 1% compared to 2022. Renewables' consumption has also increased by 1% worldwide and by 2% in the European Union.

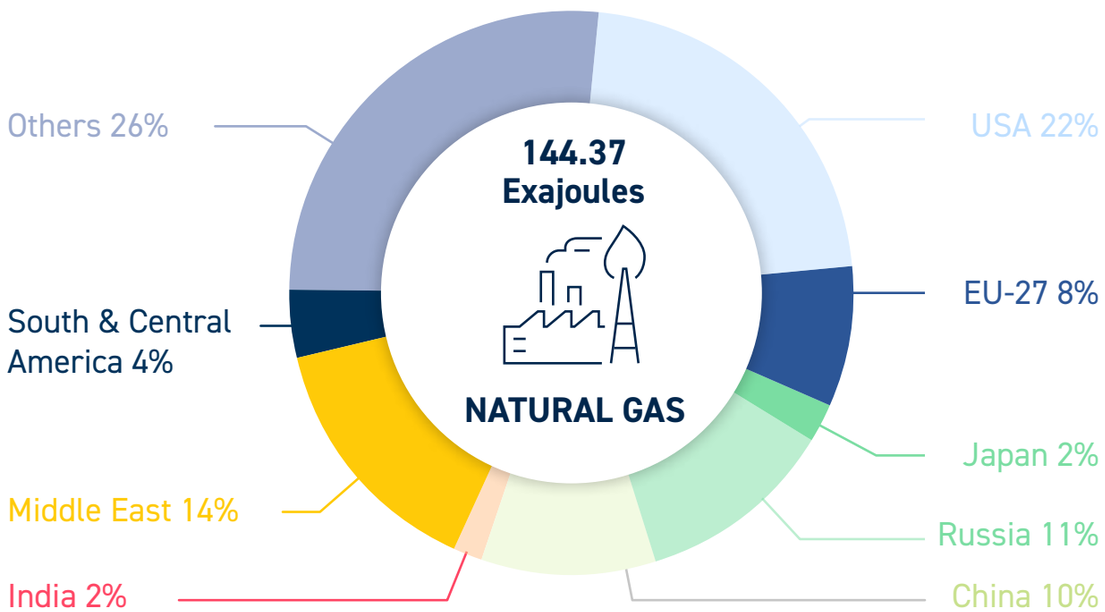
Note: Please note that due to rounding, figures may not add up exactly to 100%.

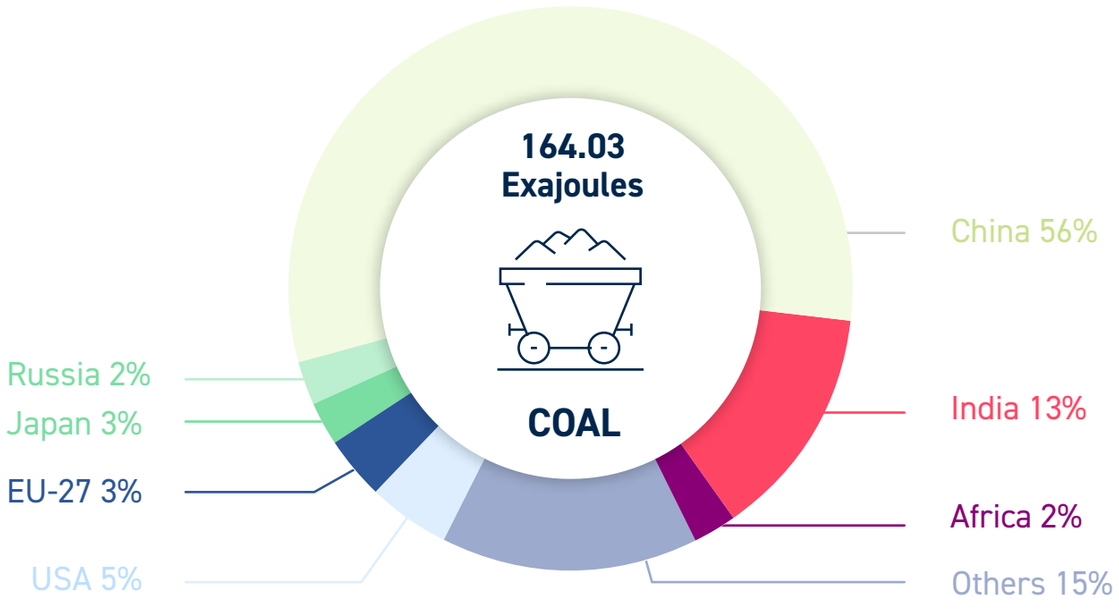
FIGURE
13

WORLDWIDE FOSSIL ENERGY CONSUMPTION BY REGION IN 2023

Source: Energy Institute







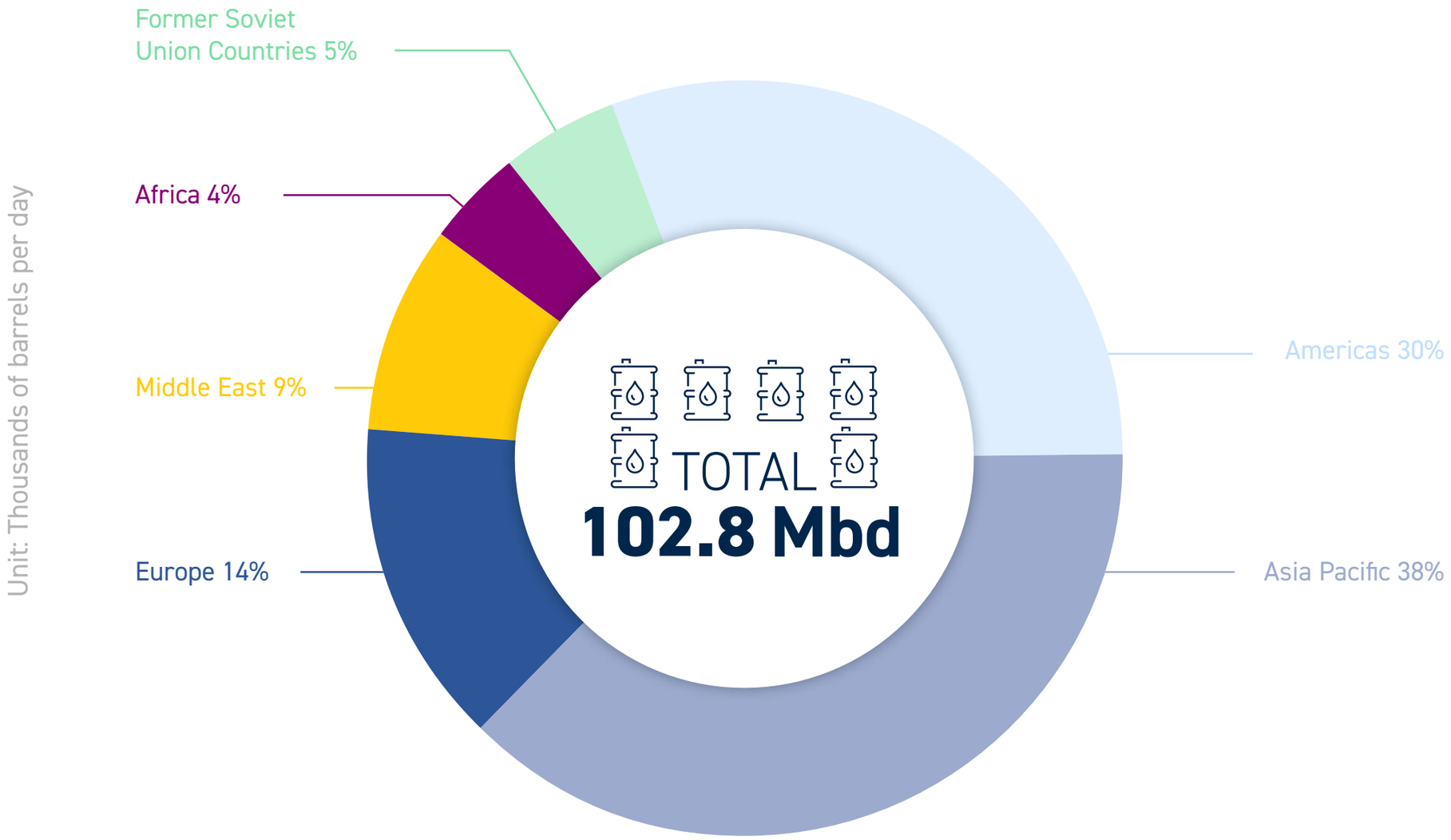
Worldwide fossil fuel consumption has increased by 2,2% between 2022 and 2023. This was largely represented by a 3% increase in oil, a 1,7% in natural gas consumption and a 1,6% increase in coal consumption. However, the EU's consumption of fossil fuels dropped by 7,3% altogether.

Note: Please note due to rounding, figures may not add up to exactly 100%.

FIGURE
14

WORLDWIDE REFINED PRODUCT DEMAND AVERAGED 102.8 MILLION BARRELS PER DAY IN 2024, WITH EUROPE ACCOUNTING FOR 14% OF THE TOTAL

Source: International Energy Agency



Global demand for oil products increased by 0,52% between 2023 and 2024. Europe's demand accounts for 14% while the Asian Pacific region's demand accounts for 38% of global demand, followed by the Americas with 30%.

Note: Please note due to rounding, figures may not add up to exactly 100%.

*Inland demand plus international aviation and marine bunkers and refinery fuel and loss. Consumption of biogasoline (such as ethanol), biodiesel and derivatives of coal and natural gas are also included.

FIGURE
15

EU TOTAL OIL DEMAND AMOUNTED TO 520.6 MILLION TONNES IN 2024 IN THE EU-27

Source: Wood Mackenzie

Unit: Million tonnes per year

COUNTRY	MILLION TONNES
AUSTRIA	11.1
BELGIUM	28
BULGARIA	5.3
CROATIA	3.3
CYPRUS	2.5
CZECHIA	10
DENMARK	7.2
ESTONIA	1.3
FINLAND	8.1
FRANCE	72.5
GERMANY	94.5
GREECE	13.9
HUNGARY	8.4
IRELAND	7.2
ITALY	60.9
LATVIA	1.6
LITHUANIA	3.2
LUXEMBOURG	2.4
MALTA	2.7
NETHERLANDS	40
POLAND	33.9
PORTUGAL	10.4
ROMANIA	10.8
SLOVAKIA	4.5
SLOVENIA	2.4
SPAIN	62.6
SWEDEN	11.9
TOTAL EU-27 = 520.6	
UNITED KINGDOM	65.7
NORWAY	9.1
SWITZERLAND	8.9
TÜRKIYE	52.4
TOTAL = 656.7	

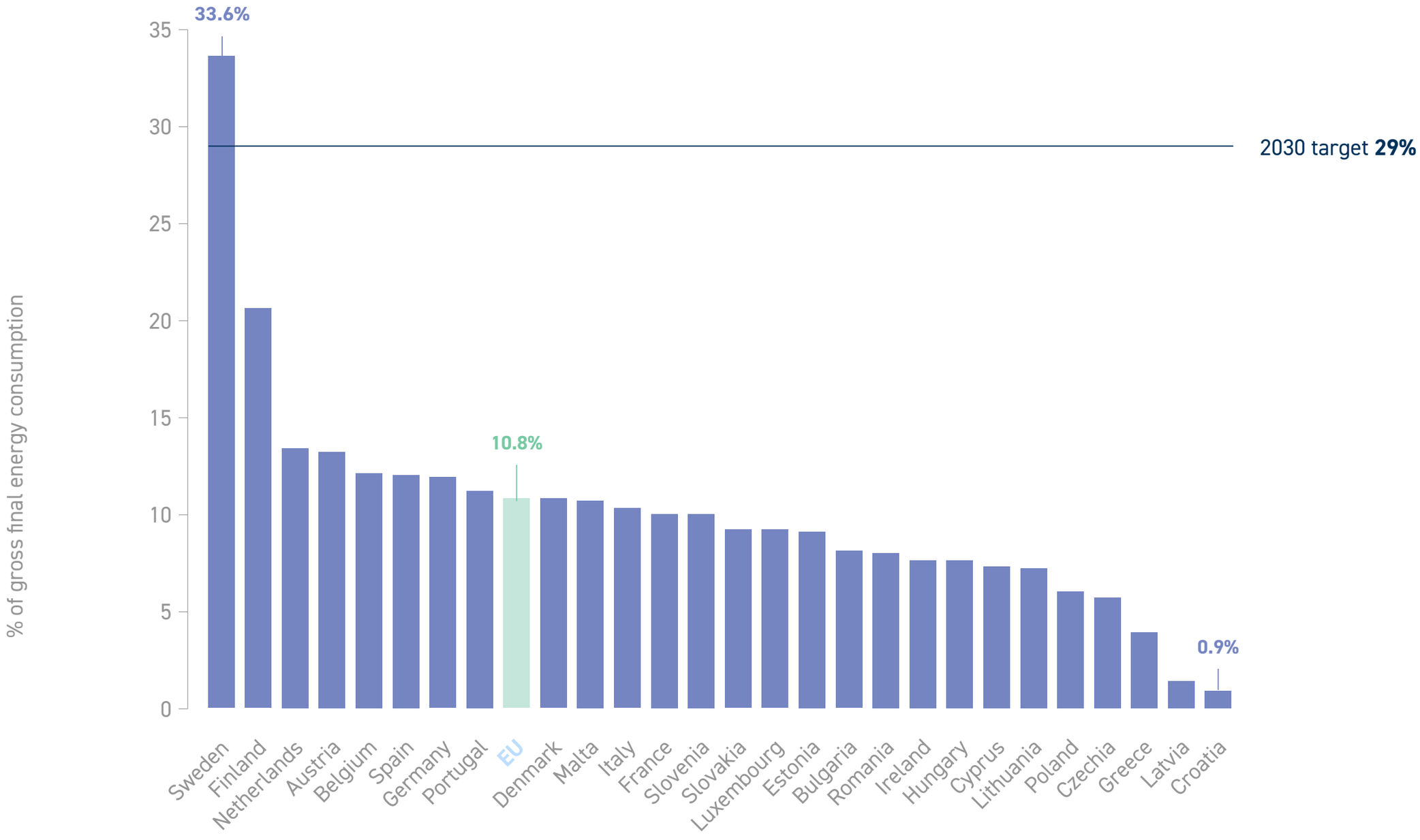
EU-27 total oil demand amounted to 520.6 Mt in 2024. Despite all restrictions being fully lifted since the COVID-19 pandemic, oil demand in the EU-27 decreased by almost 8% since 2019. This was largely represented by Germany and France which have seen a decline in the demand by 19 and 8.1 Mt respectively. However, the largest proportional decreases were seen in Luxembourg and Finland at -20.9% and -19.7% between 2019 and 2024 respectively. Some EU-27 countries, however, have seen substantial increases in demand; such as Bulgaria which climbed by 22.6% (+0.9 Mt) and Malta which increased by 9.4% (+0.2 Mt) between 2019 and 2024.

Note: Due to rounding, figures may not add up.

FIGURE
16

ENERGY FROM RENEWABLE SOURCES USED IN TRANS-PORT ACTIVITIES IN THE EU-27 IN 2023

Source: Eurostat



The EU agreed to set two options for the 2030 target, either a common target of 29% for the share of renewable energy (including liquid biofuels, hydrogen, biomethane, 'green' electricity, etc.) used in transport, or a 14,5% GHG intensity reduction.

The average share of energy from renewable sources in transport increased from 1.6% in 2004 to 10.8% in 2023. Among EU countries, the share of renewable energy in transport fuel consumption ranged from highs of 33.6% in Sweden and 20.6% in Finland down to less than 5% in Croatia (0.9%), Latvia (1.4%) and Greece (3.9%).

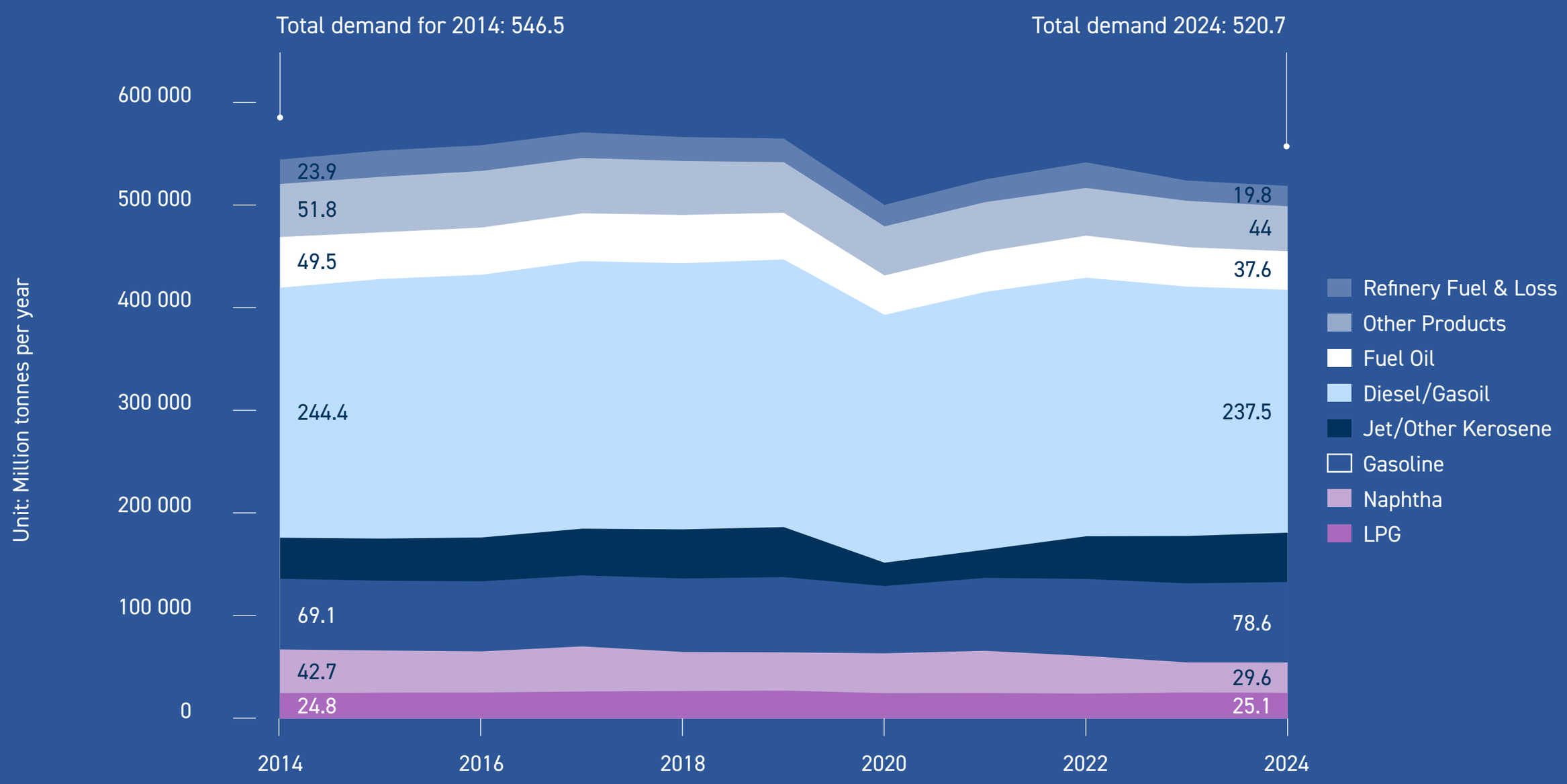
Products

.03

FIGURE
17

HISTORICAL DEMAND FOR OIL PRODUCTS IN THE EU-27

Source: Wood Mackenzie

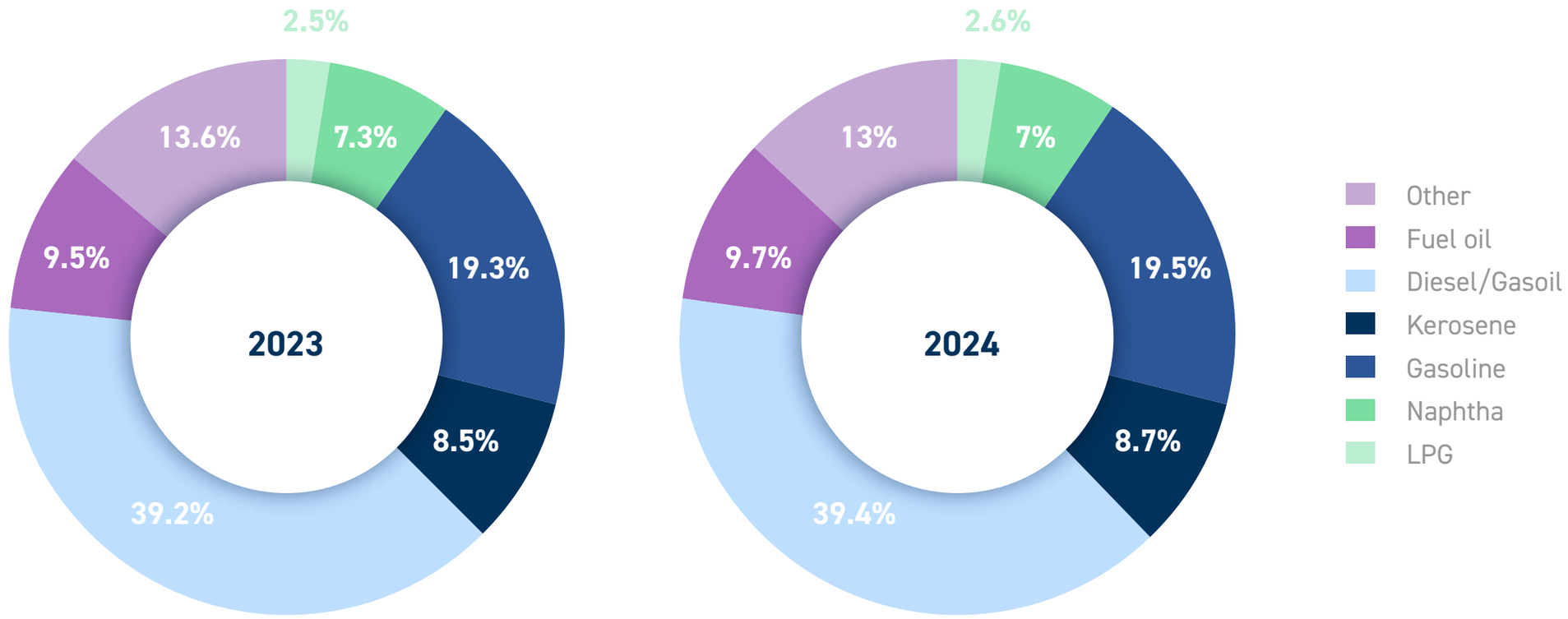


From 2013 to 2019, a slight increase has been witnessed for oil products demand in the EU mainly due to the rise in demand of diesel/gasoil and kerosene products. In 2020, the total demand of oil products decreased by 11% compared with 2019 due to the Covid-19 pandemic. Demand from 2021 to 2024 is stronger but does not reach 2019's level.

FIGURE
18

AVERAGE REFINERY OUTPUT BY PRODUCT TYPE
IN OECD EUROPE IN 2023 AND 2024

Source: International Energy Agency



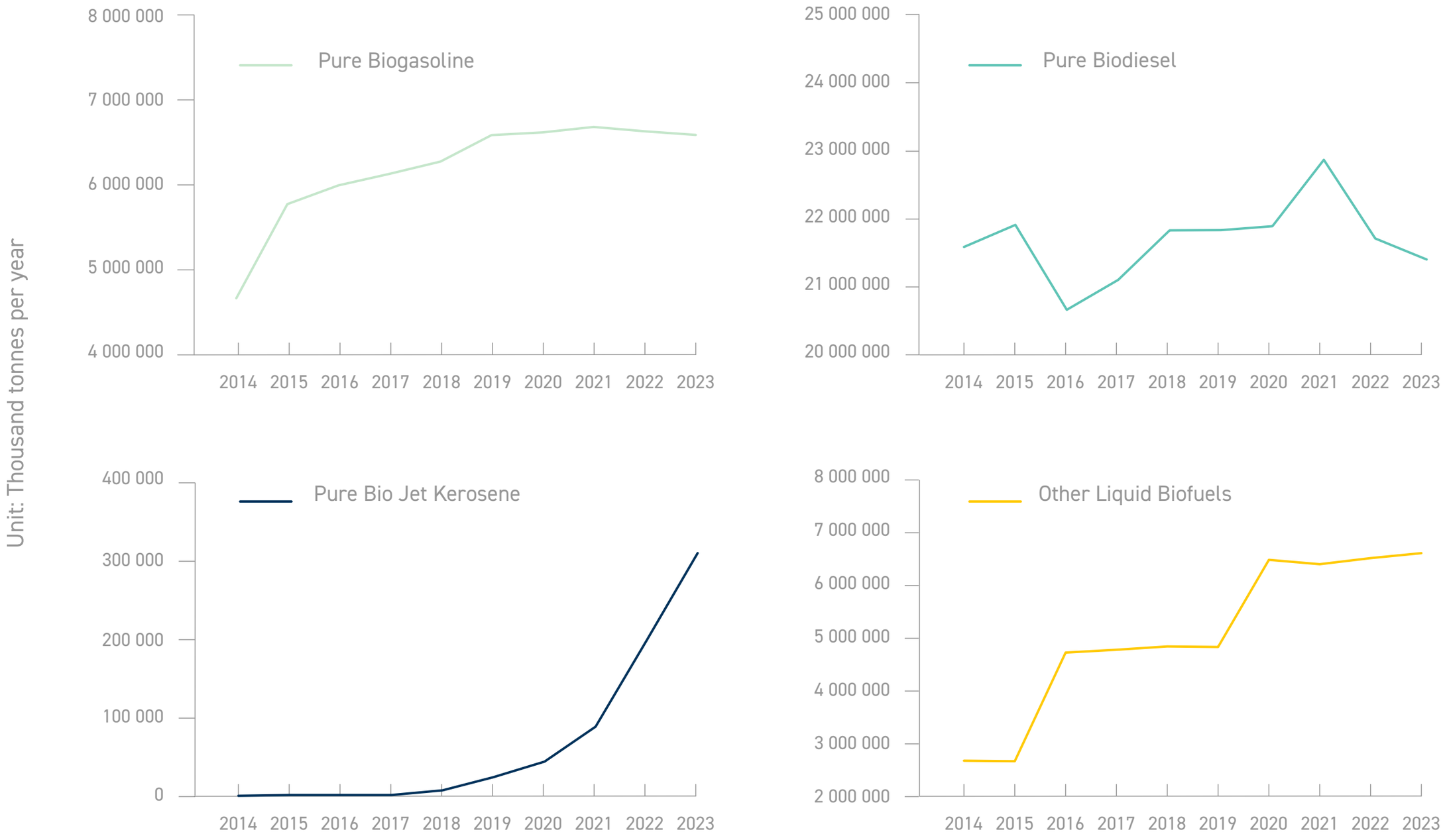
A wide range of products, from transportation and industrial fuels to chemical feedstock, are produced from crude oil. EU refineries also produce many specialty products, such as bitumen for road construction and roofing, lubricants for transport and industry, petroleum coke for the metal industry as well as waxes, solvents and other specialised products. Fuels for transport represent the biggest share of the production.

Note: Please note that due to rounding, figures may not add up.

FIGURE
19

BIOFUELS PRODUCTION IN THE EU-27

Source: Eurostat



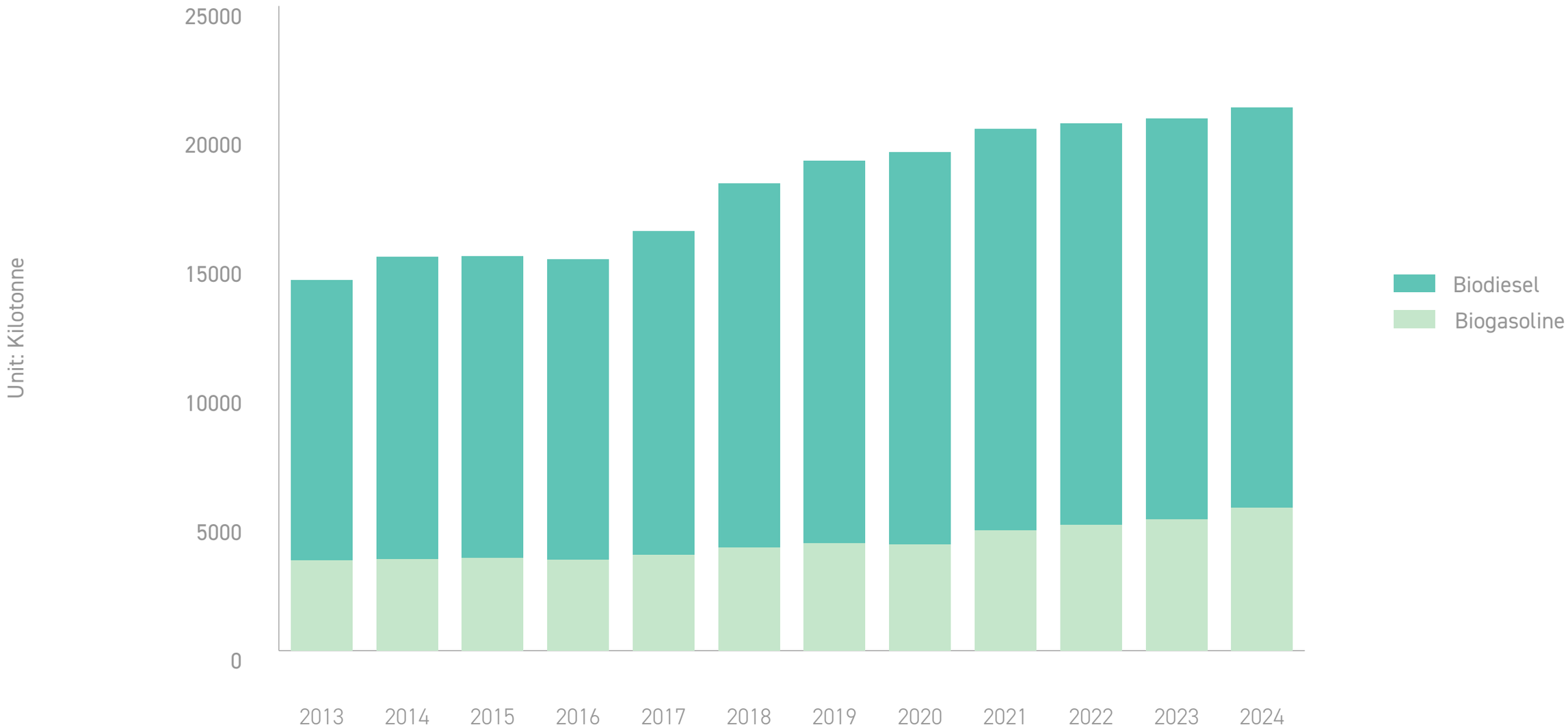
Between 2019 and 2023, the global production of biofuels experienced significant shifts, driven by post-pandemic recovery efforts and increasing demand for sustainable energy sources in the transport sector, signaling evolving priorities in the global energy landscape.

During this time frame, aviation biofuels saw the most substantial growth, with production increasing by 92.3%. Biogasoline and other liquid biofuels have also increased, going up by 0.34% and 26.5% respectively. In contrast, biodiesel production slightly declined by 1.88%, reflecting shifting policy priorities. In 2019, price volatility in feedstocks impacted output, coinciding with RED II revisions. By 2021, biomass was increasingly allocated to sectors with higher emissions savings through national climate plans. In 2023, the Net-Zero Industry Act proposal boosted support for green hydrogen and efuels over biodiesel.

FIGURE
20

EVOLUTION OF BIOFUEL DEMAND IN THE EU-27

Source: Wood Mackenzie

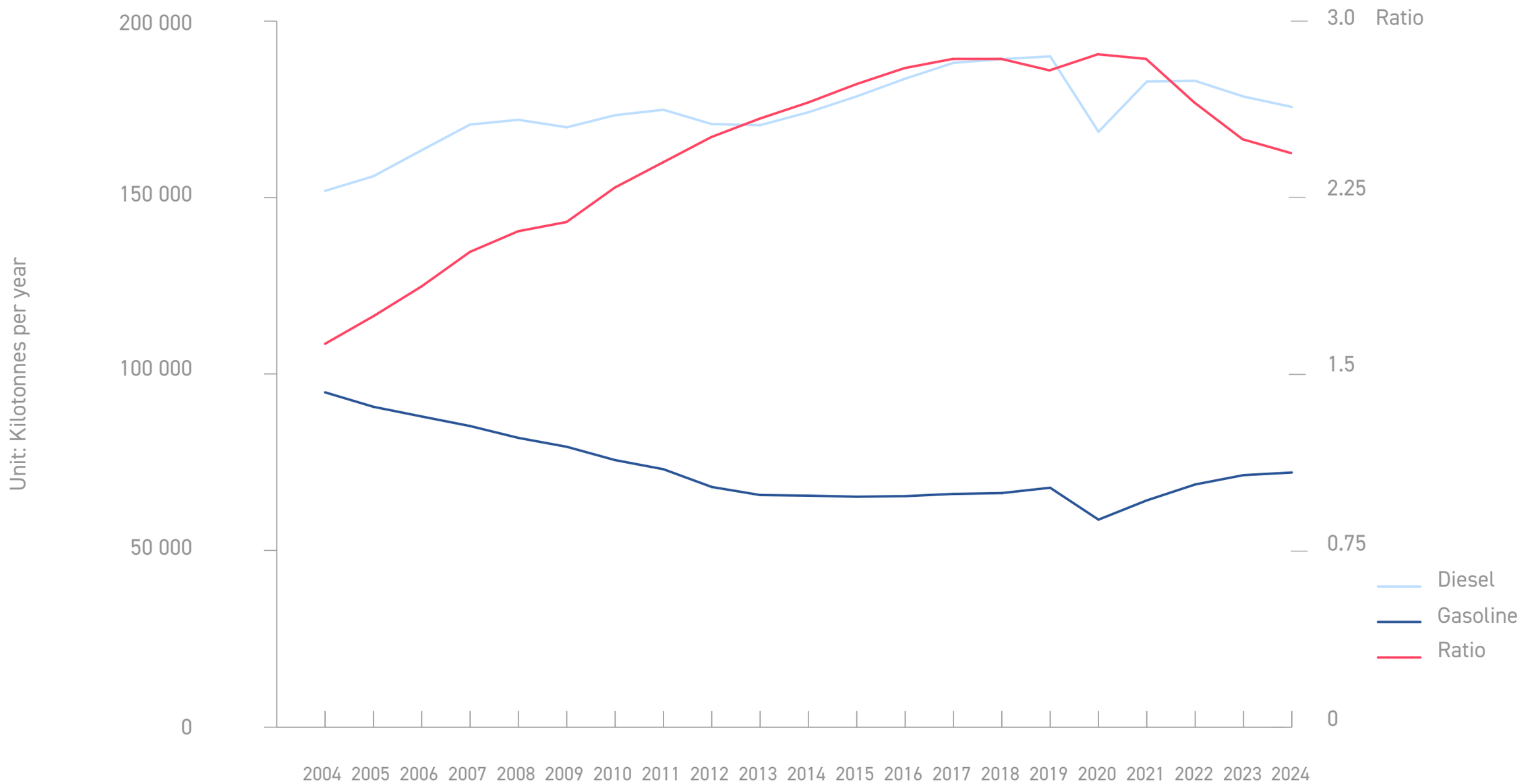


Since 2013, the overall demand for biofuel in the EU has been steadily increasing. Between 2021 and 2024, biodiesel demand has been stagnating, whereas biogasoline demand increased slightly. Biodiesel makes up for the majority of European demand for biofuel as it is more available than biogasoline and represents the only option for trucks and buses.

FIGURE
21

ROAD FUEL DEMAND IN THE EU-27 IN 2024

Source: Wood Mackenzie

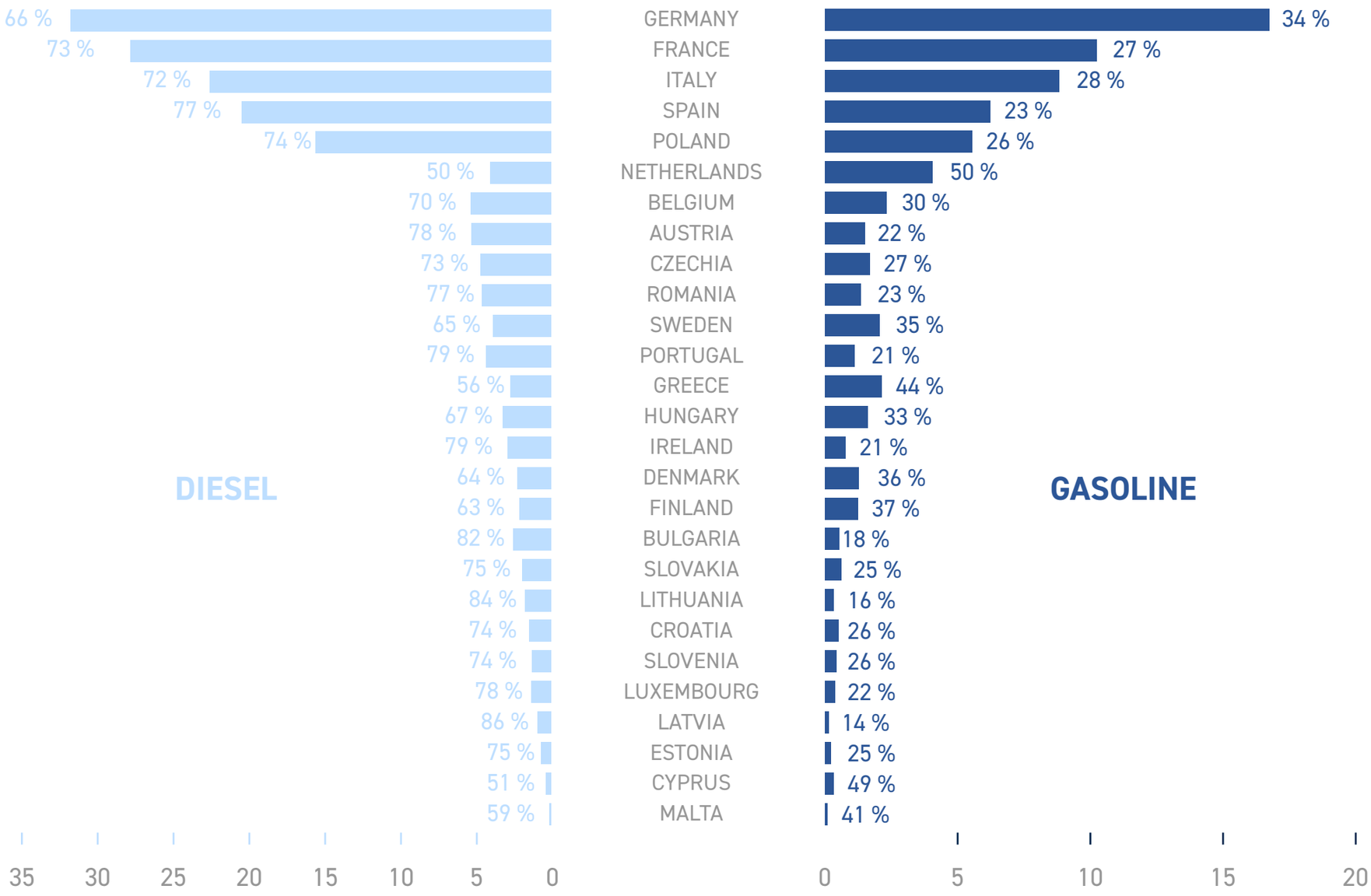


The tax-incentivised dieselisation trend has significantly contributed to a fundamental change in the EU's road fuel demand structure. The shift from gasoline to diesel began some 25 years ago and led to a major demand decline for gasoline as well as a shortage of diesel production in the EU.

FIGURE
22

ROAD FUEL DEMAND IN THE EU-27 BY COUNTRY IN 2024

Source: Wood Mackenzie



Sustained by favourable excise taxes on diesel, the shift from gasoline to diesel over the past two decades led to a higher demand for diesel as a road fuel in the vast majority of EU Member States. In some countries, such as France and Spain, the imbalance is far more pronounced as a result of even more favourable tax policies for diesel.

The continued growth in heavy-duty transport in the EU, driven by the internal market and external trade, has further contributed to spurring diesel demand. However, recent measures to rebalance taxation level of diesel with gasoline could trigger a progressive shift in diesel demand.

Import Dependency

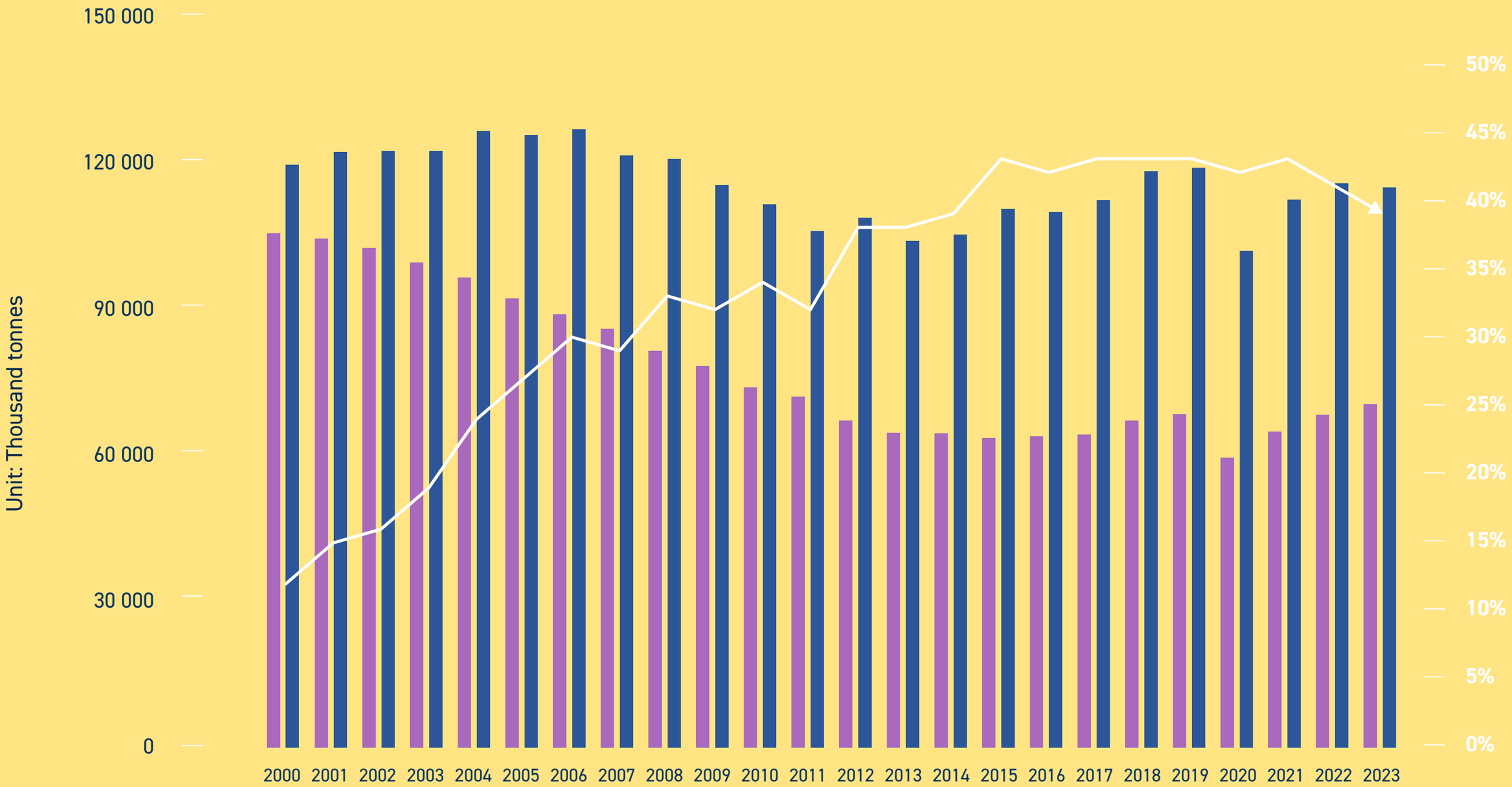
.04

FIGURE
23a

NET TRADE FLOWS FOR REFINED PRODUCTS

IN-DEPTH LOOK AT GASOLINE (EXCLUDING BIO-COMPONENTS)

Source: Eurostat



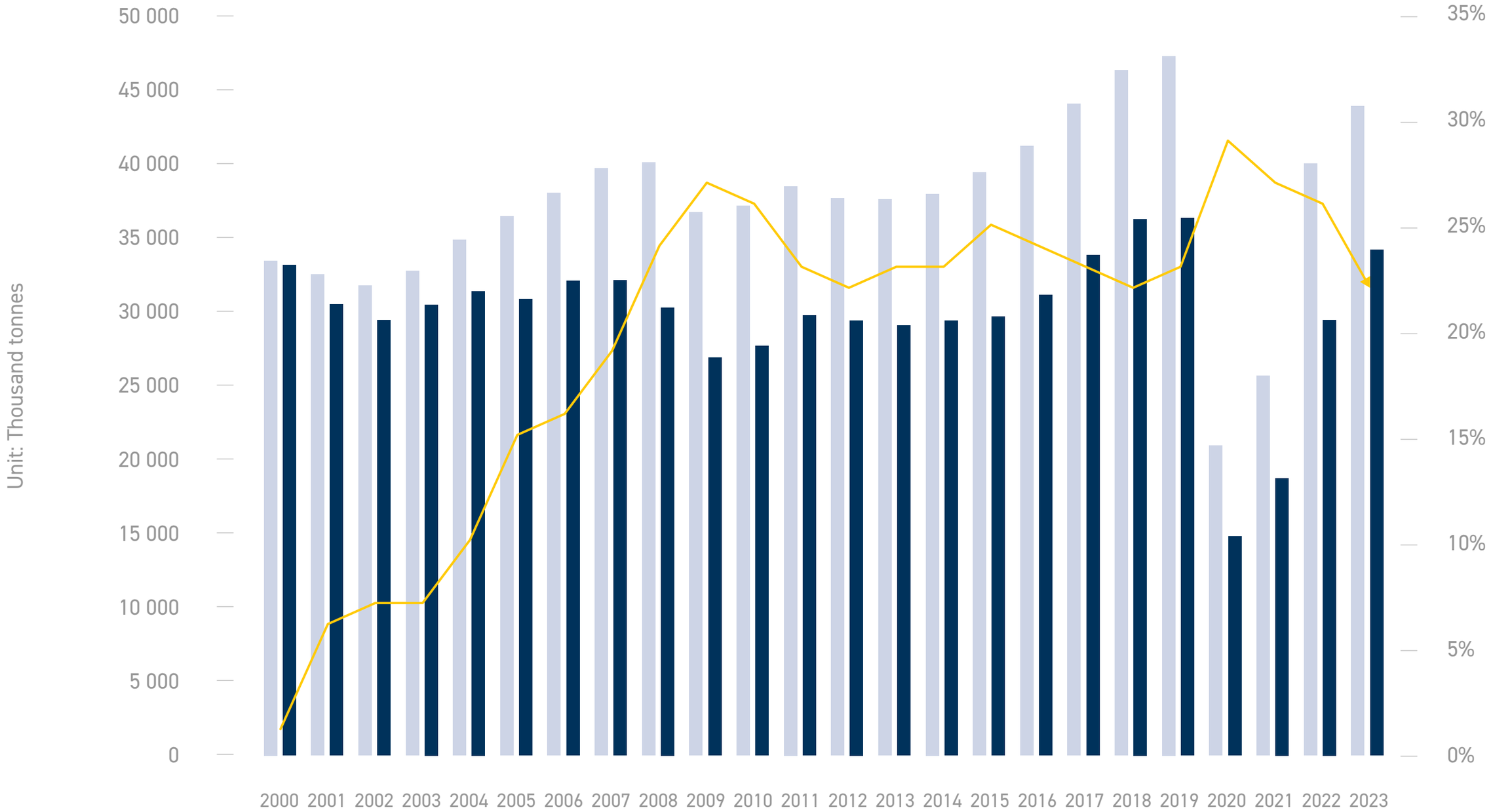
Overproduction of gasoline in the EU has been increasing over the years, despite a mild decrease in overall production volumes, due to a decrease in domestic consumption. This decreasing trend for domestic consumption, however, has stabilised from 2013 onwards. This may in part be driven by a change in consumer preferences towards gasoline, following the 2015 Diesel-Gate and its long-lasting consequences.

FIGURE
23b

EU-27 NET TRADE FLOWS FOR REFINED PRODUCTS

IN-DEPTH LOOK AT KEROSENE (EXCLUDING BIO-COMPONENTS)

Source: Eurostat

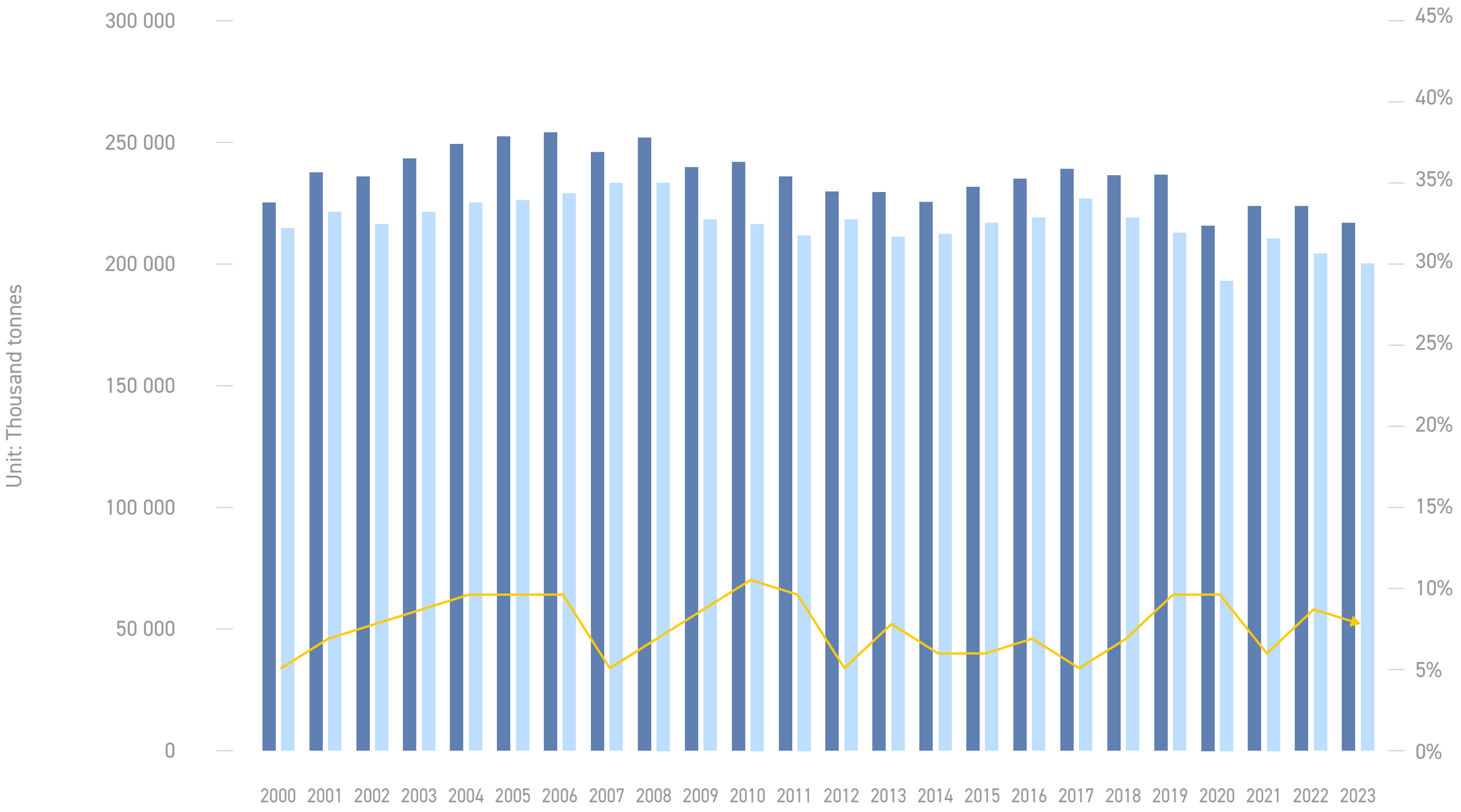


For kerosene, the EU remains import dependent, relying substantially on supplies from Middle East and Asia Pacific. However, based on the specificity of the market for oil-refined product (open and global), some of the domestic production is also exported, requiring a higher import for meeting kerosene domestic demand.

FIGURE
23c

NET TRADE FLOWS FOR REFINED PRODUCTS IN-DEPTH LOOK AT DIESEL/GASOIL (EXCLUDING BIO-COMPONENTS)

Source: Eurostat

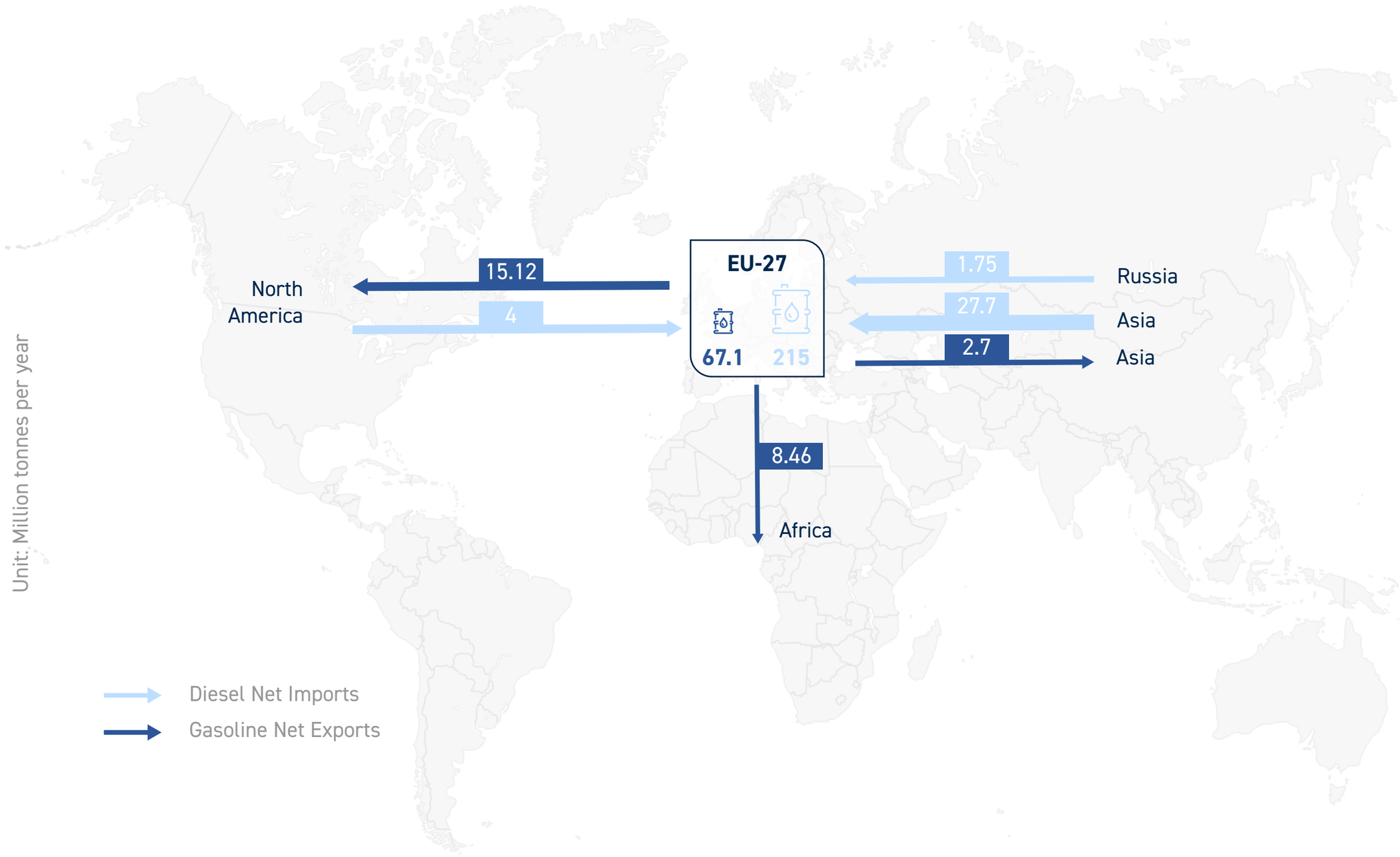


For diesel/gasoil, on the other hand, the EU covers most of its consumption through domestic production. However, based on the specificity of the market for oil-refined product (open and global), some of the domestic production is also exported, requiring a higher import for meeting diesel/gasoil domestic demand.

FIGURE
24

MAJOR GASOLINE AND DIESEL/GASOIL TRADE FLOWS
TO AND FROM THE EU-27 IN 2023

Source: Eurostat



The major trade flows to and from the EU reflect the imbalance in gasoline/diesel demand in Europe. As a consequence, significant excess gasoline production capacity needs to be exported, whilst Europe became heavily reliant on imports from third countries/regions - especially Russia, the Middle East and the USA - to meet regional demand for diesel and jet fuel.

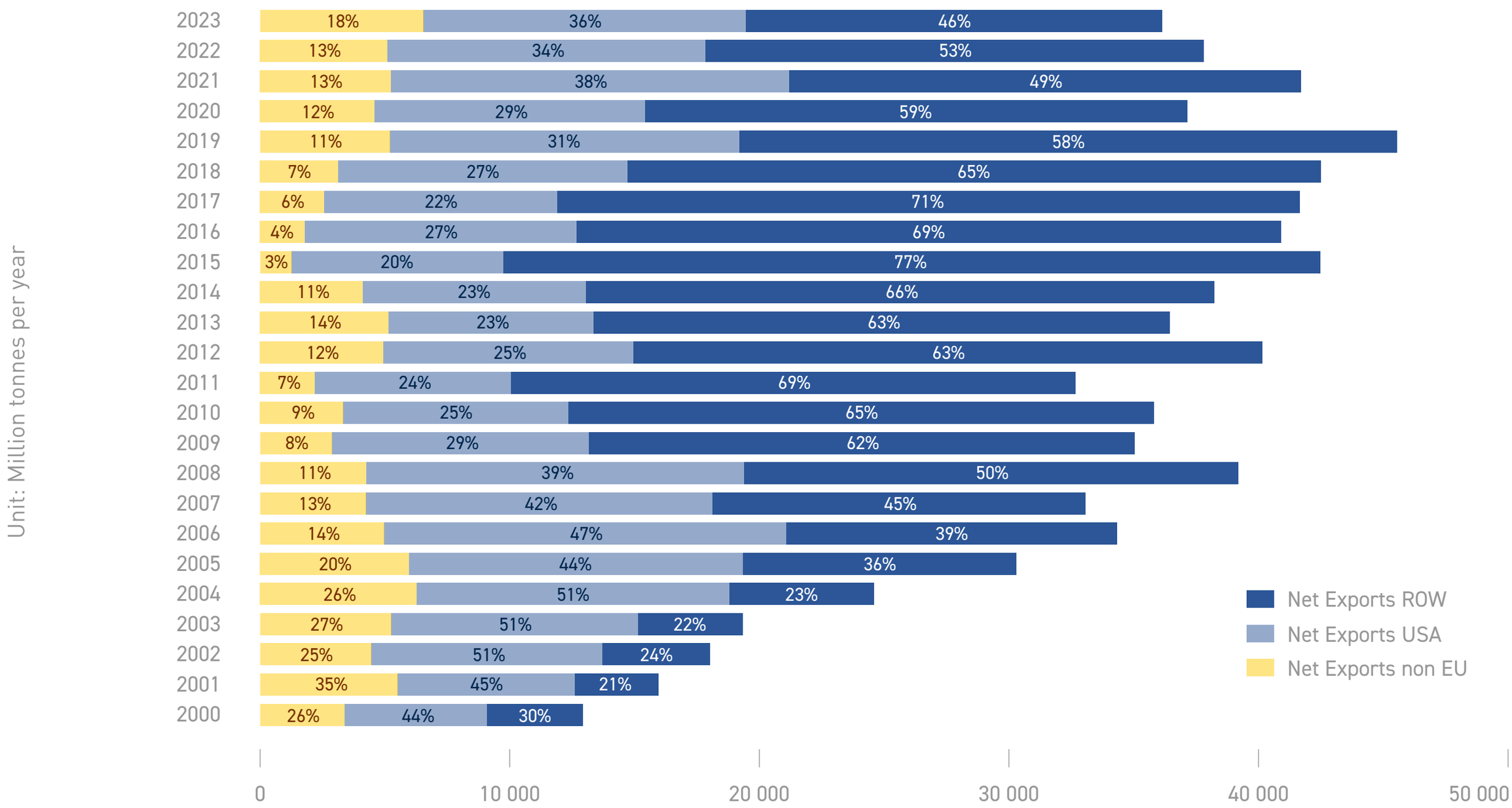
North America was the traditional export market for gasoline surpluses in Europe, but the shale oil revolution and cheap energy enabled US refiners to increase their supplies for their internal market and compete on other export markets with EU refiners.

Note: In 2023, Europe exported around 16,49 million tonnes diesel and gasoil to the rest of the world

FIGURE
25

EU-27 GASOLINE TRADING BALANCE:
USA IS A KEY EXPORT MARKET FOR THE EU

Source: Eurostat



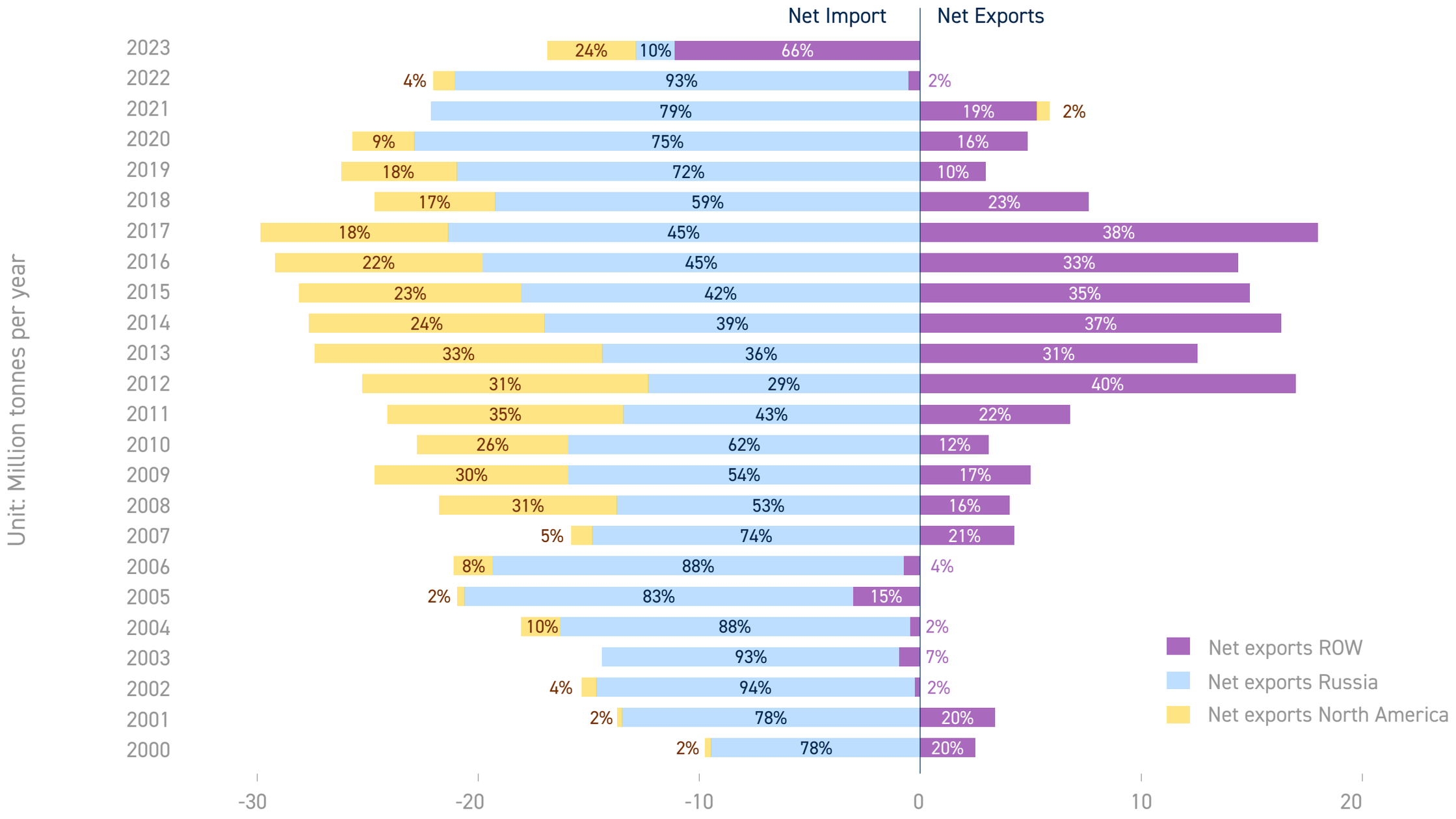
The US was traditionally the main export market for the structural EU gasoline surplus. The shale oil boom in the late 2000s has decreased export opportunities to the US and forced EU refiners to find other markets. North America and Africa are now the two key export markets for the EU. In 2022, the decrease in EU exports is linked to a general decrease in its crude oil production and a higher demand for transport fuel after the end of the pandemic. These elements led to an increased dependency on imports for petroleum products.

Note: Please note due to rounding, figures may not add up to exactly 100%.

FIGURE
26

EU-27 NET GASOIL TRADING BALANCE:
THE EU IS DIVERSIFYING ITS SUPPLY BASE FOR GASOIL

Source: Eurostat

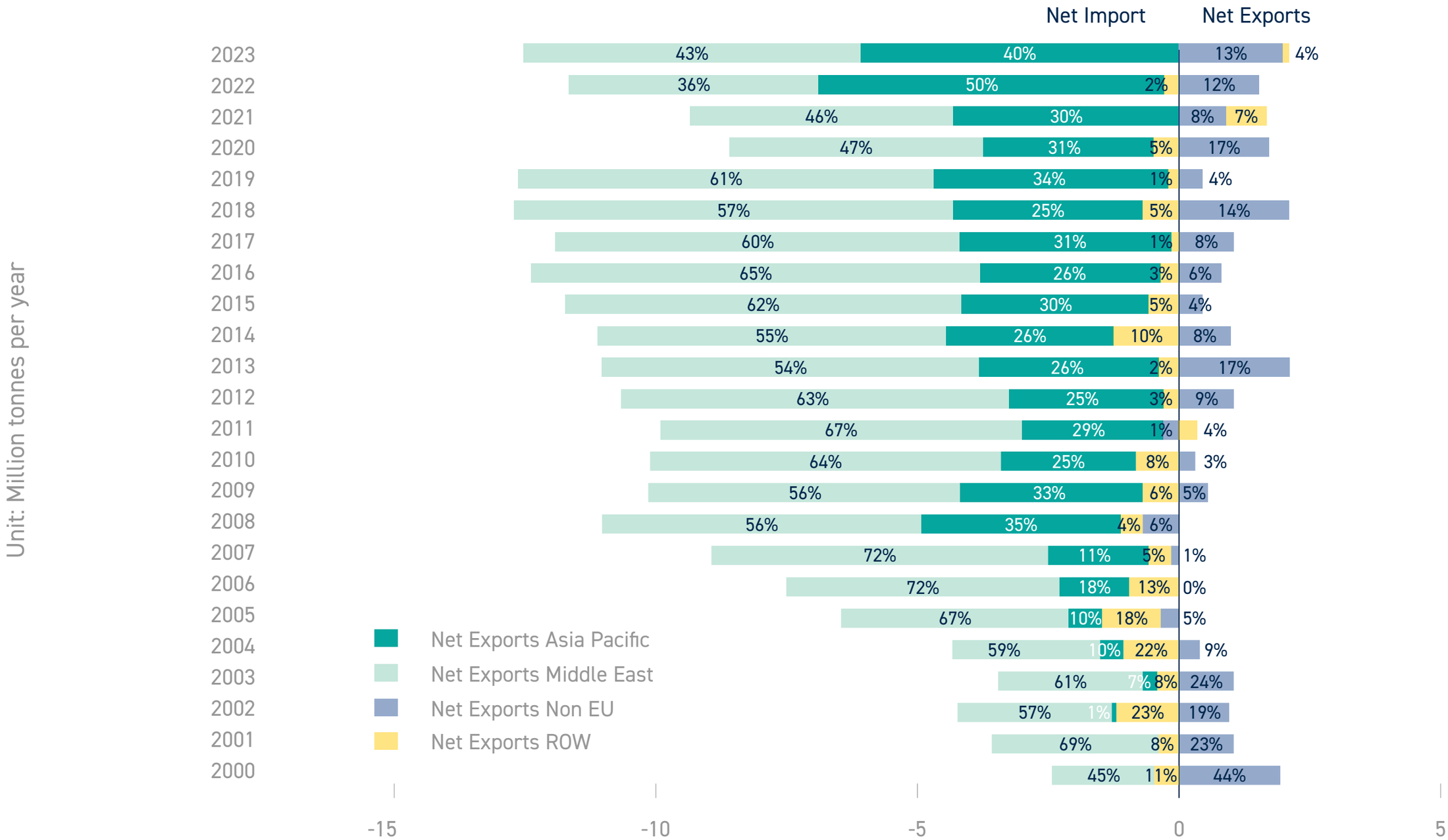


After a significant increase of gasoil imports from the US between 2008 and 2013, Russia recovered some of the lost shares in 2014-2018 to remain the leading gasoil exporter to the EU. The EU's dependency on imports for gasoil is the result of the structural diesel/gasoline imbalance that the EU has been facing for many years. After a significant decline in import dependency in 2021, this dependency raised again in 2022 due to a higher demand in transport fuels. In the context of Russia's war in Ukraine, which started in 2020, the European Commission implemented in May 2022 the REPowerEU plan to reduce its dependency on Russian fuels and increased the number of suppliers in other regions.

FIGURE
27

NET EU-27 JET FUEL TRADE BALANCE: MAIN JET FUEL SUPPLIERS REMAIN IN THE MIDDLE EAST AND ASIA PACIFIC

Source: Eurostat

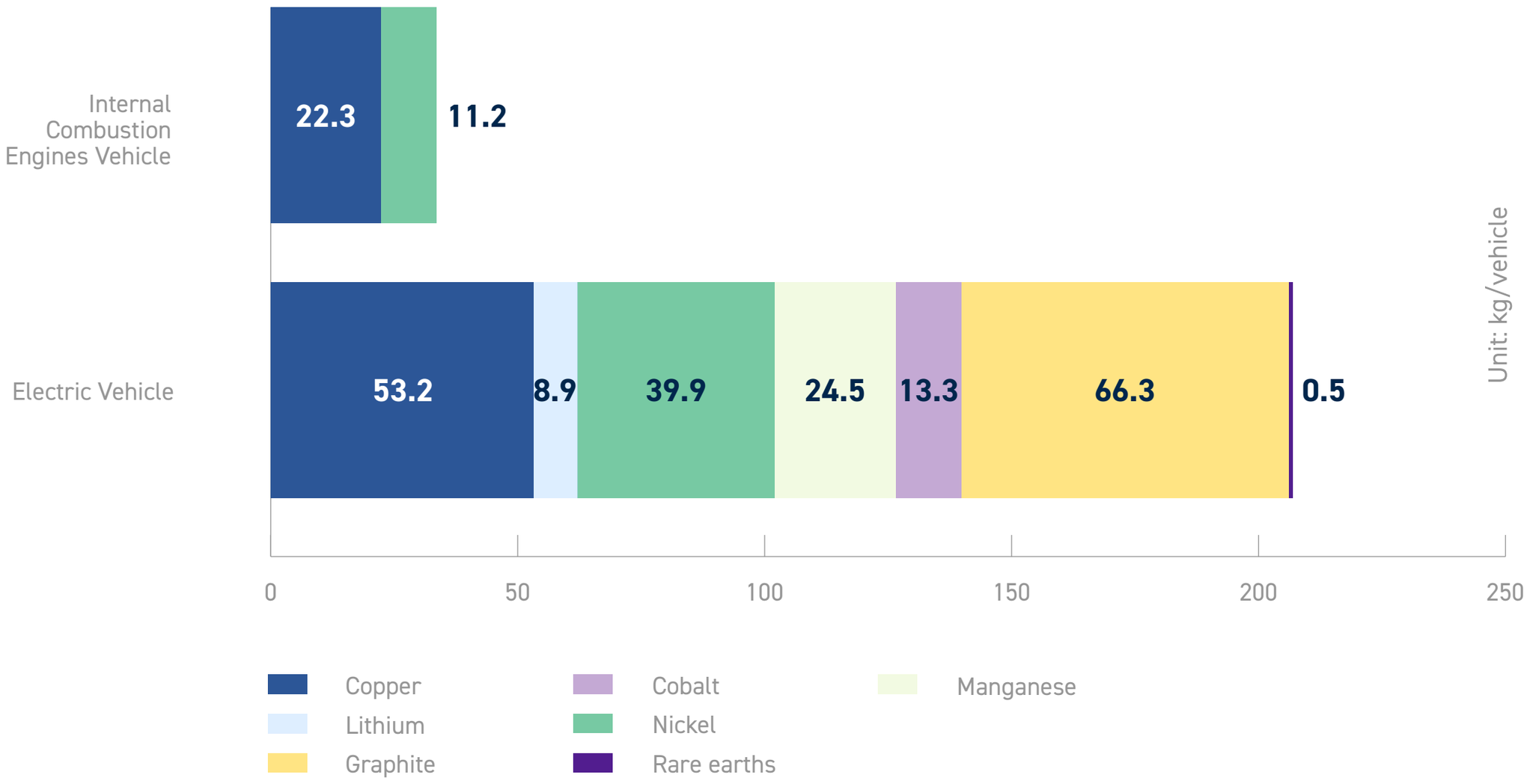


There is a substantial EU dependence on jet fuel imports originating mainly from the Middle East and the Asia Pacific region.

FIGURE
28

MINERALS USED IN ELECTRIC CARS
COMPARED TO CONVENTIONAL CARS

Source: International Energy Agency



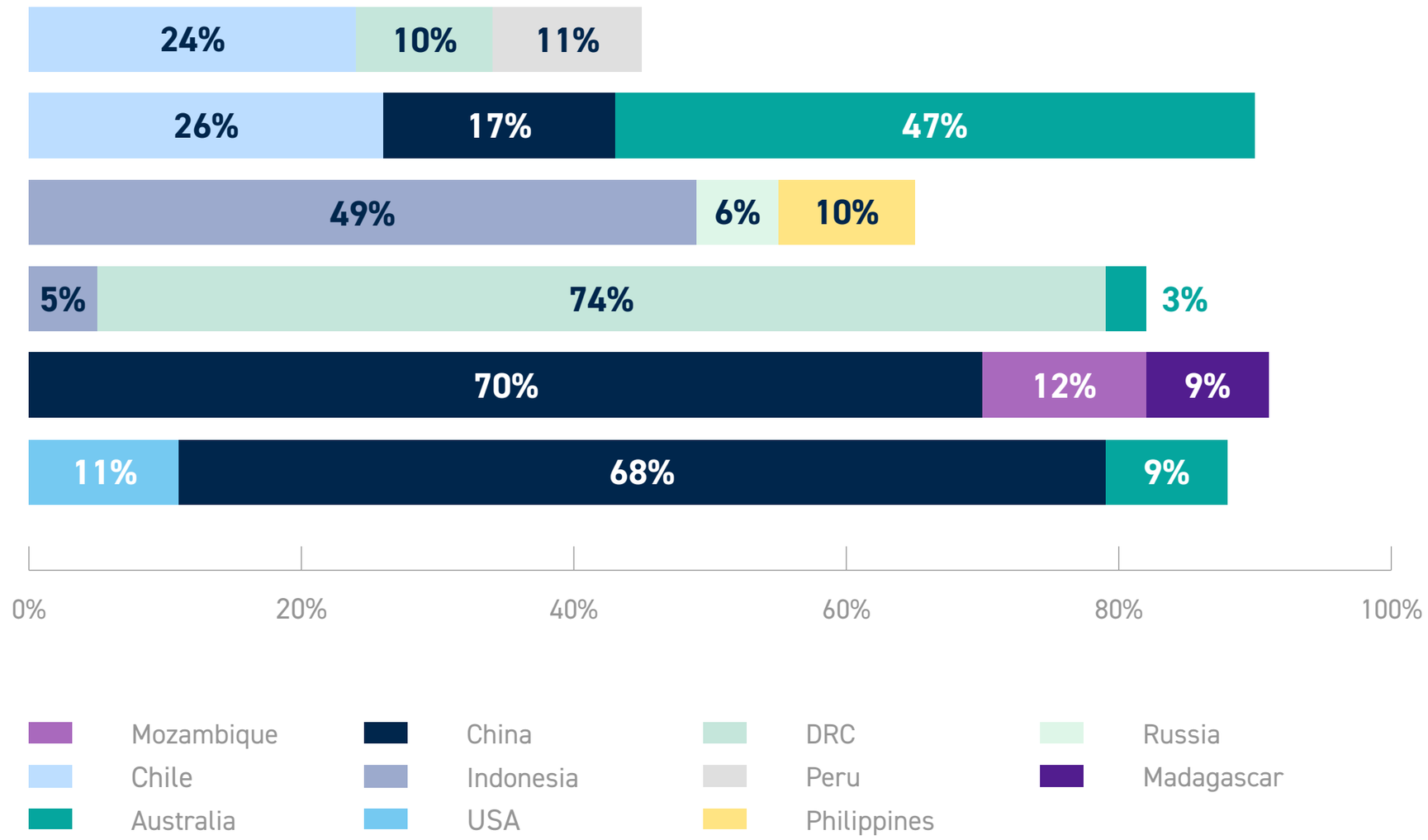
A typical electric vehicle (EV) requires six times the mineral inputs of a conventional car. Lithium, nickel, cobalt, manganese and graphite are crucial to battery performance, longevity and energy density, whereas rare earth elements are essential for permanent magnets that are vital for EV motors. The shift to EVs is set to drive a huge increase in the requirements for these minerals, meaning that the energy sector is emerging as a major force in mineral markets.

Note: The data have not been updated since 2021

FIGURE
29a

SHARE OF TOP THREE PRODUCING COUNTRIES IN MINING OF SELECTED MINERALS, IN 2022

Source: International Energy Agency

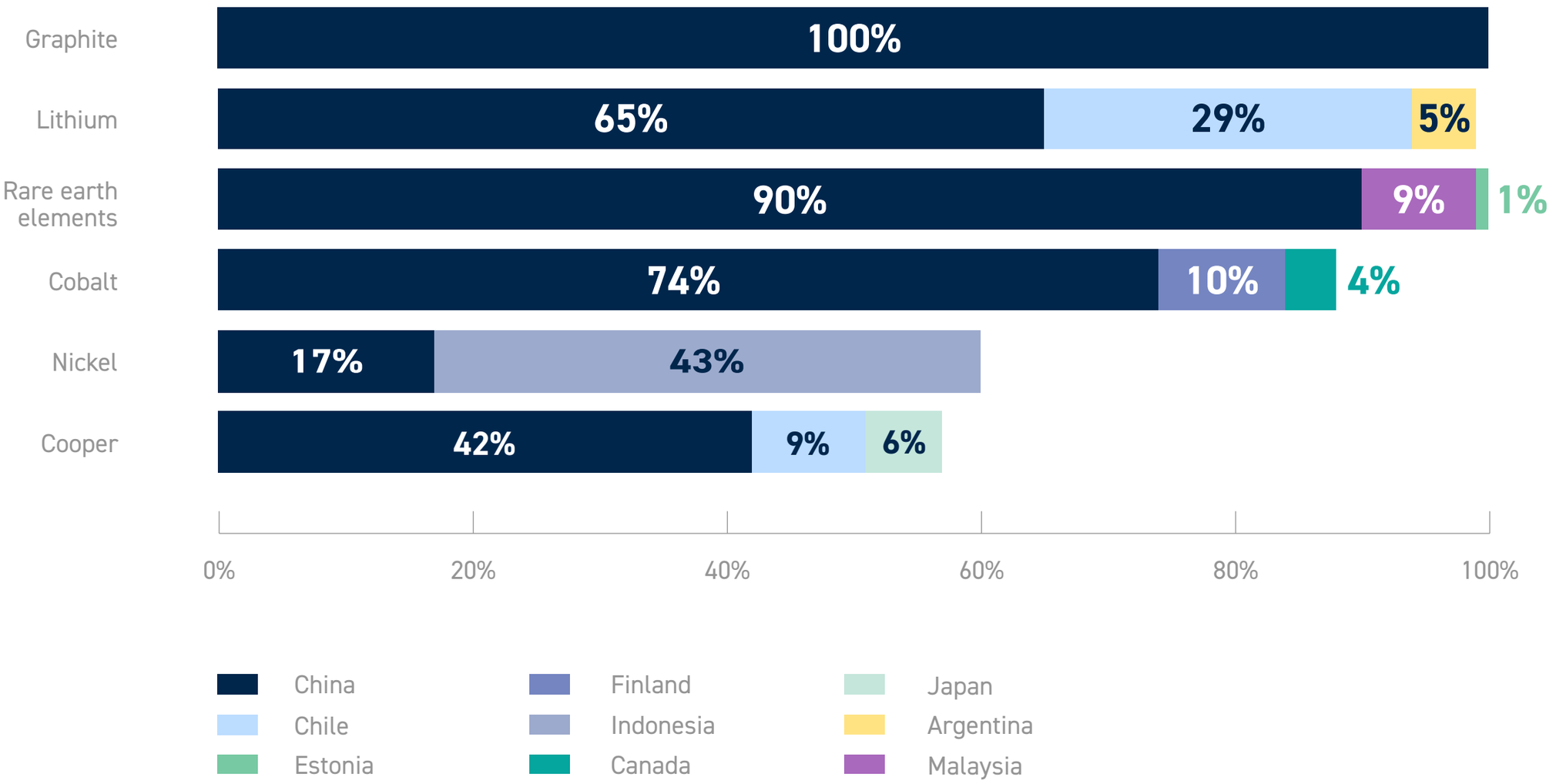


The prospect of a rapid rise in demand for critical minerals necessary for the technologies required in energy transitions poses huge questions about the availability and reliability of supply. The production of these minerals is more concentrated than that of oil. For lithium, cobalt, graphite and rare earth elements, the world's top three producing nations control well over three-quarters of global output. In some cases, a single country is responsible for around half of worldwide production. The Democratic Republic of the Congo (DRC) and China were responsible for some 74% and 68% of global production of cobalt and rare earth elements respectively in 2022.

FIGURE
29b

SHARE OF TOP THREE PRODUCING COUNTRIES IN PROCESSING OF SELECTED MINERALS, IN 2022

Source: International Energy Agency



The prospect of a rapid rise in demand for critical minerals necessary for the technologies required in energy transitions poses huge questions about the availability and reliability of supply. The level of concentration for processing operations is particularly high, with China's strong presence across the board: China's share of refining is around 17% for nickel, 65% for lithium, 74% for cobalt, 90% for rare earth elements, and 100% for graphite. High levels of concentration, compounded by complex supply chains, increase the risks that could arise from physical disruption, trade restrictions or other developments in major producing countries.

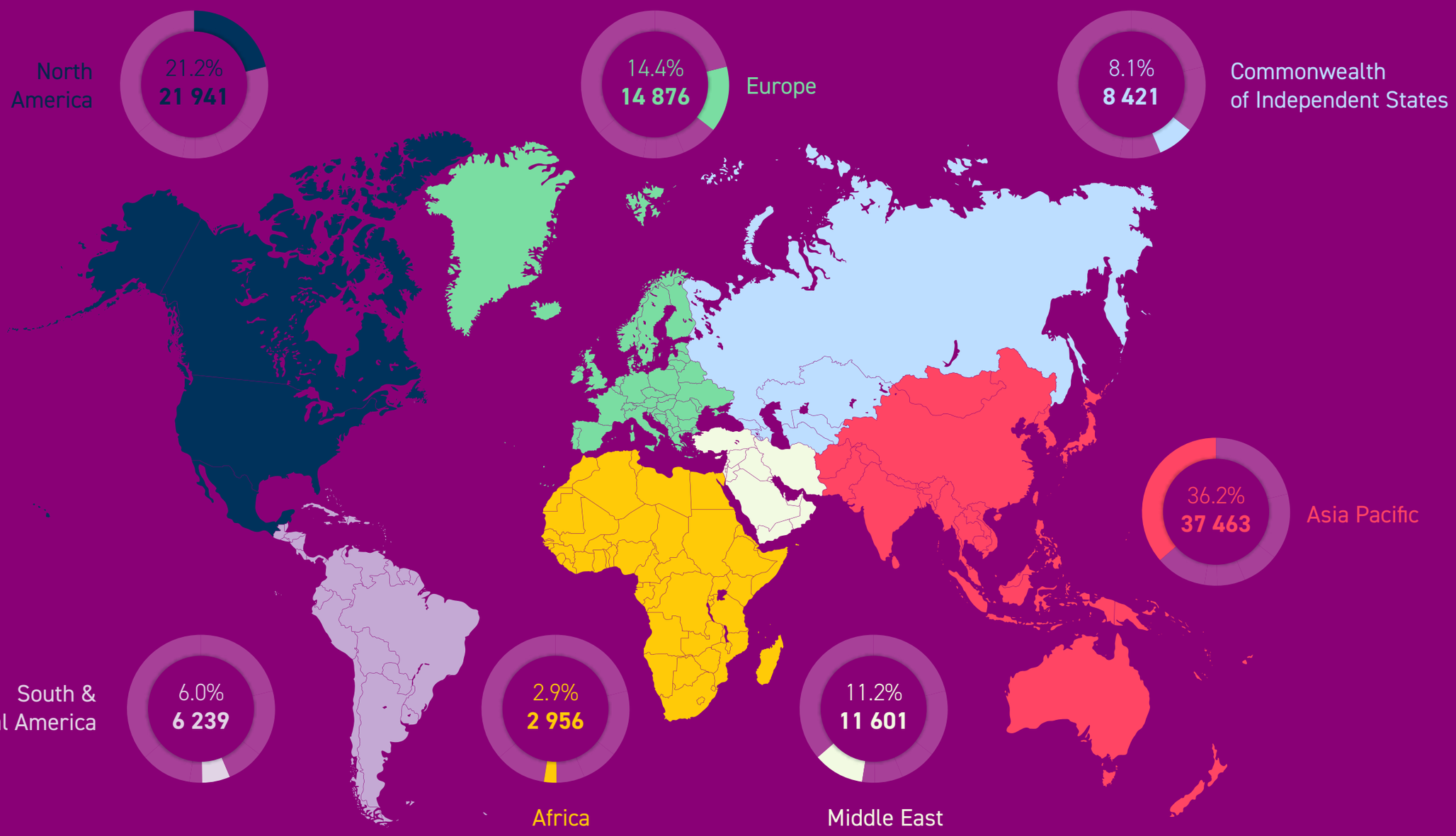
Fuel Manufacturing

.05

FIGURE
30

GLOBAL REFINING CAPACITY AS OF 2023

Source: Energy Institute



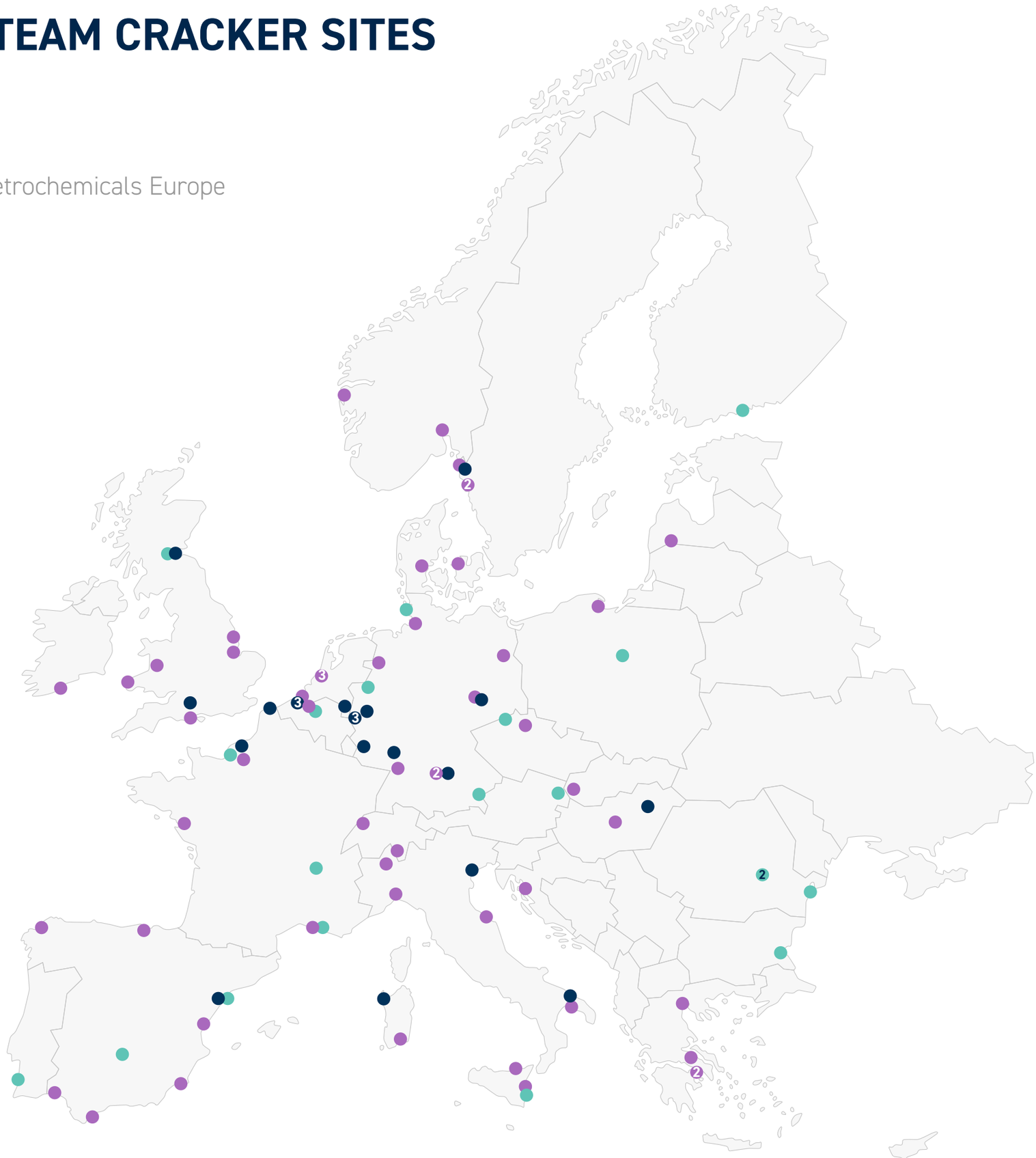
Unit: Thousand Barrels Daily

Refining is spread around the world and is truly a global business. The share of Europe, at 14.4%, has slightly decreased by 0.4% compared with previous year but still remains the third largest region for refining, behind Asia Pacific at 36.2% and North America at 21.2%.

FIGURE
31

REFINERY/STEAM CRACKER SITES
IN EUROPE

Source: Concawe and Petrochemicals Europe



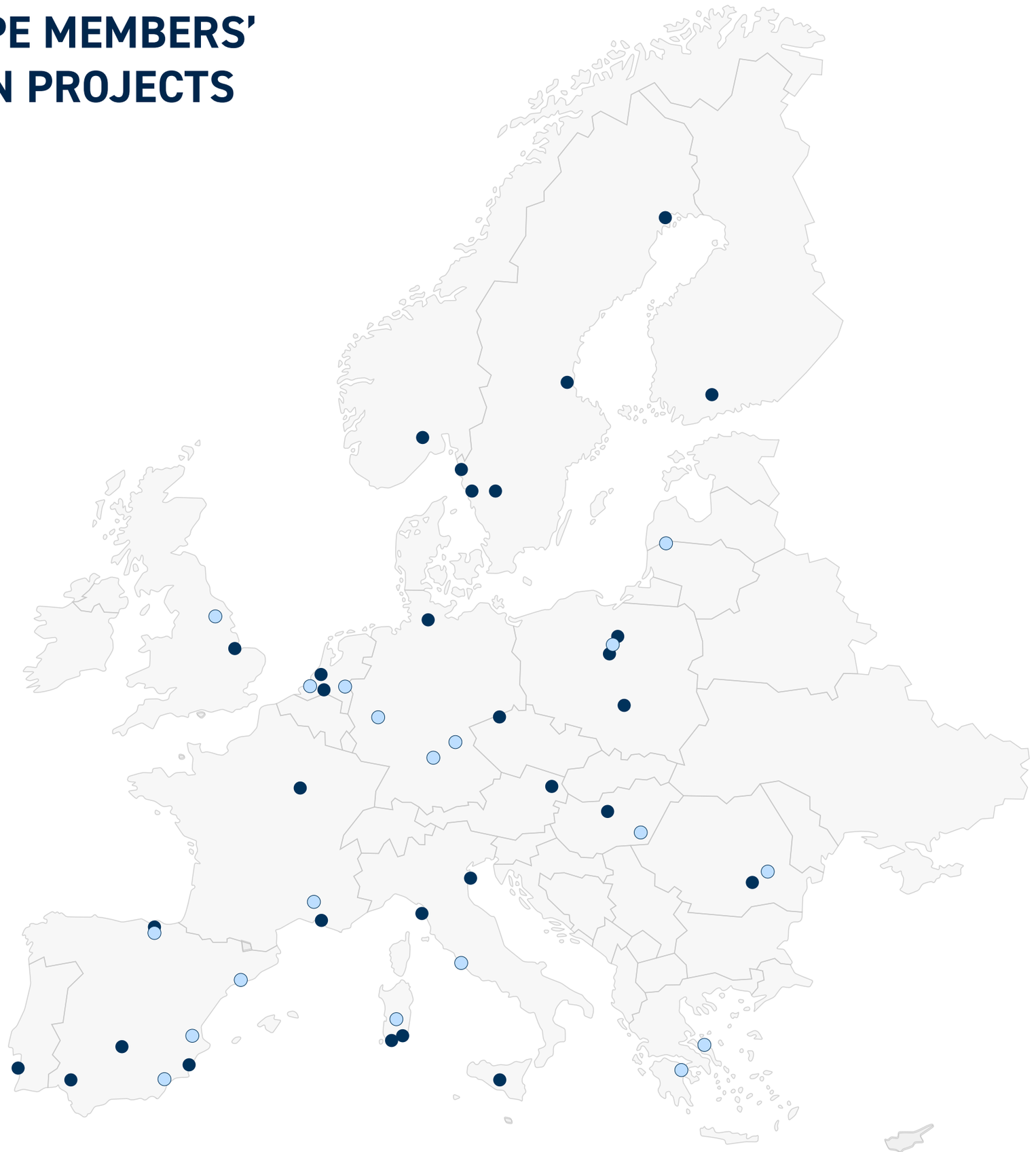
- Refinery location
- Steam Cracker location
- Integrated Refinery/Steam Cracker location

A large number of refineries are integrated with, or very close to steam crackers which produce the feedstock for the petrochemical industry. Such interconnections show how refining is an intrinsic part of the industrial value chain and provides the basis for advanced high value products.

FIGURE
32

FUELSEUROPE MEMBERS' LOW-CARBON PROJECTS

Source: FuelsEurope



- Hydrogen projects
- Low-carbon liquid fuels projects

Up to April 2025, there were 30 low-carbon liquid fuels projects across Europe. Additionally, there were 19 hydrogen projects also contributing to the EU's climate goals.

You can visit our **cleanfuelsforall.eu** website for more information about each project.

FIGURE
33

74 MAINSTREAM REFINERIES WERE OPERATING IN THE EU-27, UK, NORWAY, AND SWITZERLAND AT THE END OF 2024

Source: Concawe

COUNTRY	NUMBER OF REFINERIES
Austria	1
Belgium	2
Bulgaria	1
Croatia	1
Czechia	2
Denmark	2
Finland	1
France	6
Germany	11
Greece	4
Hungary	1
Ireland	1
Italy	9
Lithuania	1
Netherlands	5
Poland	2
Portugal	1
Romania	3
Slovakia	1
Spain	8
Sweden	3
EU-27 TOTAL = 66	
CH + NO + UK	8
TOTAL = 74	

In 2024, the 74 mainstream refineries operating across the EU-27, UK, Norway, and Switzerland had a combined primary refining capacity of 638.2 million tonnes. This reflects a decrease of around five million tonnes compared to 2023, driven in part by the conversion of the Livorno refinery in Italy into a biorefinery.

FIGURE
34

EU-27, UK, NORWEGIAN AND SWISS MAINSTREAM REFINERIES HAD 638.2 MILLION TONNES OF PRIMARY REFINING CAPACITY IN 2024

Source: Concawe

COUNTRY	Mainstream > 30 kb/cd	COUNTRY	Mainstream > 30 kb/cd
	Mt/a		Mt/a
Austria	9.7	Ireland	3.6
Belgium	32	Italy	78.6
Bulgaria	5.8	Lithuania	9.7
Croatia	4.6	Netherlands	59.7
Czechia	7.9	Poland	29.2
Denmark	8.7	Portugal	11.3
Finland	10.3	Romania	11.9
France	57.4	Slovakia	5.3
Germany	98.7	Spain	70.6
Greece	24.9	Sweden	19.8
Hungary	7.7		
EU-27 TOTAL = 567.4			
Norway	10.4		
Switzerland	3.2		
United Kingdom	57.2		
CH + NO + UK	**70.8**		
TOTAL = 638.2			

The 74 mainstream refineries operating in 2024 in the EU-27, UK, Norway and Switzerland had a primary refining capacity of 638,2 million tonnes. This represents a decrease of 154,8 million tonnes of primary refining capacity from mainstream refineries since 2009. There was one mainstream refinery closure in 2024.

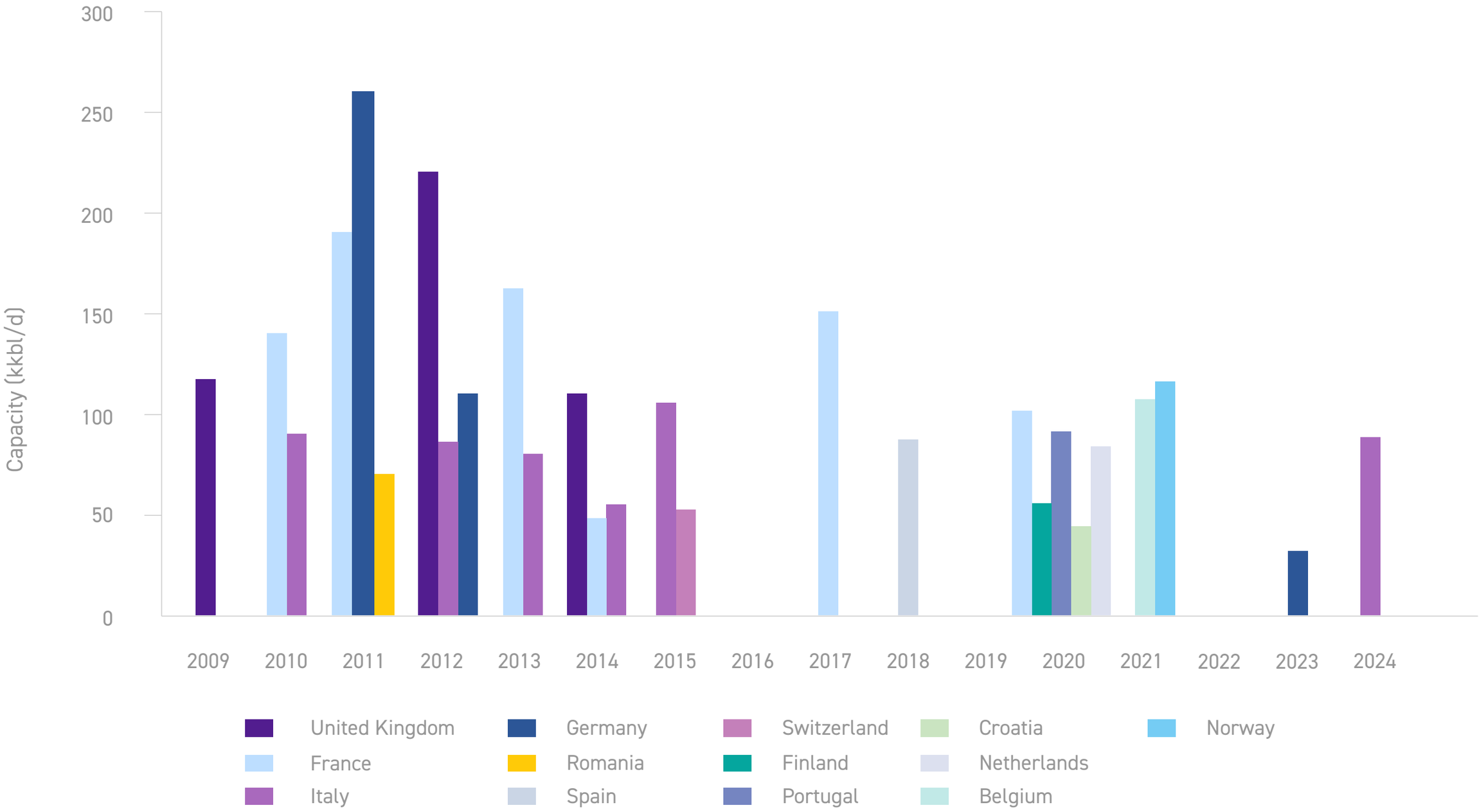
Note: Refining capacity is expressed in million tonnes per year.

Numbers may not add up due to rounding.

FIGURE
35

REFINERY CLOSURES IN EUROPE

Source: Concawe

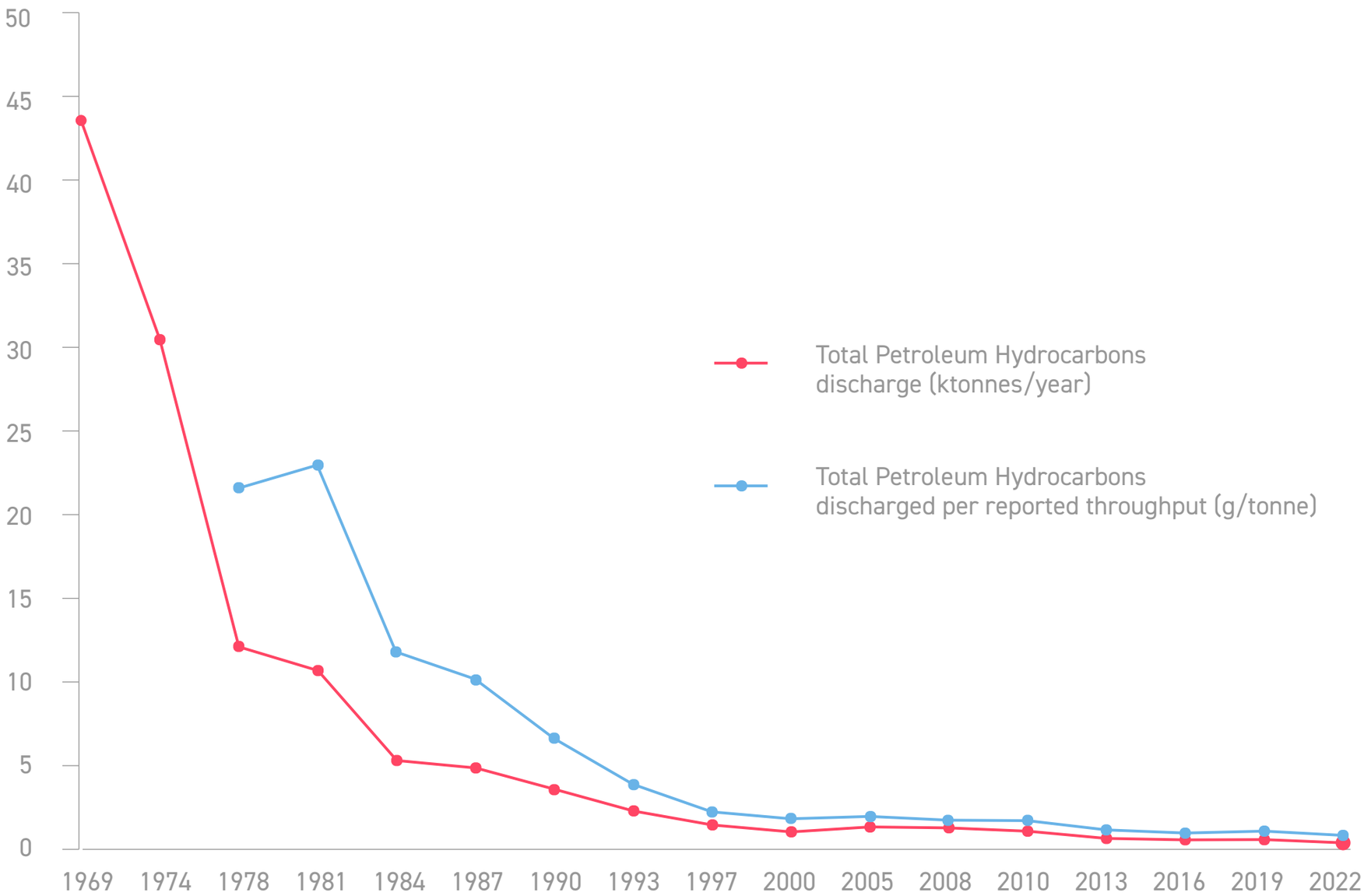


Since 2009, out of close to 100 refineries operating in Europe, 28 refineries (threshold > 30 kbbl/d or 1.5 Mt/a) were closed or transformed. Currently, at least eight refineries in Europe underwent a transformation process, moving away from oil and converting into biorefineries. In 2024, ENI started the process of transforming the refinery of Livorno into a biorefinery.

FIGURE
36

QUALITY OF REFINERY WATER EFFLUENT:
OIL DISCHARGED IN WATER

Source: Concawe

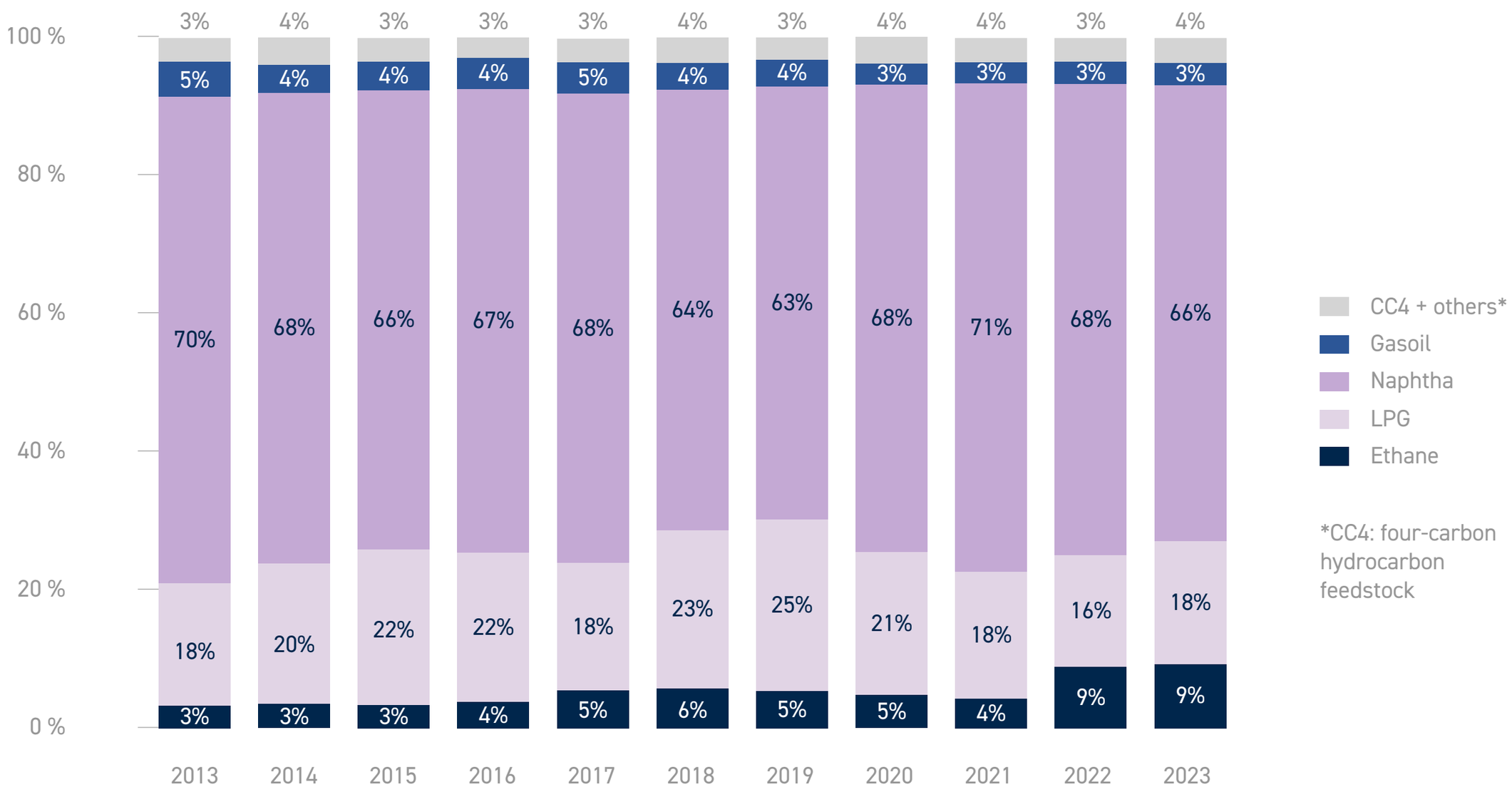


EU refineries have significantly improved the quality of refinery water effluent in the last decades. The amount of Total Petroleum Hyrdrocarbons (TPH) discharged in effluents from reporting installations continued to decrease to extremelly low levels relative to pre-1990; both in terms of the absolute amount of TPH discharged and the amount expressed relative to the volume of feedstock processed (throughput) and the refining capacity of the installations.

FIGURE
37

CHEMICAL INDUSTRY RAW MATERIAL USE IN EUROPE

Source: ICIS/CEFIC



The EU fuel manufacturing sector is closely integrated with the petrochemical sector. A large part of the petrochemical feedstock relies on refined products, such as naphtha and petroleum gases.

Note: Please note due to rounding, figures may not add up to exactly 100%.

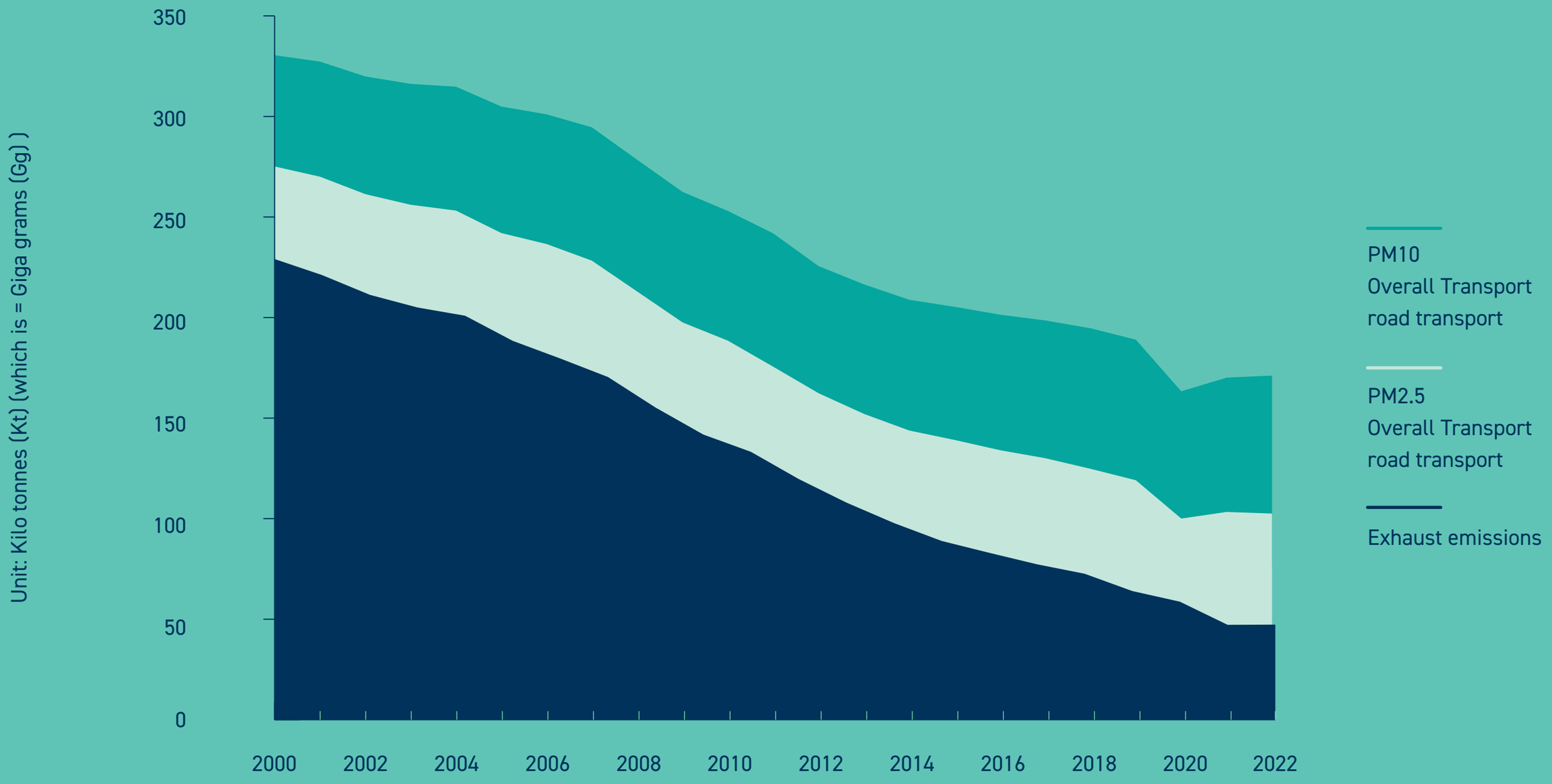
Emissions

.06

FIGURE
38.a

SINCE 2000, PM EMISSIONS FROM EXHAUST REDUCED IN THE EU

Source: European Environmental Agency

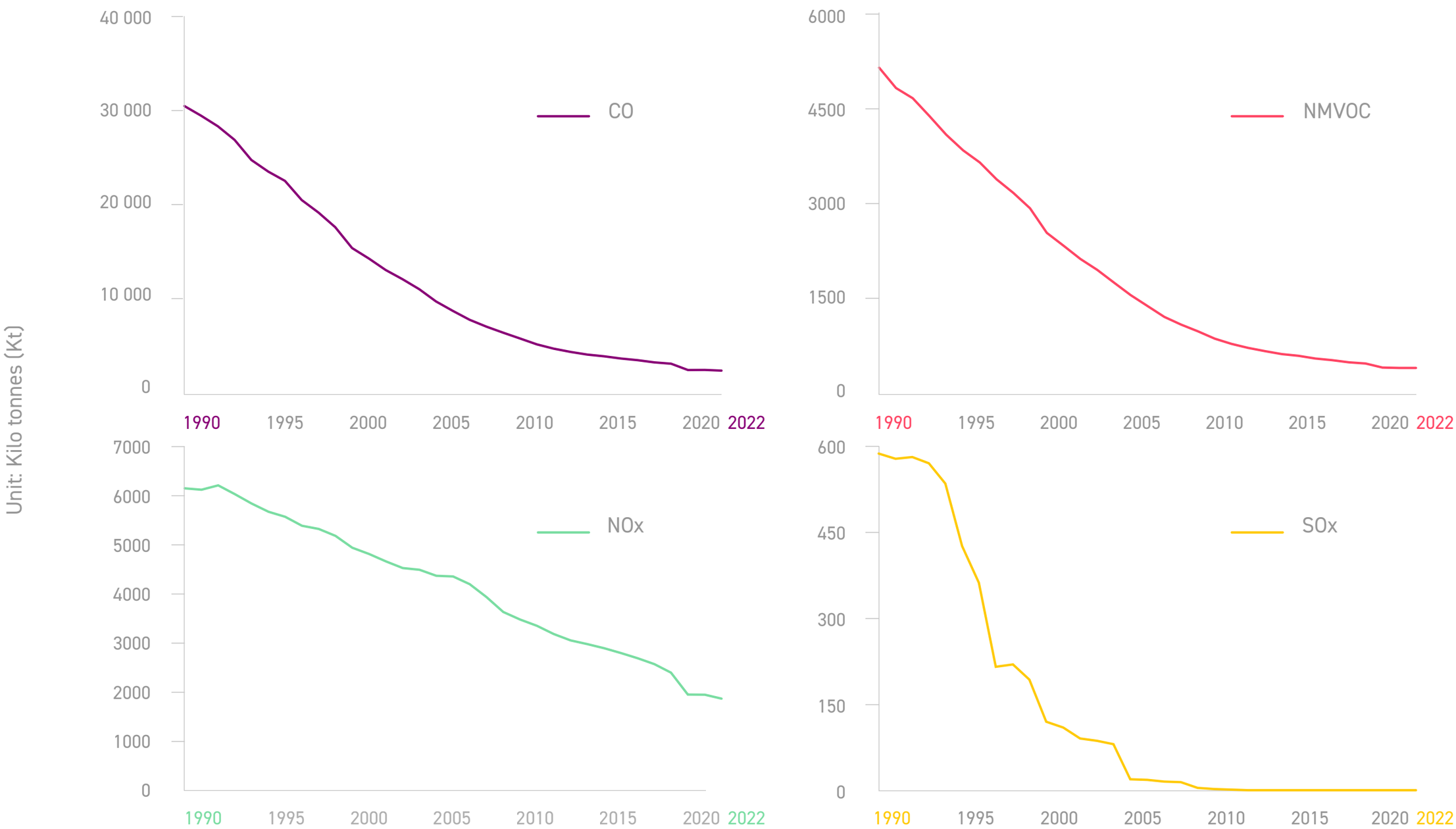


PM emissions are continuously decreasing as the result of cleaner diesel fuel, advanced engines and effective emissions control technology. Since the introduction of the Euro 6 standard, modern road vehicles with diesel engines are using highly efficient filters that remove 99.9% of PM. Despite a slight increase in PM values between 2020 and 2022 due to the end of COVID restrictions on travel, PM emissions continue to decrease and are significantly lower compared to pre-pandemic emissions.

FIGURE
38.b

SINCE 1990, FUELS ARE PROGRESSIVELY BECOMING CLEANER RESULTING IN EXHAUST EMISSIONS REDUCTION BY OVER 80%

Source: European Environmental Agency



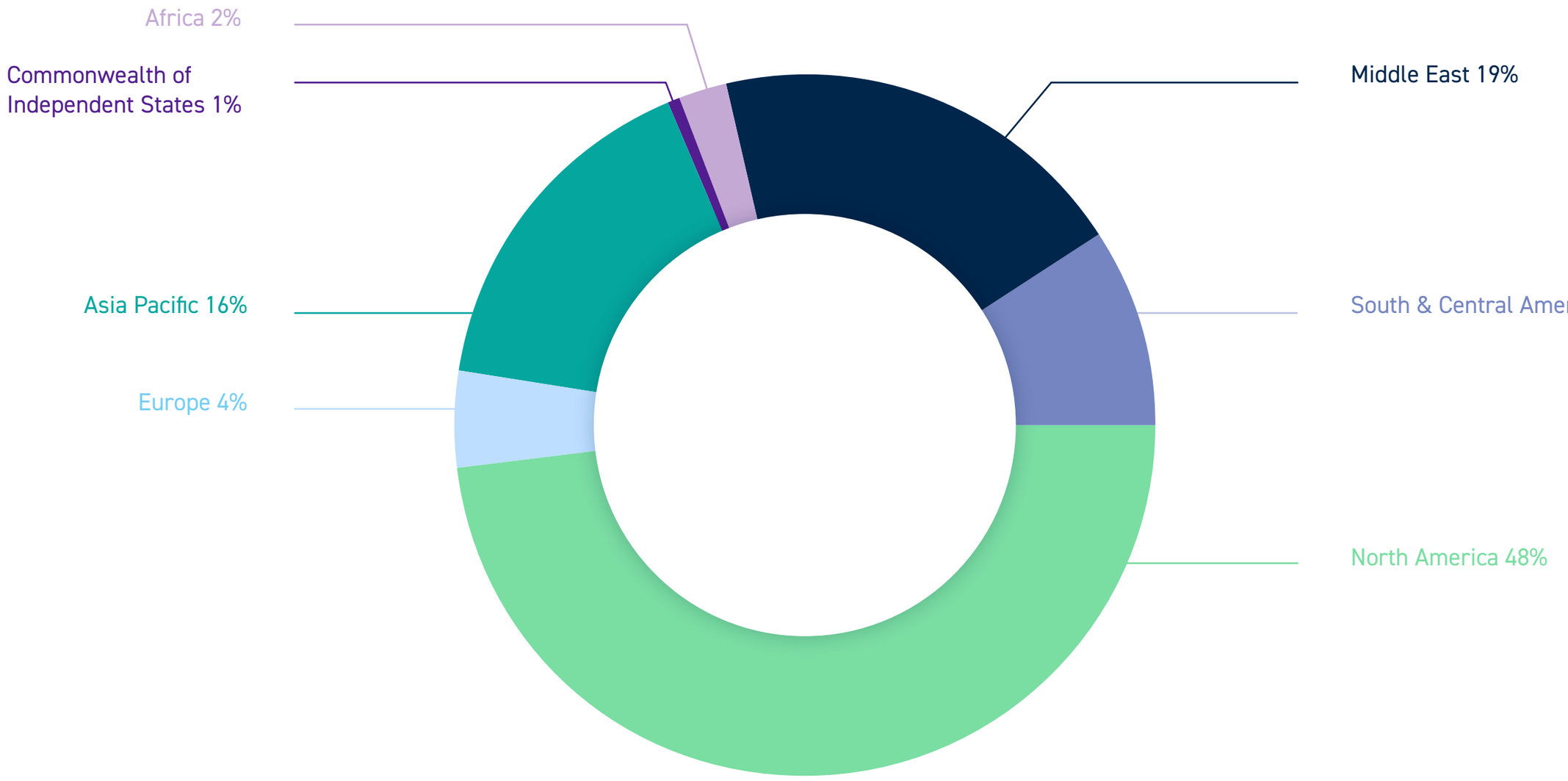
Since 1990 the refining industry has contributed to cleaner exhausts by today containing 99% lower SOx, over 90% lower NMVOC & CO, and 62% lower NOx emissions.

These significant improvements are the result of the partnerships with the automotive industry aiming at improving the fuel-engine efficiency and leading to multiple environmental benefits. The travel restrictions imposed due to the Covid pandemic caused a significant reduction in emission values. However, despite travel restrictions being lifted and vehicles returning to the road, emissions have continued to decrease compared with pre-pandemic values. CO emissions have decreased by 22%, NMOC by 14%, and NOx by 22% between 2019 and 2022. SOx emissions have plateaued since 2012.

FIGURE
39

CARBON CAPTURE PER REGION IN MILLION TONNES IN 2023

Source: Energy Institute



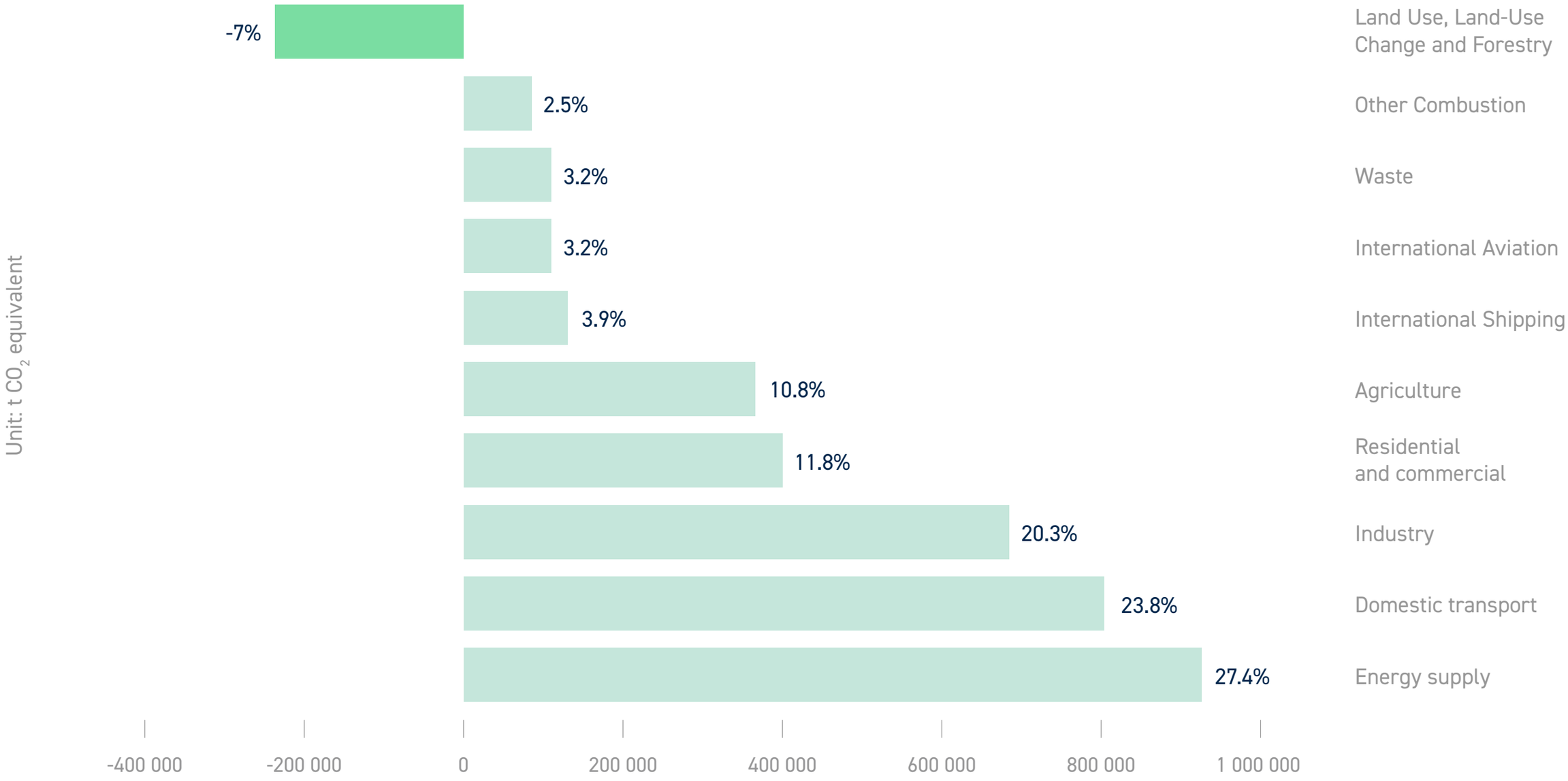
Europe lags significantly behind other regions in terms of carbon capture, usage and storage (CCUS) capacity, a crucial technology for achieving climate neutrality. In 2023, Europe's CCUS capacity was only 4 million tonnes, far below North America's 26.5 million tonnes and South and Central America's 10.6 million tonnes. Asia Pacific and the Middle East also outpace Europe, capturing 8.8 and 5 million tonnes, respectively. This gap highlights Europe's limited deployment of CCUS, a tool that is essential to offset emissions from hard-to-abate sectors and support the transition to net-zero.

Note: Please note due to rounding, figures may not add up to exactly 100%.

FIGURE
40

GHG EMISSIONS BY SECTOR IN THE EU-27 IN 2022

Source: European Environmental Agency

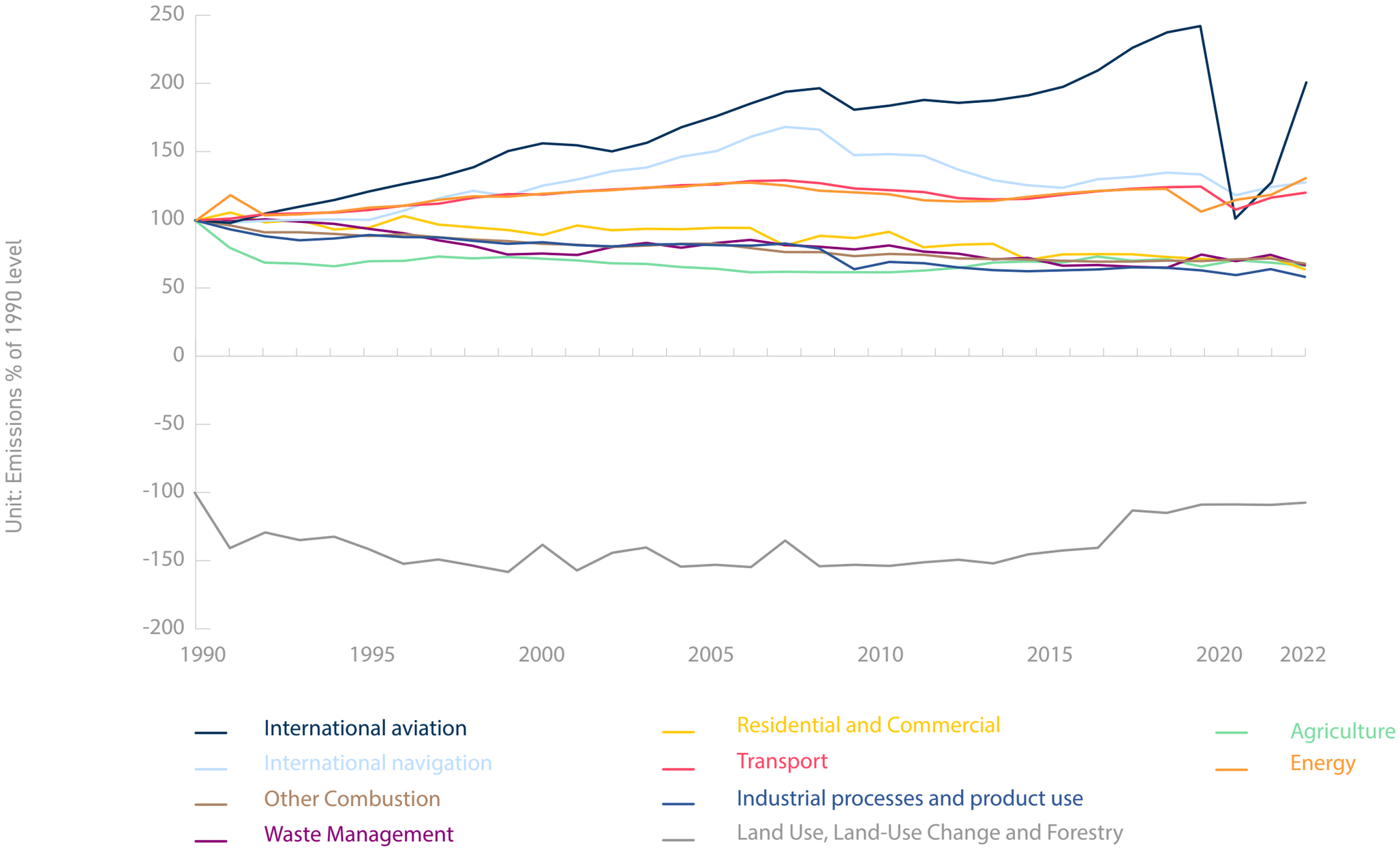


Energy supply and industry accounted for almost half of the total GHG emissions in the 27 EU member states in 2022. Transport, including international shipping and aviation generated 30.9% of all EU GHG emissions in 2022. Land use, Land-use change and forestry on the other side allowed to offset 7% of total GHG emissions.

FIGURE
41

CO_2 **EMISSION TREND** BY SECTOR IN THE EU-27

Source: European Environmental Agency

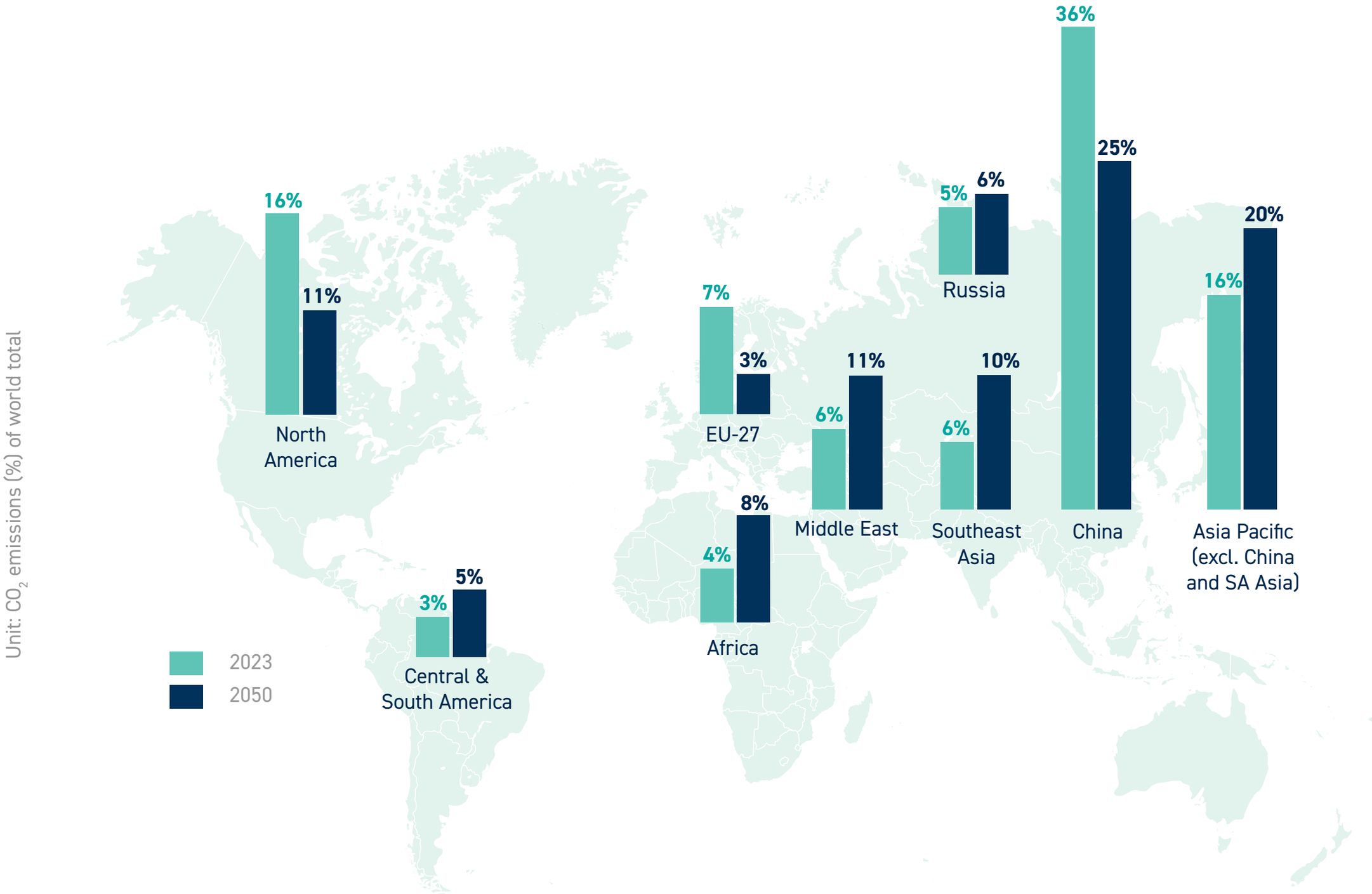


CO_2 emissions per sector have generally been declining since 2007. CO_2 emissions from transport steadily decreased between 2008 and 2015. However, since 2016, there has been an increasing trend in the CO_2 emissions in domestic transport, international aviation and international shipping. This increase was halted in 2020 due to global travel restrictions linked to the covid-19 pandemic but is now going back up since the restrictions were lifted. Since 1990, land use, land-use change and forestry has been offsetting less and less CO_2 emissions.

FIGURE
42

DECLINING EU SHARE IN GLOBAL CO_2 EMISSIONS

Source: International Energy Agency

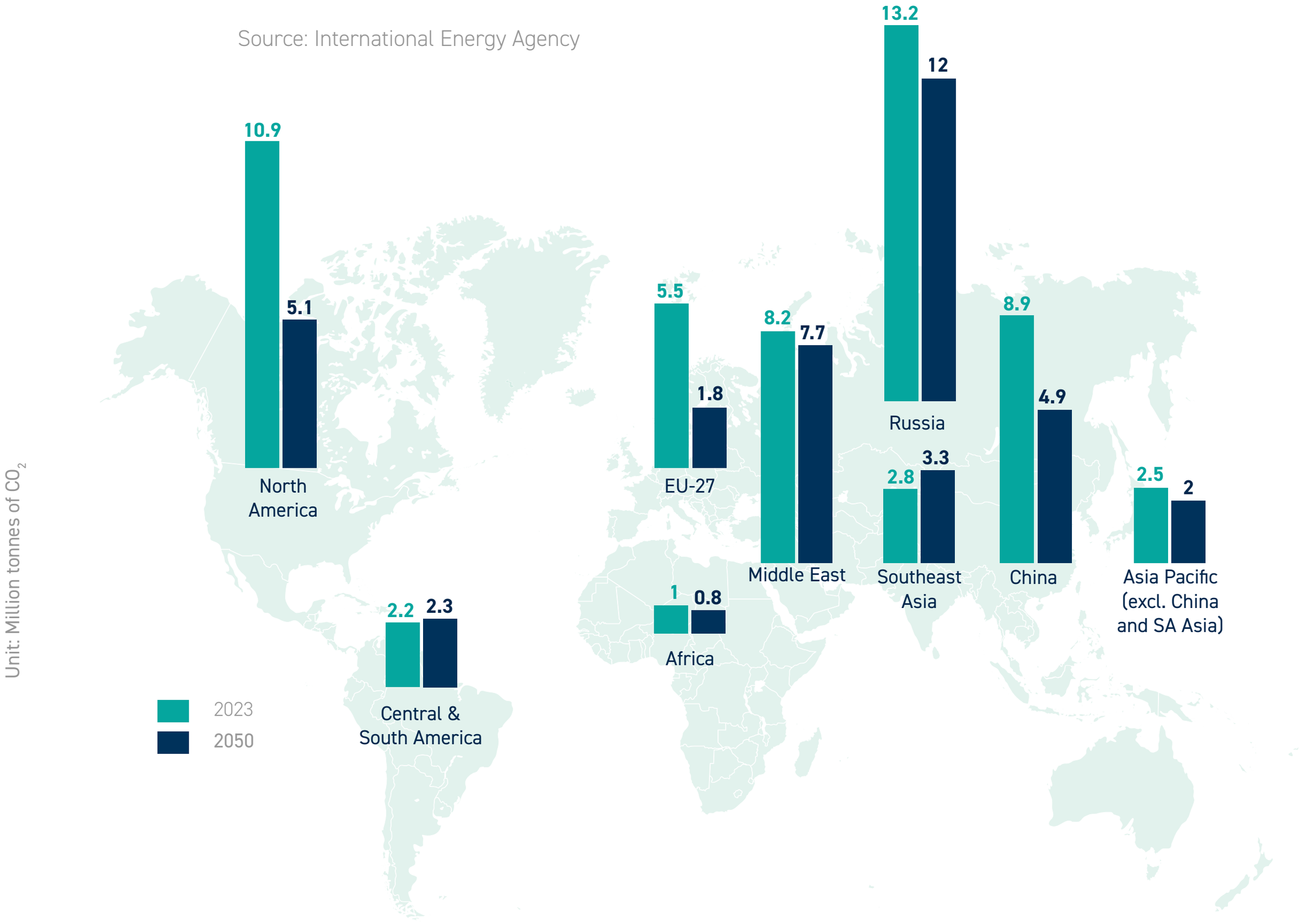


In 2023, the EU accounted for 7% of the total CO_2 emissions and this share is expected to drop to 3% in 2050. CO_2 emissions in North America and China are also forecasted to decrease by 2050 by respectively 5 and 9 points, whereas in other parts of the world, emissions are likely to increase.

FIGURE
43

CO_2 EMISSIONS PER CAPITA/REGIONS

Source: International Energy Agency

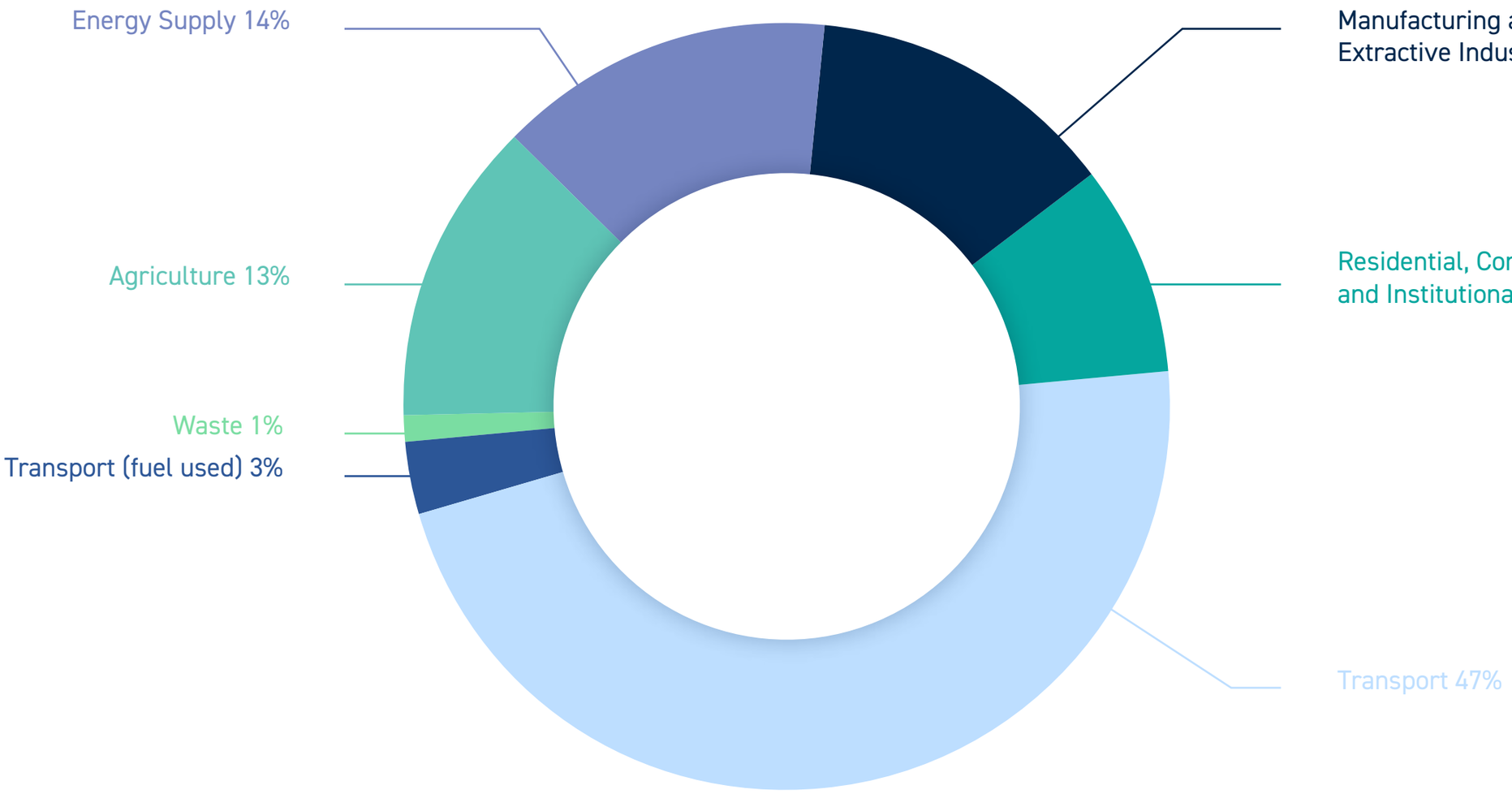


All regions but Southeast Asia and Central & South America are forecasted to see a decrease in CO_2 emissions by 2050. Central and South America are expected to remain stable. The drop is especially notable in the EU-27 and North America, where CO_2 emissions are estimated to decrease by 68% and 54% compared to 2023.

FIGURE
44

NOx CONTRIBUTION TO EU-27 EMISSIONS FROM MAIN SOURCE SECTORS IN 2022

Source: European Environmental Agency



NOx are main contributors to the air quality problems found in several urban areas in the EU.

These emissions have gone down by 64% since 1990 and continue to decrease across all major sectors, except waste managment, where NOx emissions have increased by 26.7%. Transport sector continues to represent the most significant contributor, being responsible for 47% of the total of NOx emissions emitted in 2022 in the EU.

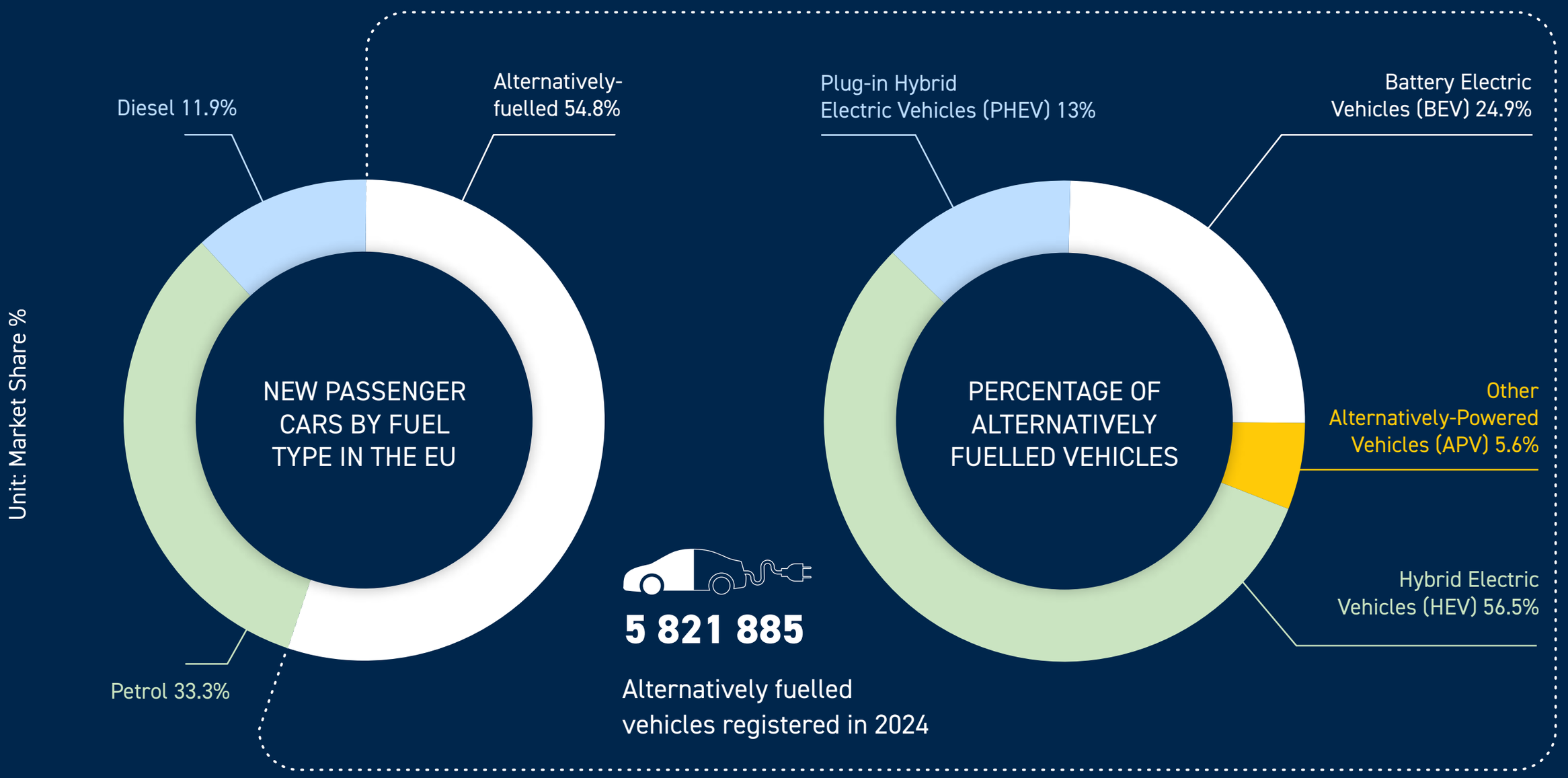
Retail & Marketing Infrastructure

.07

FIGURE
45

ALTERNATIVELY FUELLED VEHICLES ACCOUNTED FOR 54.8% OF TOTAL PASSENGER CAR REGISTRATIONS IN 2024

Source: European Automobile Manufacturers' Association



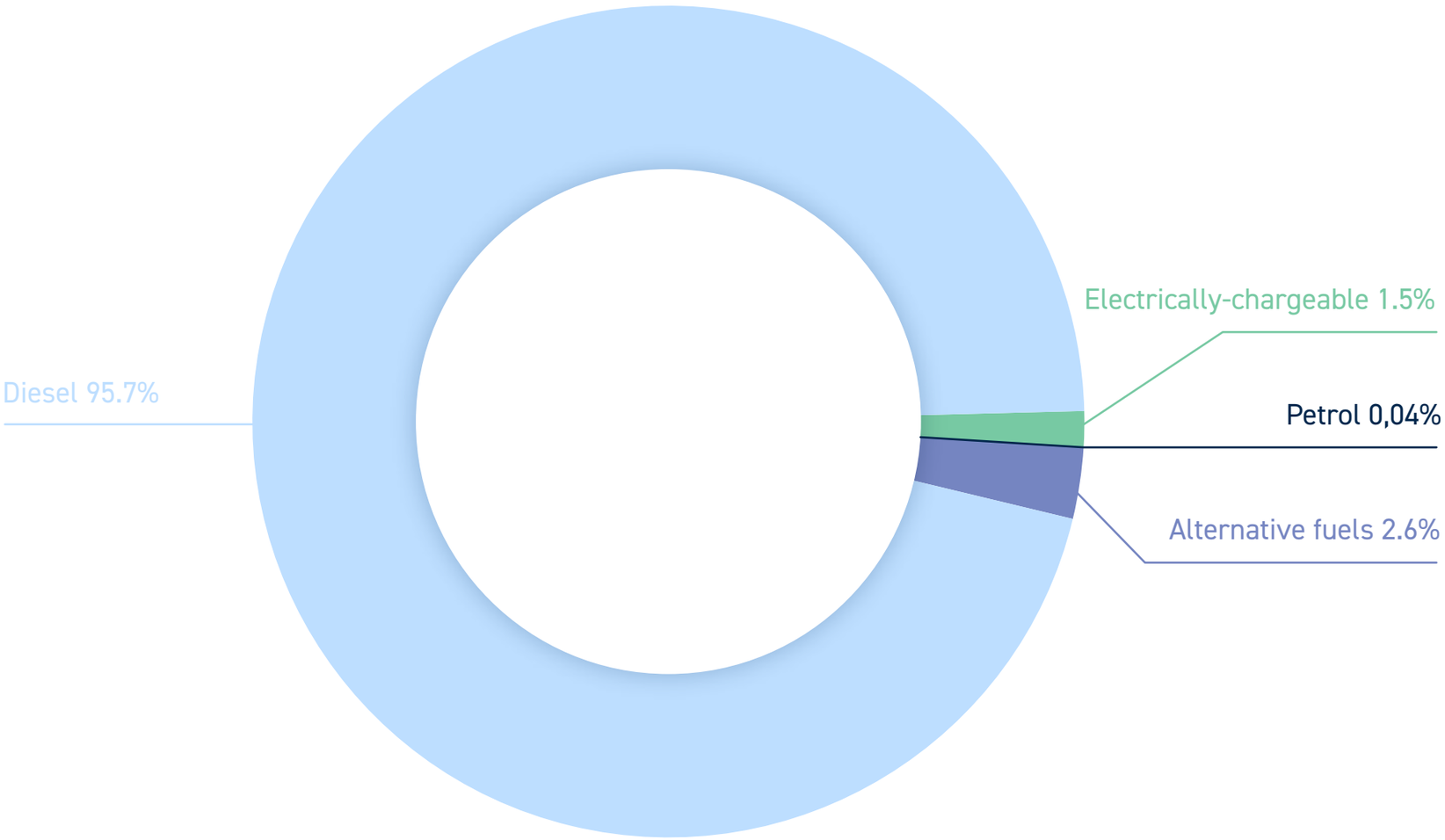
Hybrid electric cars (HEV) established themselves as the second-most-popular choice for buyers in 2024, a growth of 20.9% when compared with 2023. In the opposite trend, battery electric, plug-in hydrid, diesel and petrol new car registrations saw a decline, for example BEV represented 13.7% of new passenger cars registrations and petrol vehicles retained their lead at 33.3% of the market share.

Note: Please note that due to rounding, figures may not add up exactly to 100%.

FIGURE
46

NEW TRUCKS IN THE EU BY FUEL TYPE IN 2023

Source: European Automobile Manufacturers' Association



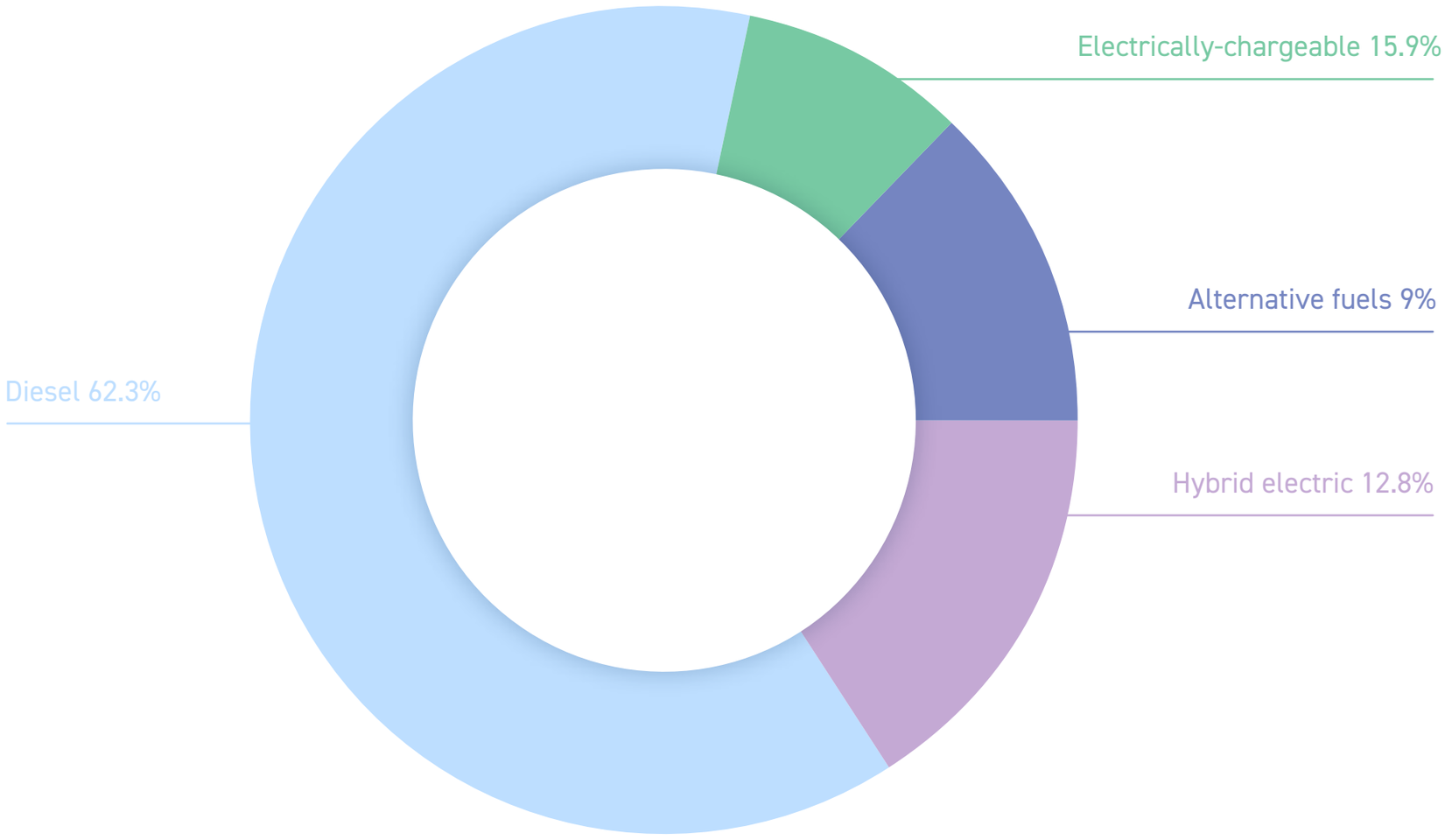
The use of low-carbon technologies in trucks remains minor with 95.7% of all newly-registered trucks in the European Union running on diesel. Alternative fuelled and electrically-chargeable trucks represent a small share of sales in 2023 with a 2.6% and 1.5% share, respectively.

Note: Please note that due to rounding, figures may not add up exactly to 100%

FIGURE
47

NEW BUSES IN THE EU BY FUEL TYPE IN 2023

Source: European Automobile Manufacturers' Association



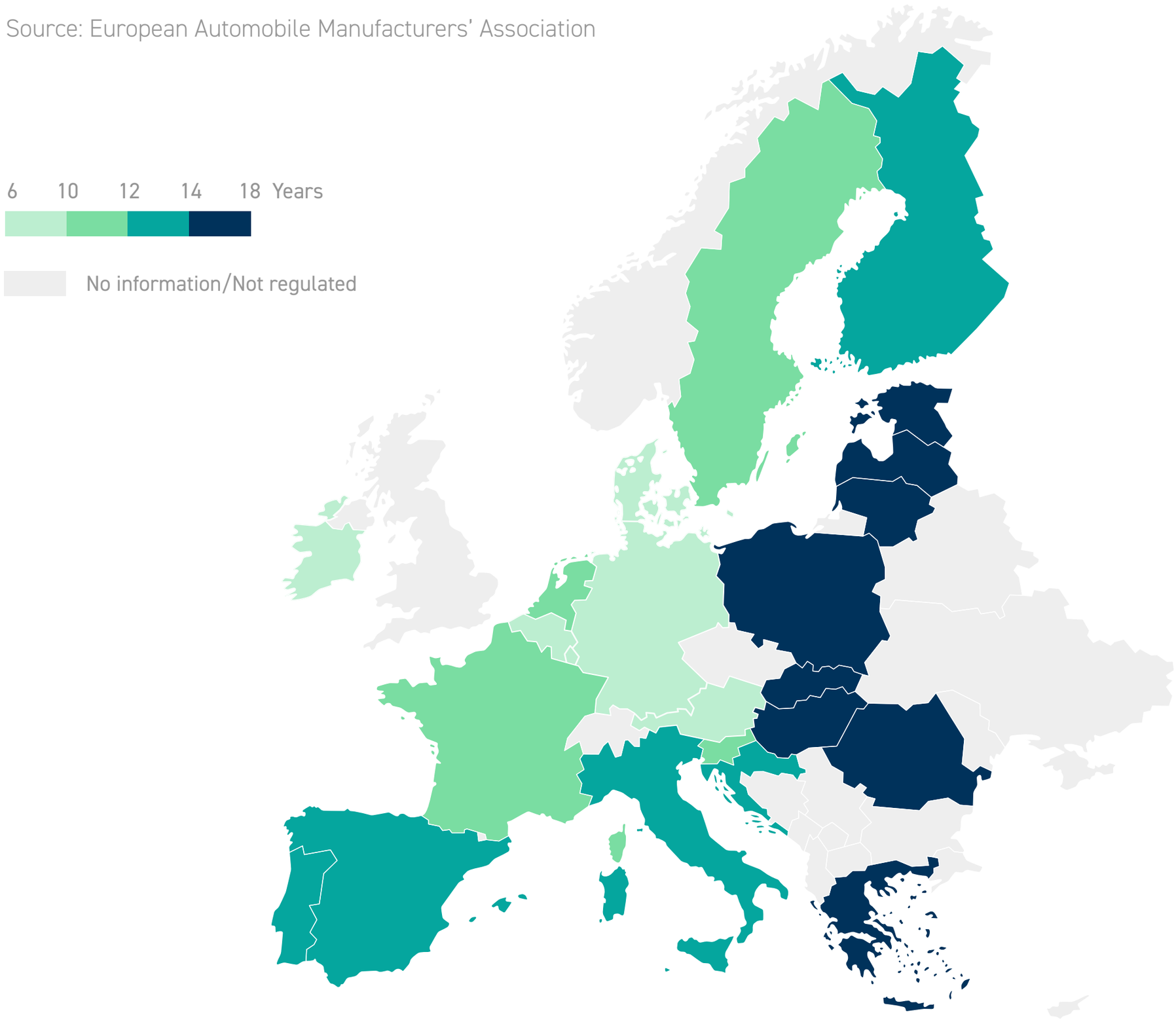
The percentage share of new buses powered by diesel has decreased by 7.43% between 2022 and 2023, driven by the growing shift toward zero-emission alternatives. Bus fleets are thus becoming more sustainable: electrically-chargeable and hybrid electric buses saw relative increases of 25.2% and 58.0%, respectively. Meanwhile, the share of alternative fuel buses (i.e. gas, LPG, and ethanol) declined by 24.37%, due to a growing policy and market preference for zero-emission technologies, particularly electric and hybrid models.

Note: Please note that due to rounding, figures may not add up exactly to 100%.

FIGURE
48

AVERAGE AGE OF EU CAR FLEETS IN 2022

Source: European Automobile Manufacturers' Association

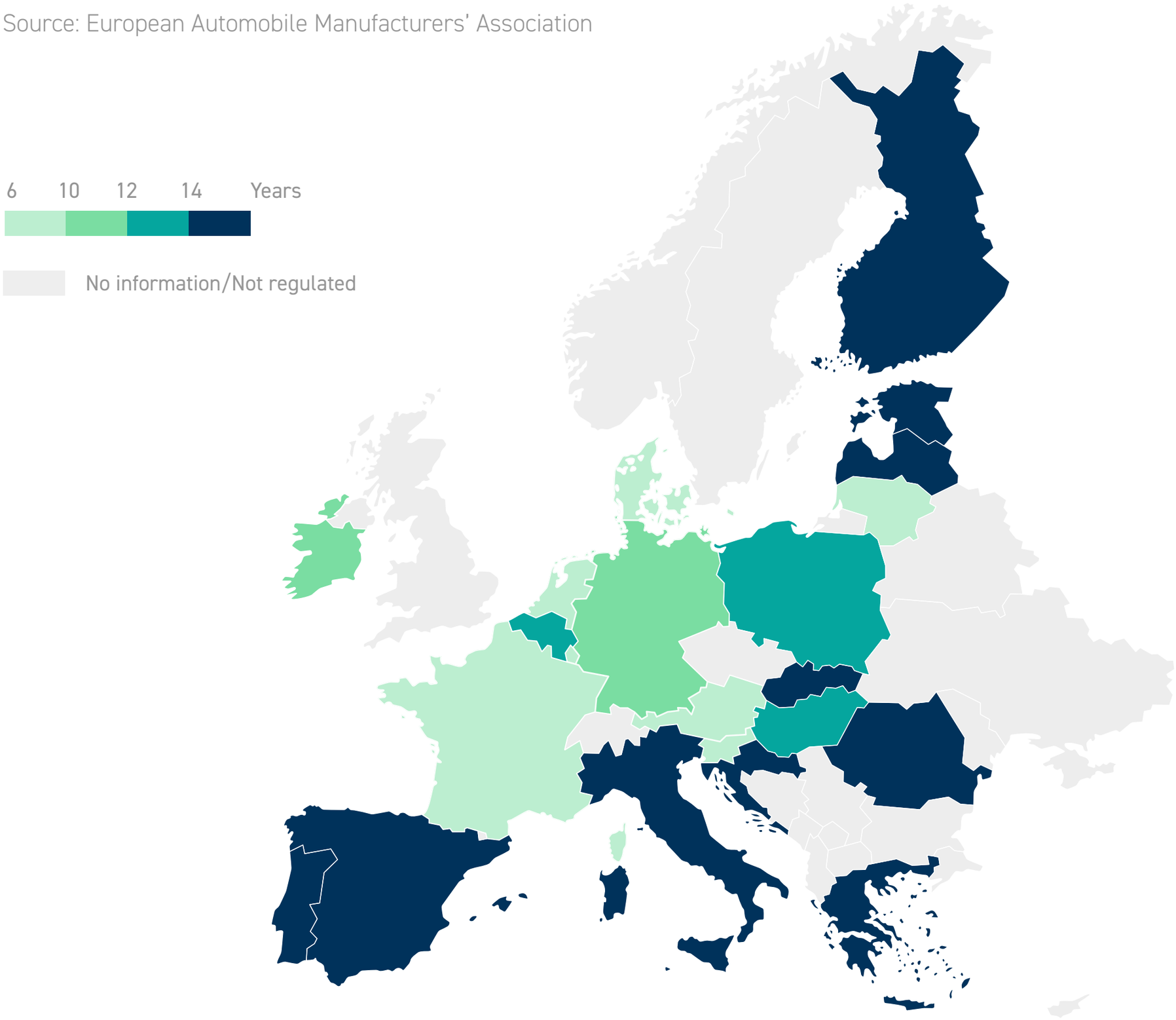


The average age of the vehicle fleet varies across European countries from 7.9 years in Luxembourg to 17.3 years in Greece, with an average leaning towards the older scale at 12.3 years. In Eastern and Southern Europe, where citizens cannot necessarily afford to buy new vehicles and depend on the second-hand car market, passenger cars will stay on the road longer and will need solutions for decarbonisation.

FIGURE
49

AVERAGE AGE OF THE EU TRUCK FLEETS IN 2022

Source: European Automobile Manufacturers' Association

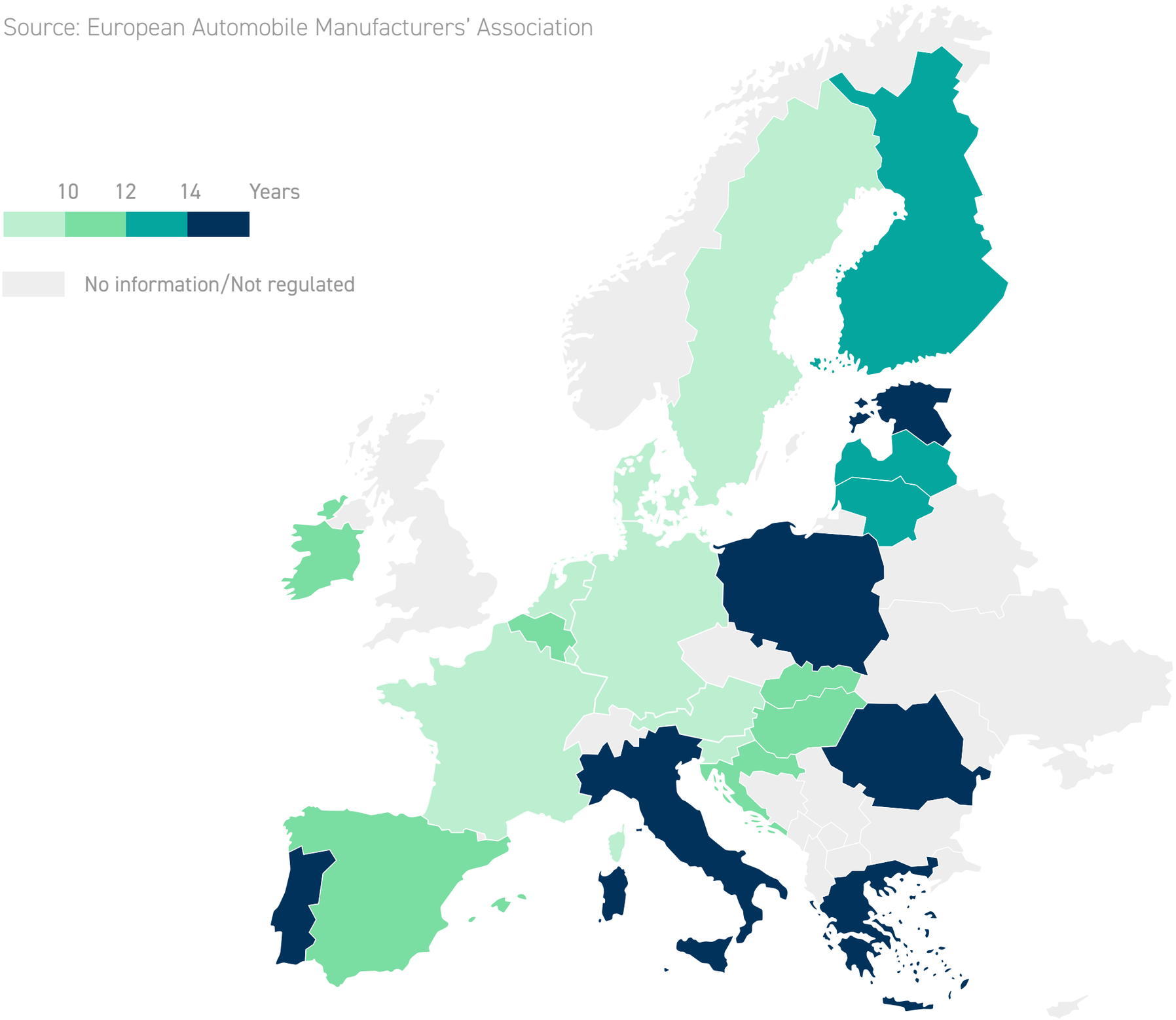


In 2022, the average age of trucks increased across most European countries, with Greece reporting the oldest fleet at 23 years, and Austria and Luxembourg the newest at 6.7 and 7.6 years, respectively. Due to financial constraints, companies in Eastern and Southern Europe often rely on second-hand trucks, resulting in longer vehicle use and a greater need for decarbonisation strategies. Notably, Romania diverged from this trend thanks to the 2021 Strategic Fleet Renewal Program.

FIGURE
50

AVERAGE AGE OF THE EU BUS FLEETS IN 2022

Source: European Automobile Manufacturers' Association

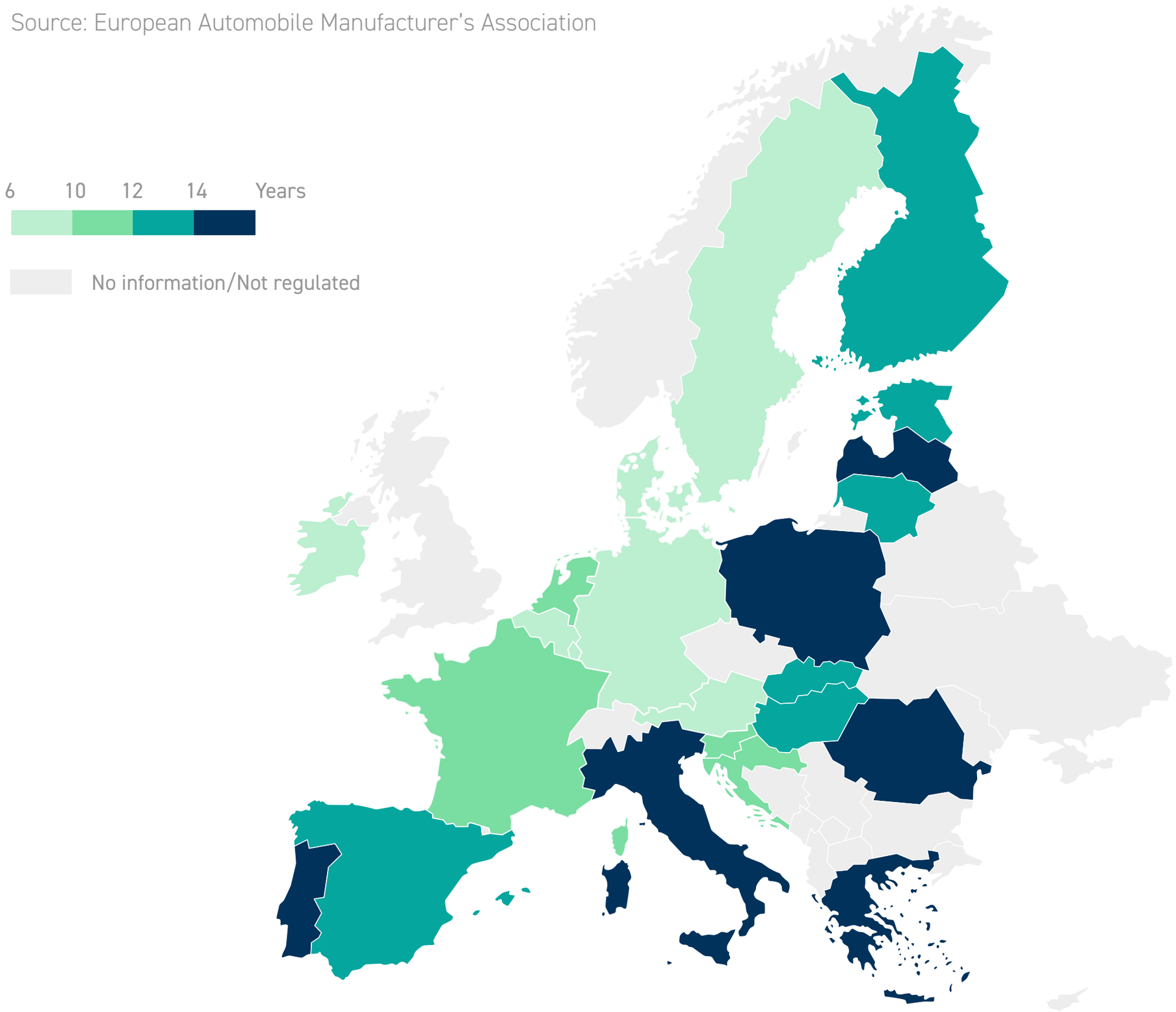


The average bus fleet age across Europe is 12.5 years. Greek (18.8) and Romanian (17.1) buses are the oldest in the region. Furthermore, only seven countries maintain an average bus age below 10 years. In Eastern and Southern Europe, where companies and cities cannot necessarily afford to buy new vehicles, buses will stay on the road longer and will need solutions for decarbonisation.

FIGURE
51

AVERAGE AGE OF THE EU VANS FLEET IN 2022

Source: European Automobile Manufacturer's Association



The average vans fleet age across Europe is 12.5 years. Greek (21.4) and Romanian (15.8) vans are the oldest in the region. Furthermore, only seven countries maintain an average vans age below 10 years. In Eastern and Southern Europe, where companies and cities may not have the financial capacity to regularly invest in new vehicle fleets, vans will stay on the road longer and will need solutions for decarbonisation. Of the EU's four major markets, Italy has the oldest van fleet (14.7 years), followed closely by Spain (14 years).

FIGURE
52

SERVICE STATIONS IN EUROPE IN 2024

Source: National Fuel Industry Associations, Fuelo.net, 2gis, GlobalData and Maps.

COUNTRIES	Number of service stations
AUSTRIA	2 724
BELGIUM	3 064
BULGARIA	3 455
CROATIA	925*
CYPRUS	320
CZECHIA	7 722
DENMARK	2 122
ESTONIA	535
FINLAND	1 943*
FRANCE	10 806
GERMANY	14 376
GREECE	5 570
HUNGARY	2 032
IRELAND	1 840
ITALY	21 750
LATVIA	593
LITHUANIA	474
LUXEMBOURG	238**
MALTA	77
NETHERLANDS	4 131
POLAND	7 937
PORTUGAL	3 401
ROMANIA	1 507
SLOVAKIA	1 100
SLOVENIA	532
SPAIN	12 346*
SWEDEN	2 643
TOTAL EU-27 = 114 163	
UNITED KINGDOM	8 365
NORWAY	1 823*
SWITZERLAND	3 313
TURKEY	12 661
UK + NO + CH + TR	**26 162**
TOTAL = 140 325	

There were over 140,000 service stations in the EU, Norway, the United Kingdom, Switzerland, and Turkey operating in 2024. Compared to 2023, the change in categories has changed the number for Czechia.

* Numbers for 2023

** Numbers for 2022

ABOUT
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FuelsEurope represents the EU fuels & industrial value chains products manufacturing industry in the policy debate with EU Institutions and other stakeholders, providing an expert opinion on the production process, distribution and use of our industry's products, in order to contribute to a regulatory framework that:

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- **Boosts sustainable development** through supporting a competitive EU industry;

- **Establishes effective, technically feasible and sustainable requirements** to protect human health and the environment.

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