OXFORD ECONOMICS

NOVEMBER 2026

THE STRATEGIC ROLE OF THE EU FUEL MANUFACTURING AND REFINING INDUSTRY

A REPORT FOR FUELSEUROPE



ABOUT OXFORD ECONOMICS

Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic forecasting and modelling to UK companies and financial institutions expanding abroad. Since then, we have become one of the world's foremost independent global advisory firms, providing reports, forecasts and analytical tools on more than 200 countries, 100 industrial sectors, and 8,000 cities and regions. Our best-in-class global economic and industry models and analytical tools give us an unparalleled ability to forecast external market trends and assess their economic, social and business impact.

Headquartered in Oxford, England, with regional centres in New York, London, Frankfurt, and Singapore, Oxford Economics has offices across the globe in Belfast, Boston, Cape Town, Chicago, Dubai, Dublin, Hong Kong, Los Angeles, Mexico City, Milan, Paris, Philadelphia, Stockholm, Sydney, Tokyo, and Toronto. We employ over 750 staff, including more than 450 professional economists, industry experts, and business editors—one of the largest teams of macroeconomists and thought leadership specialists. Our global team is highly skilled in a full range of research techniques and thought leadership capabilities from econometric modelling, scenario framing, and economic impact analysis to market surveys, case studies, expert panels, and web analytics.

Oxford Economics is a key adviser to corporate, financial and government decision-makers and thought leaders. Our worldwide client base now comprises over 3,000 international organisations, including leading multinational companies and financial institutions; key government bodies and trade associations; and top universities, consultancies, and think tanks.

CONTENTS

1: Trends and drivers of the industry's performance 4

2: The core economic footprint of the industry in the EU 10

3: The industry's role in enabling activity across the wider economy 12

4: Risks to the industry 15

All data shown in tables and charts are Oxford Economics' own data, except where otherwise stated and cited in footnotes, and are copyright © Oxford Economics Ltd.

This report is confidential to FuelsEurope and may not be published or distributed without their prior written permission.

The modelling and results presented here are based on information provided by third parties, upon which Oxford Economics has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

To discuss the report further please contact:

Sami Hamroush: shamroush@oxfordeconomics.com

James Bedford: jbedford@oxfordeconomics.com

Oxford Economics
4 Millbank, London SW1P 3JA, UK

NOVEMBER 2026

THE FUELS INDUSTRY ENABLES ACTIVITY ACROSS THE WHOLE EU ECONOMY

Beyond its own economic footprint, the EU conventional and renewable fuels industry supplies fuels that are essential to almost all areas of the economy.

434 million tonnes of refined oil products consumed in the EU27 in 2025, across three major sectors.

68% Transport | **20% Industry** | **12% Other uses**

TRANSPORT: 68% of fuel use



Refined fuel products provided **97.9%** of the EU27's transport sector energy in 2025: **92.1%** traditional fuels and **5.8%** biofuels.

ROAD TRANSPORT



- **308 billion litres** of fuel supplied
- Enables **2.2 trillion** passenger-kilometres



- Supports **1.9 trillion** tonne-kilometres of freight movement

AVIATION



- **55 billion litres** of fuel supplied
- **828 million** departing passengers

INDUSTRY: 20% of fuel use

Fuel products are a critical feedstock for European industry, especially **petrochemicals**.



Petrochemicals use **two-thirds** of industrial refined oil demand—and provide inputs to **95%** of manufactured goods.

Onward sales of petrochemicals across the EU27 economy by sector

Rubber and plastics	18%
Farming	8%
Construction	7%
Fuel product manufacturing	5%
Pharmaceuticals	5%
Energy supply	4%
Food product manufacturing	4%
Healthcare	4%
Other sectors	45%

OTHER USES: 12% of fuel use

HOUSEHOLDS



26 billion litres of oil products used for domestic heating.

AGRICULTURE



17 billion litres of oil products used.

THE FUELS INDUSTRY



94 refineries across the EU27+3* in 2026; **83** refineries and **11** biorefineries.



663 million tonnes refining capacity across the EU27+3 (598 Mt in the EU27 alone).



Decrease from **117** refineries in 2009, with a **19%** decrease in conventional refining capacity in the EU27+3.

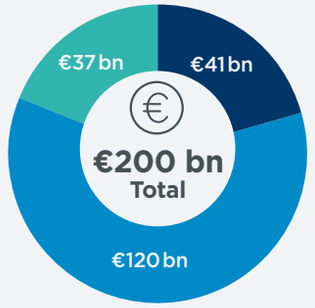
*EU27+3 refers to the EU27, plus Norway, Switzerland, and the UK

ECONOMIC IMPACT

The core economic footprint of the fuels industry in the EU in 2025

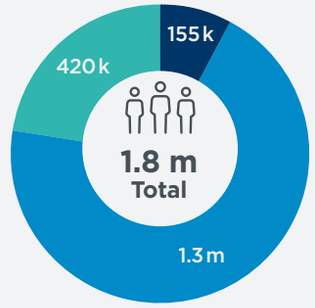
Direct | Indirect | Induced

GDP contribution



€1 in every €95 of EU GDP.

Employment



One in every 120 EU jobs.



€83 billion total tax contribution.

€1 in every €95 of EU tax revenues.

SECTION 1: TRENDS AND DRIVERS OF THE INDUSTRY'S PERFORMANCE

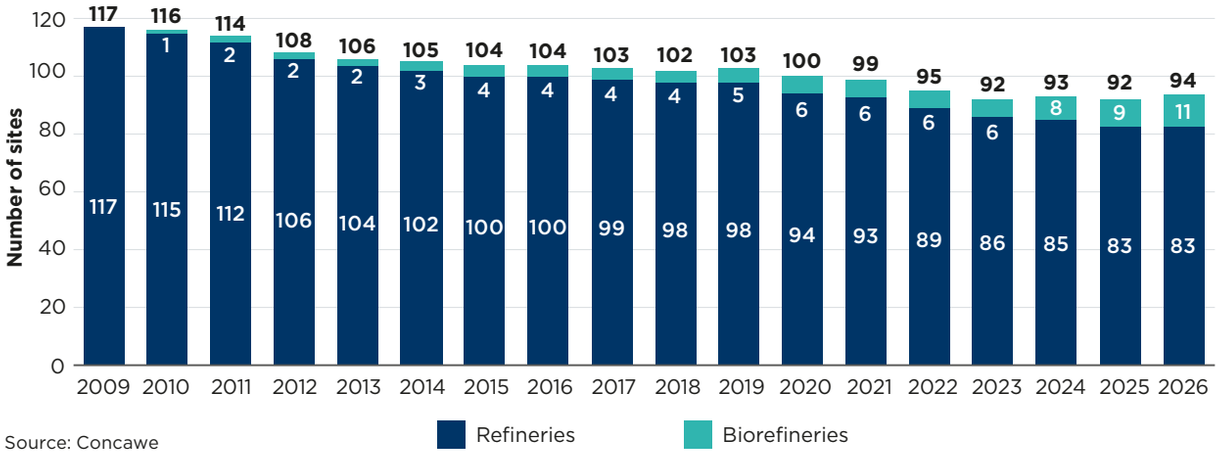


1.1 HISTORICAL TRENDS IN EU REFINING

Across the EU27 plus Norway, Switzerland, and the UK (EU27+3), 94 refineries and biorefineries produced conventional and renewable fuels in 2026.[1] The number of conventional refineries has fallen by around a quarter since 2009, with 34 refineries closing over this period. Investment in biorefineries has partly offset this decline, with 11 new facilities opening in recent years.

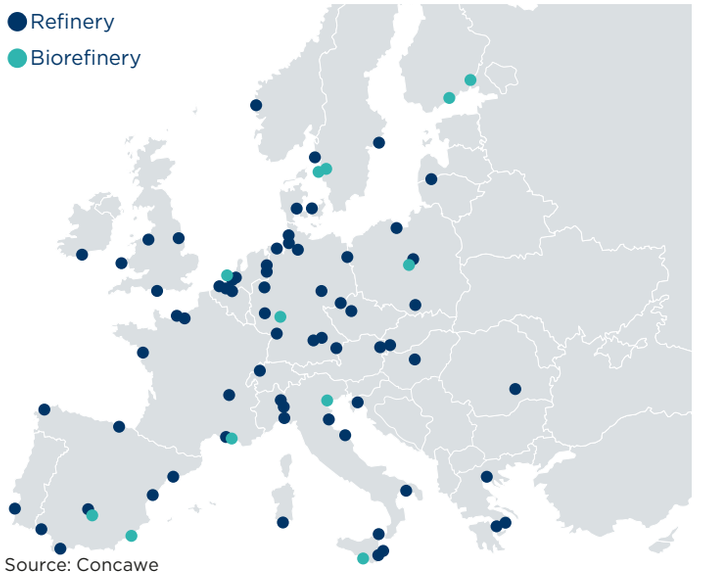
Refining capacity in the EU27+3 has declined steadily over time. Data from Concawe show conventional refinery capacity has decreased by 19%, from 809 million tonnes in 2009 to 658 million tonnes in 2026.[2] Biorefineries have added approximately an additional 5 million tonnes of capacity since the first European biorefinery opened in 2010, meaning the decline in overall refining capacity has been 18%.

Figure 1: Refinery and Biorefinery Sites in the EU27+3



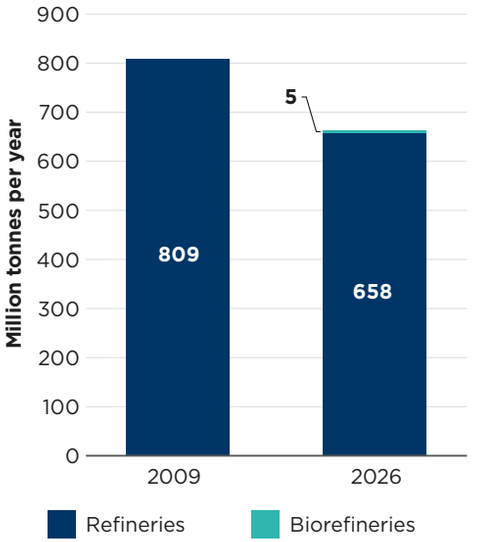
Source: Concawe

Figure 2: Refinery and Biorefinery Sites in EU27+3 in 2026



Source: Concawe

Figure 3: Refining capacity in the EU27+3



Source: Concawe

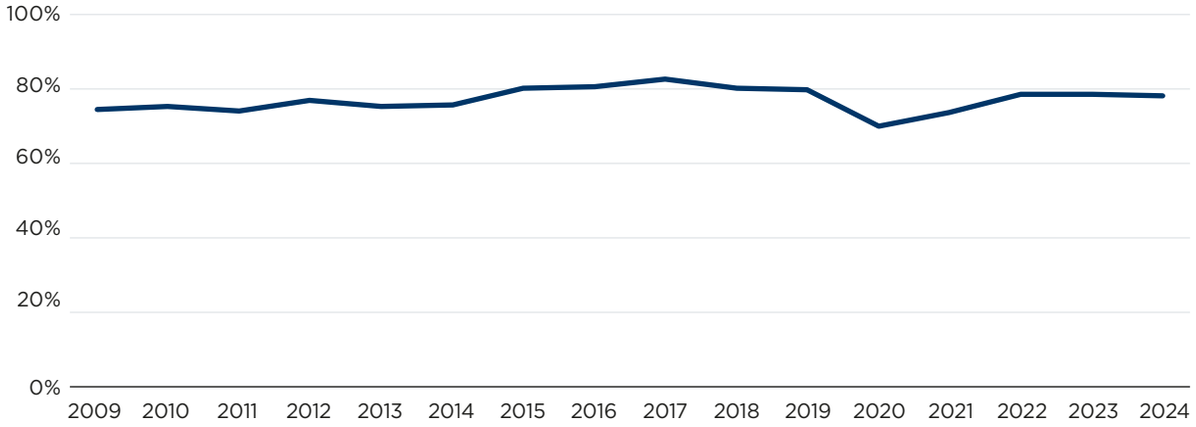
1 Concawe, Refinery and Biorefinery Sites in Europe. Accessed September 2026.
2 Ibid.

Over a longer period, the decline has been even more pronounced. EU refining capacity has decreased 32% since 1980.[3] As capacity contracted, utilisation rates initially increased from as low as 62% in 1982 to 83% by the turn of the millennium. Since then, utilisation has been relatively stable, with the exception of the Covid-19 period which saw a temporary decrease to 71% in 2020, before reaching 80% again in 2022.

The overall product mix for the EU's refined fuels has remained broadly stable over the past decade, though there have been some longer-term shifts. Gas oil and diesel continue to dominate, accounting for 40.6% of total EU production in 2025, compared with 33.1% in 1990.[4]

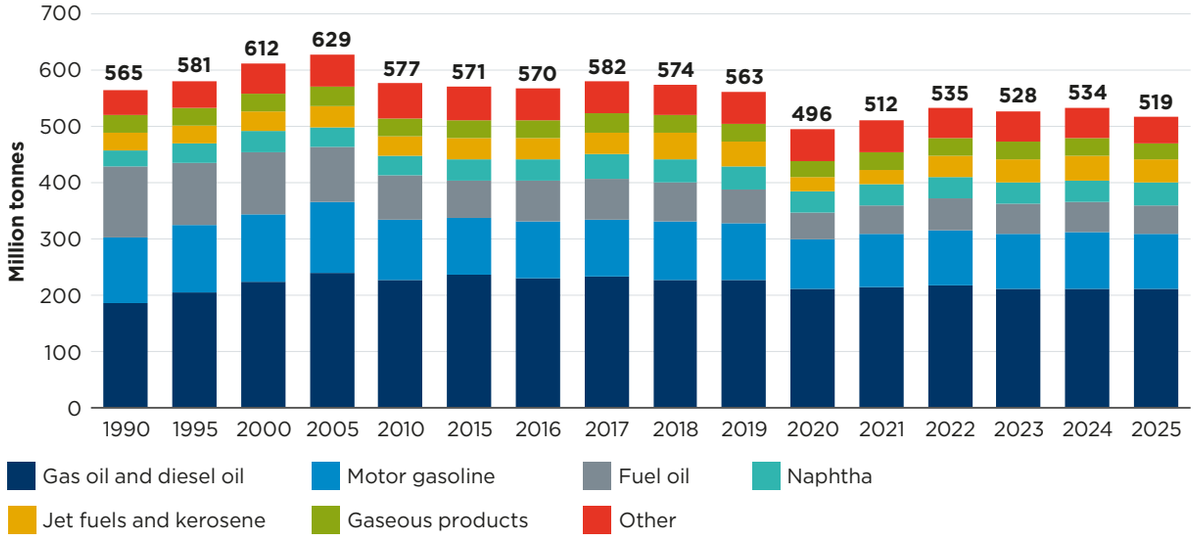
While total output has declined by 8.1% since 1990, trends differ across product groups. Gas oil and diesel production increased by 12.7% over this period but has declined after peaking in 2015—decreasing 10.5% in the past decade. In contrast, fuel oil production has dropped sharply (-60.3%), while motor gasoline output has also declined (-13.9%). Meanwhile, production of naphtha (+32.8%), jet fuel and kerosene (+30.8%), and gaseous fuels (+0.9%) has increased. Going forward, the product mix should be tailored to producing more resilient products and those with greater low-carbon differentiation potential in response to evolving demand.

Figure 4: Refinery utilisation in the EU



Source: Energy Institute

Figure 5: Domestic production by main product group in the EU



Source: Eurostat (Energy Statistics)

3 Energy Institute, 2025 Energy Institute Statistical Review of World Energy. Accessed May 2026.
4 Eurostat, Energy Statistics (Supply, transformation and consumption of oil and petroleum products). Accessed May 2026.



IMPORT OF REFINED FUELS

Total demand for refined fuels in the EU declined by 3.9% from 1990 to 2025. However, gross imports have risen by 39% over this period.

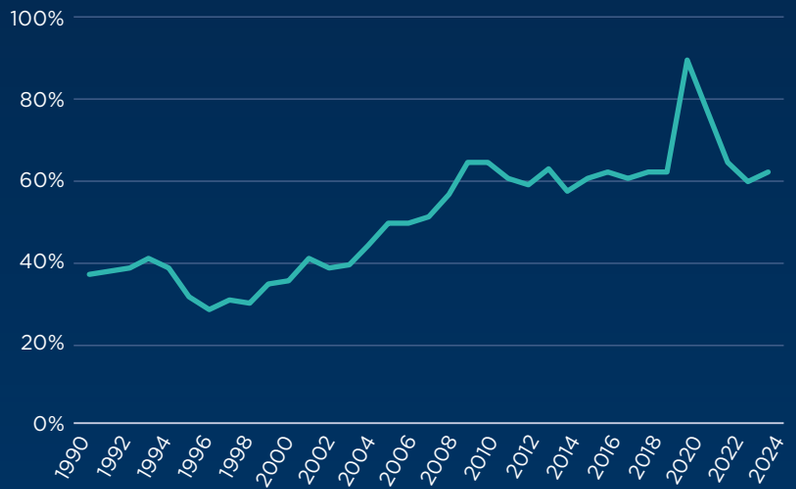
The largest increase has been gross imports of jet fuels and kerosene, which have risen by around 2.5 times since 1990. Imports now account for the majority (61%) of EU jet fuel and kerosene use, up from 36% in 1990—making supply more vulnerable particularly during periods of geopolitical uncertainty.

The EU has become a net exporter of refined fuels, despite the growth in imports. This is driven by strong net exports of motor gasoline. However, the EU remains reliant on net imports of gas oil and diesel oil, jet fuel and kerosene, and gaseous products to meet demand. This highlights the structural mismatch between the EU's refining output and the composition of its domestic fuel demand. The trend of continuous refinery closures risks the EU being over-exposed to international markets and imported fuels.

Figure 6: Gross imports of refined fuels in the EU[5]

Million tonnes	1990	2025	Change 1990 to 2025 (%)
Gas oil and diesel oil	63	104	66%
Fuel oil	53	40	-24%
Naphtha	27	34	25%
Jet fuels and kerosene	8.8	31	255%
Motor gasoline	29	28	-5%
Other	16	28	69%
Gaseous products	8.8	21	138%
Total	**206**	**286**	**39%**

Figure 7: Imported share of jet fuel used in the EU



Source: Eurostat

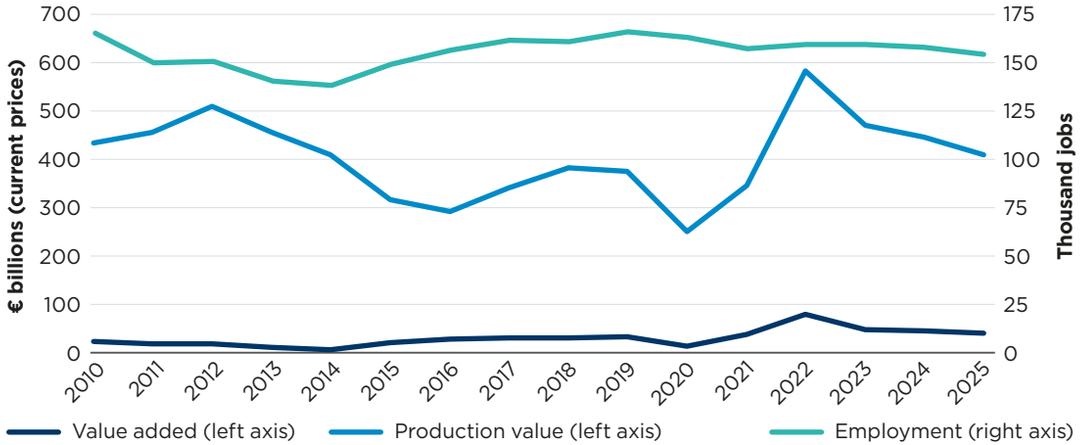
5 Eurostat, Energy Statistics (Supply, transformation and consumption of oil and petroleum products). Accessed May 2026.

1.1.1 Historical trends in the industry's economic performance

While there is a clear historical trend in production, the value of this output and the refining margin has been more volatile. Figure 8 outlines core economic metrics for the EU's fuel manufacturing and refining industry.[6]

- The nominal value of output has fluctuated significantly despite relatively stable volumes, reflecting volatility in crude prices and refining margins driven by product-specific supply and demand conditions.
- This volatility feeds directly into the industry's refining margin—also known as its value added. This refers to the difference between input costs and output value—primarily driven by the gap between the cost of crude oil and the output value of the refined products produced from it. Shifts in crude oil prices, supply disruptions, and demand conditions drive large changes in input costs relative to output values.
- Eurostat data show employment has held broadly steady while production value has fluctuated, consistent with staffing levels being driven by operational complexity, maintenance requirements, and regulation rather than output.

Figure 8: The direct production value, value added, and employment of the industry[7]



Source: Eurostat (Structural Business Statistics, Labour Force Survey)

6 In this report, the EU fuel manufacturing and refining industry is defined using the International Standard Industrial Classification (ISIC) 19.2. This includes crude oil refining and certain refinery-based renewable fuels (e.g. HVO, SAF, renewable naphtha, and co-processed biofuels in oil refineries).

7 Eurostat, Structural Business Statistics. Accessed May 2026. Value of output and value added data available to 2023, with 2025 values estimated using Eurostat Short-term business statistics indices of output and producer prices, value added forecast in line with value of output. Due to break in employment time series, employment data for 2017 estimated based on broader sector 19 annual growth, and based on SBS employment growth prior to 2017.

1.2 DRIVERS OF THESE TRENDS

Historical trends in EU refining and the industry's economic performance have been driven by several factors. These include structural shifts in demand and supply, constraints within the existing industry configuration and regulatory environment, and the sector starting to transition from conventional to renewable fuels.

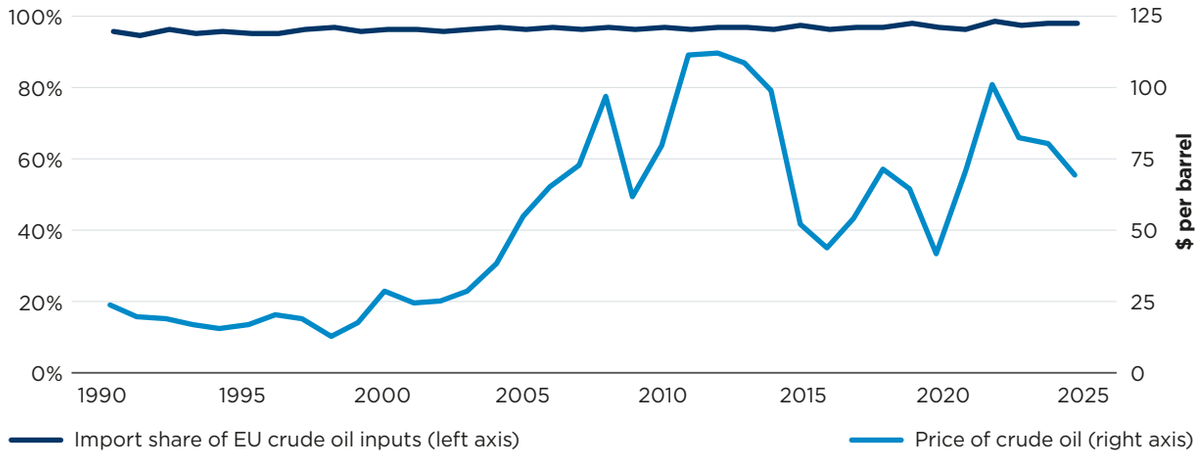
1.2.1 Structural drivers

- There is an emerging **demand transition**. Overall demand has dropped by 3.9% from 1990 to 2025. But the types of fuel consumed have started shifting too as consumption of road fuels declines. Battery electric vehicles continue to gain market share, reaching 20% of new EU car registrations in 2026.[8] This has already cut oil demand by 140,000 barrels per day, or 4.5% of car-related refined fuel use.[9]
- **Global competition** has intensified, with international firms benefitting from lower regulatory burdens, energy and feedstock costs, and labour costs. Pressure on refining margins leads to production cuts and closures. Production has more than doubled in the Middle East and nearly tripled in the Asia-Pacific region since 1990. Meanwhile, the EU's share of global refining output fell from 17.3% in 1990 to 11.7% in 2024.[10]
- **Geopolitical supply chain shifts** have also increased costs for EU refineries, as well as disrupting trade flows. This is highlighted by the volatility of crude oil prices—an essential input to EU refining (Figure 9).

1.2.2 Industry constraints

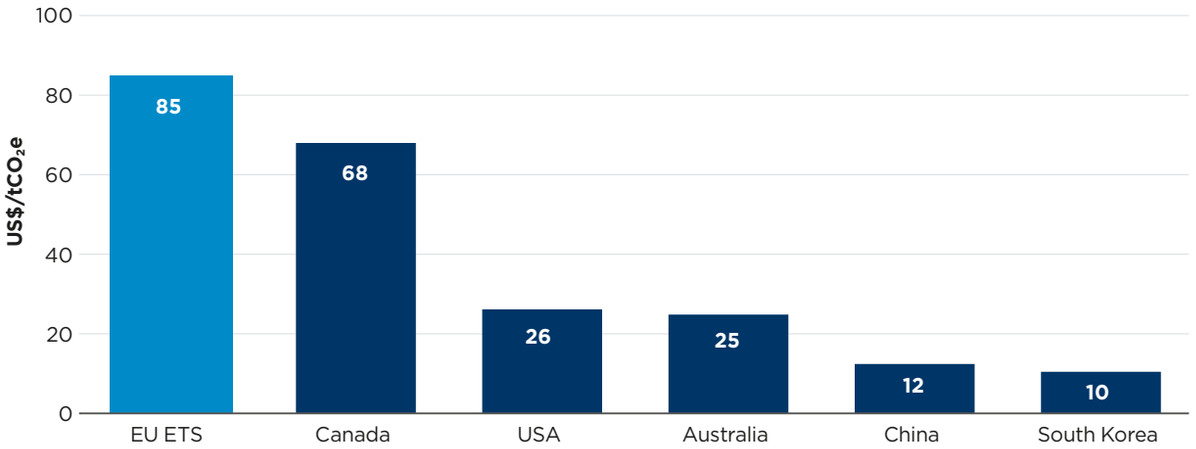
- The EU has a **structural deficit in diesel and a surplus in gasoline**. It is a net importer of gas oil and diesel oil and jet fuels, and a net exporter of motor gasoline, highlighting a mismatch between EU demand and refining configurations and inputs that is costly and difficult to change.
- **Higher operating costs** reflect not only higher energy and labour costs but also greater **emission costs** under the EU ETS. Compliance of which requires both direct emission costs and indirect carbon costs through capex and opex. **Regulatory complexity** has been estimated to cost up to 26 cents per barrel in current prices—around 2% of EU refining margins.[11] Higher costs affect EU competitiveness in global markets—further pressure on margins leads ultimately to closures.

Figure 9: Share of imported crude oil used in refining and annual average Crude prices (Brent)



Source: Eurostat, EIA

Figure 10: Latest carbon pricing[12]



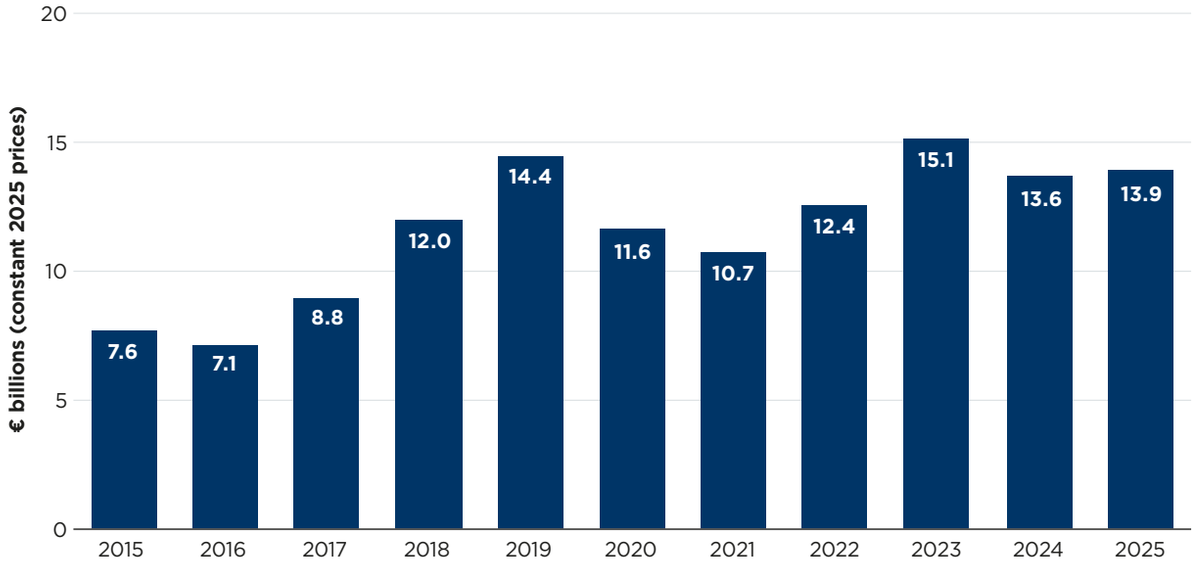
Source: World Bank

8 European Automobile Manufacturers' Association (ACEA), New car registrations, Accessed July 2026.
9 European Commission, Electric car sales surge as high oil prices drive shift away from fossil fuels
10 Energy Institute, 2025 Energy Institute Statistical Review of World Energy. Accessed May 2026.
11 European Commission Joint Research Centre, EU Petroleum Refining Fitness Check: OURSE Modelling and Results. Accessed May 2026. Refining margin of €13.53/barrel from Bloomberg calculated as an average for four large EU refineries from Bloomberg.
12 World Bank, State and Trends of Carbon Pricing Dashboard, Accessed May 2026.

1.2.3 Transition risks

- The European Green Deal and Fit for 55 package—which targets a 55% reduction in emissions compared with 1990 levels—were introduced in 2019 and 2021, respectively. These provide a pathway of **decarbonisation requirements** for lower emissions and more renewable fuels, all while policy aims to reduce energy use—impacting demand for refined fuels.
- Strong market demand and investment commitments for renewable and low-carbon fuels and products are needed to underpin the business case for industrial transformation.
- Investment has picked up—Eurostat data suggest gross investment has increased 82% in real terms over the past decade. However, meeting these targets requires a significantly higher number of new biorefineries and e-fuel plants than the current trajectory, and hence a much higher level of investment.[13] Weak signals and an evolving and inconsistent policy environment can lead to **investment uncertainty.**

Figure 11: Gross investment by the industry[14]



Source: Eurostat

13 S&P Global, The refinery transition (2025)
14 Eurostat, Structural Business Statistics. Accessed May 2026.



IN FOCUS: RENEWABLE AND LOW-CARBON FUELS

Renewable and low-carbon fuels, also known as biofuels, are made from biomass such as agriculture residues and waste, rather than fossil fuels. EU manufacture of liquid biofuels has grown rapidly, reaching 18 million tonnes of oil equivalent (mtoe) in 2024.[15]

The majority of EU production is biodiesel (77%)—around one-quarter of global production—which is made from vegetable oils, waste fats, and used cooking oil.[16] Biogasoline accounts for 22% of production and is made from agricultural residues and wastes, forestry residues and waste, and other organic waste materials. Sustainable Aviation Fuel (SAF) makes up the remaining 1%. SAF is in an earlier stage of development, with the number of EU countries producing SAF rising from 12 in 2023 to 17 in 2024.[17] Produced by converting waste oils and fats, or agricultural residues and other biomass into fuel, SAF has been found to reduce emissions by 91% compared to conventional jet fuels.

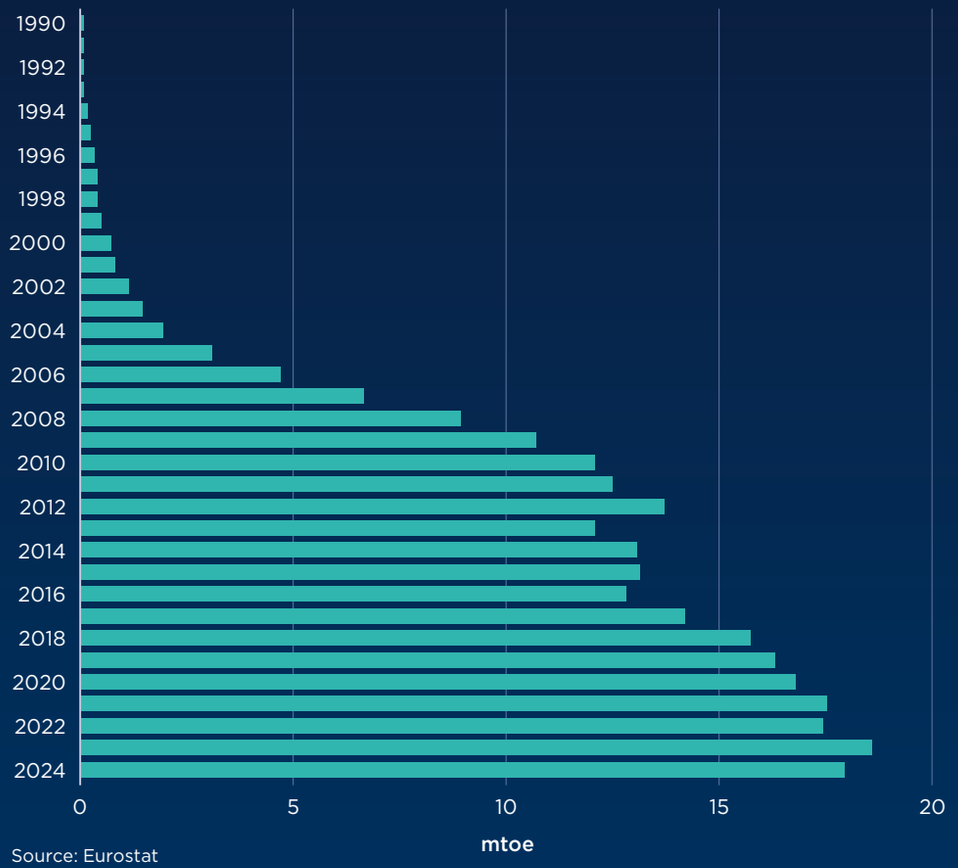
Advanced biofuels will play a key role in decarbonising EU transport—its largest consumer of refined fuels (Section 3)—particularly in sectors where electrification is more challenging (road, aviation, and maritime). The success of industrial transformation will depend not only on asset conversion but also on the development and securing of sustainable, competitive renewable feedstock supply chains. Increasing production will require greater mobilisation of homegrown biomass feedstocks from sustainable sources, supported by key upstream sectors such as agriculture.

Research from the European Commission shows there is ample potential for advanced biofuel production using homegrown, sustainable biomass sources. But meeting these targets requires the correct approach.[18]

Scaling up the production of low-carbon and renewable fuels cannot rely on a single solution; instead, it will require a portfolio of complementary technologies. This should include expanding proven pathways, such as converting waste oils and fats into biodiesel and sustainable aviation fuel (HVO/HEFA), while also supporting the commercial deployment of emerging technologies, including biomass gasification and CO_2-based synthetic fuels (e-fuels). A diversified approach would enable the industry to utilise a wider range of feedstocks and meet the differing needs of transport modes across the economy.

However, an estimated €3.8–7.5 billion of annual policy support will be needed by 2030 to close the cost gap between renewable and low-carbon fuels and conventional fossil fuels. Coordinated policy frameworks and targeted investment are essential to accelerate the production of advanced biofuels from sustainable domestic biomass and to bring emerging technologies to market. Without this support, investment is unlikely to reach the level required to meet decarbonisation targets.

Figure 12: EU production of pure liquid biofuels



Source: Eurostat

15 Eurostat, Energy Balances. Accessed June 2026.
16 European Biodiesel Board, Statistical Report (2024).
17 European Union Aviation Safety Agency, ReFuelEU Aviation Annual Technical Report (2025).
18 Publications Office of the European Union, Development of outlook for the necessary means to build industrial capacity for drop-in advanced biofuels (2026).

SECTION 2: THE CORE ECONOMIC FOOTPRINT OF THE INDUSTRY IN THE EU



The fuel manufacturing and refining industry in the EU makes a substantial contribution to GDP, employment, and government tax revenues. This section of the report assesses the industry's upstream economic footprint using a standard approach called an economic impact assessment, measured through three channels of impact:

- **Direct impact:** Economic activity directly generated by the fuel manufacturing and refining industry.
- **Indirect impact:** Activity supported along the industry's supply chain by its operational and capital expenditure with third-party suppliers in the EU.
- **Induced impact:** Wider economic activity generated as employees of the industry and its suppliers spend their earnings in the consumer economy.

2.1 THE INDUSTRY'S DIRECT IMPACT

The fuel manufacturing and refining industry directly contributed €41 billion to EU GDP in 2025.[19] This figure was roughly equivalent to the size of the economy of Estonia.[20]

The industry directly employed around 155,000 people in 2025.[21] This highlights the industry's high productivity, as the GDP per worker was €263,000—or around three times the EU average.

In 2025, the industry and its employees paid an estimated €36 billion in taxes in the EU. Around 74% of this total comprised taxes on products—including VAT on input purchases—while labour taxes accounted for 17%, and corporation tax 3%.

€€€

€41 billion

Direct contribution to EU GDP.

155,000

Direct employees across the EU.

€36 billion

Direct tax payments to government.

19 Eurostat, Structural Business Statistics. Accessed May 2026. Value added data available to 2023. This is then forecast based on growth in the value of output, which is estimated using Eurostat Short-term business statistics indices of output and producer prices.
20 Eurostat, Gross domestic product at market prices. Accessed May 2026.
21 Employment is sourced from Eurostat (Structural Business Statistics) and relates to industry ISIC 19.2. The figures are reported on a headcount basis, meaning they represent the number of individuals employed, rather than full-time equivalent (FTE) employment, which adjusts for differences in hours worked and expresses employment in terms of full-time workers.

2.2 THE INDUSTRY'S WIDER IMPACT

The industry supported further economic activity through its supply chain spending (**indirect** impact) and the wages it paid (**induced** impact).

The industry spent an estimated €383 billion with suppliers in 2025, including €369 billion on operational expenditure and €14 billion on capital expenditure. Crude oil was the primary input for the industry, accounting for around half of total spend (€190 billion). As a significant share of crude oil is imported, only about 39% of total supplier spending—equivalent to €149 billion—was directed to suppliers within the EU. These suppliers then trigger spending throughout their own supply chains to provide the goods and services purchased by the industry.

Based on this spending and the activity it generates further up the value chain, we estimate the industry supported an indirect contribution to GDP of €120 billion in 2025. This activity was estimated to sustain some 1.3 million jobs, and €36 billion in tax revenues along the industry's EU supply chain.

The industry paid more than €14 billion in compensation in 2025. Average pay was €93,000—more than double the EU average—reflecting the high value of jobs in the sector. Spending of these wages across the wider economy, together with those supported in the supply chain, sustained an estimated induced impact of €37 billion in GDP, 420,000 jobs, and €10 billion in tax revenue.

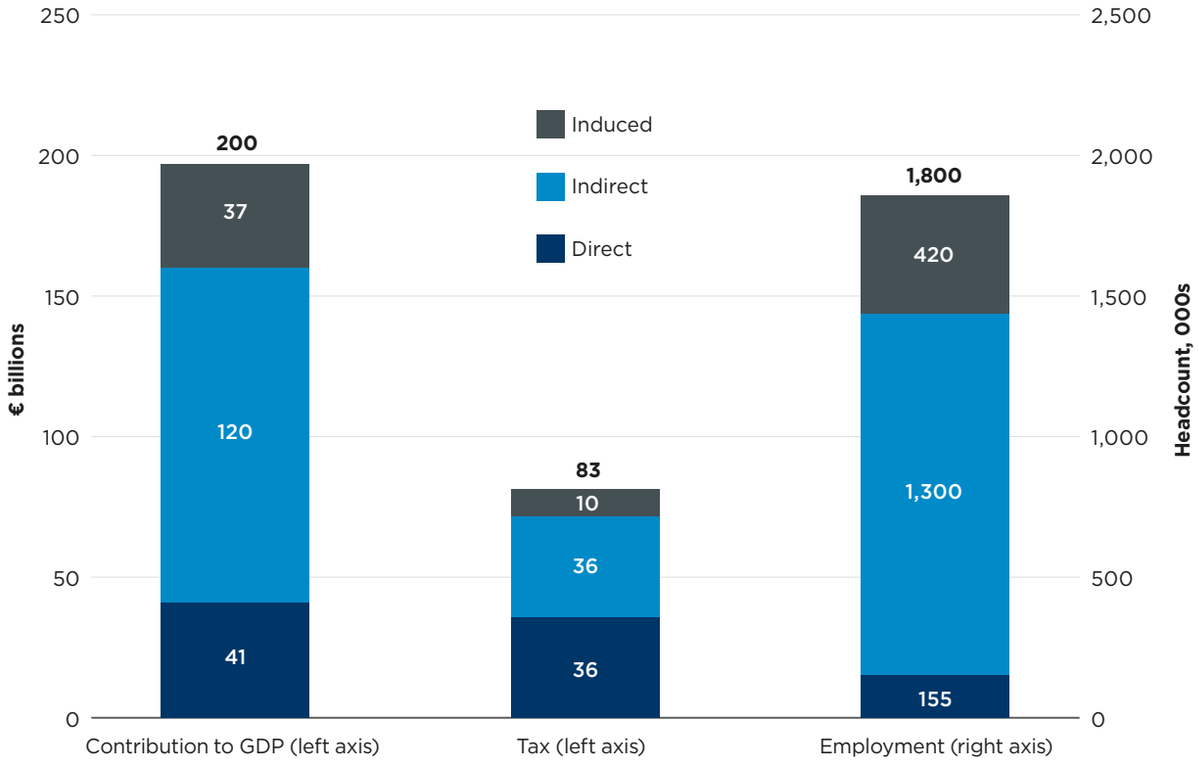
2.3 THE INDUSTRY'S TOTAL ECONOMIC FOOTPRINT

We estimate the industry supported a total contribution to EU GDP of €200 billion in 2025. This is the sum of the direct, indirect, and induced channels of impact. This total was equivalent to around 1.1% of EU GDP, or €1 in every €95 of EU GDP.[22] The industry's impacts also suggest an implied GDP multiplier of 4.9, meaning that for every €1 it contributes to EU GDP, an additional €3.9 is generated along its supply chains and through employees spending their wages.

The industry sustained an estimated 1.8 million jobs across the EU in 2025. This total was equivalent to around 0.8% of total EU employment, or roughly one in every 120 jobs.[23] This implies an employment multiplier of 12, meaning that for every person directly employed in the industry, a further 11 jobs are supported elsewhere in the EU. The higher employment multiplier, relative to the GDP multiplier, reflects the capital-intensive nature of the refining industry, which is also shown by its high GDP per worker.

Fuel manufacturing and refining also stimulated the contribution of **over €83 billion in taxes** to EU member countries. This was equivalent to 1.2% of all government revenue generated across the EU.[24]

Figure 13: Total economic footprint by channel



Source: Oxford Economics

Note: Totals may not sum due to rounding

22 Eurostat, Gross domestic product at market prices. Accessed May 2026.
23 Eurostat, Employment and labour force. Accessed May 2026.
24 European Commission, Taxation and Customs Union – Tax revenue. Accessed May 2026.

SECTION 3: THE INDUSTRY'S ROLE IN ENABLING ACTIVITY ACROSS THE WIDER ECONOMY



Serge wild plants / Shutterstock.com

The economic significance of the EU fuel manufacturing and refining industry extends well beyond the economic value generated by its own operations and upstream supply chain. The sector produces and supplies fuels that are indispensable to the functioning of nearly every part of the EU economy.

Figure 14: Final consumption of refined fuels in the EU in 2025[25]



Source: Eurostat Energy Statistics

Note: Totals may not sum due to rounding

3.1 TRANSPORT

The transport sector accounts for the majority of final refined fuel consumption in the EU, representing 68% of the total (around 300 million tonnes). Road transport accounted for the vast majority of usage, representing 84% of total consumption. Aviation made up a further 15%, and rail and domestic shipping 2%.

The fuels industry plays a vital role in enabling the movement of goods and people. **Refined fuels provided 97.9% of the EU's transport sector energy in 2025.** This comprised 92.1% conventional fuels and 5.8% biofuels (up from 4.3% in 2022).[26]



97.9% of EU's transport sector energy needs met by refined fuels

> 5.8% provided by biofuels

ROAD TRANSPORT

- **308 billion** litres of refined fuels[27] (30% gasoline, 70% diesel)
- **2.2 trillion** passenger kilometres
- **13.2 billion** tonnes of goods
- **164 billion** vehicle kilometres
- **1.9 trillion** tonne-kilometres

AVIATION

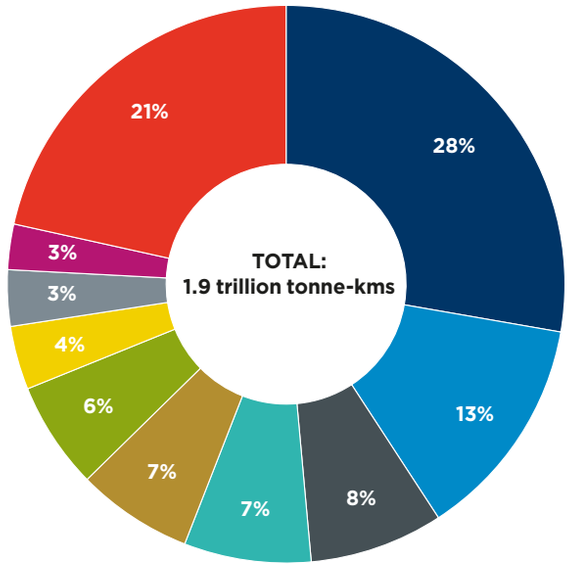
- **55 billion** litres of refined fuels
- **828 million** passengers departing from EU airports
- **7.8 million** tonnes of freight flown from EU airports

Source: Eurostat (energy statistics; road traffic; total road freight transport; overview of the air passenger transport by country and airports)

25 Eurostat, Energy Statistics. Data published up to 2024, forecast to 2025 using the change in net deliveries of total products (-3.2%).
26 Eurostat Energy Statistics. Updated using change in biofuel production (Eurostat), EV uptake (ACEA), and rail electrification (Eurostat).
27 Volume of consumption to liquid volumes using conversion rates from Stockholm Convention.

Figure 15: Road transportation of products in the EU

% of total tonne-kilometres



- Food (farmed and processed)
- Metal ores and metal products
- Wood products and furniture
- Building materials
- Vehicles, machinery, and equipment
- Chemical, rubber, and plastic products
- Recycled and waste products
- Mail and parcels
- Energy products (including road fuel)
- Mixed, unidentified, and other loads

Source: Eurostat (total road freight transport)

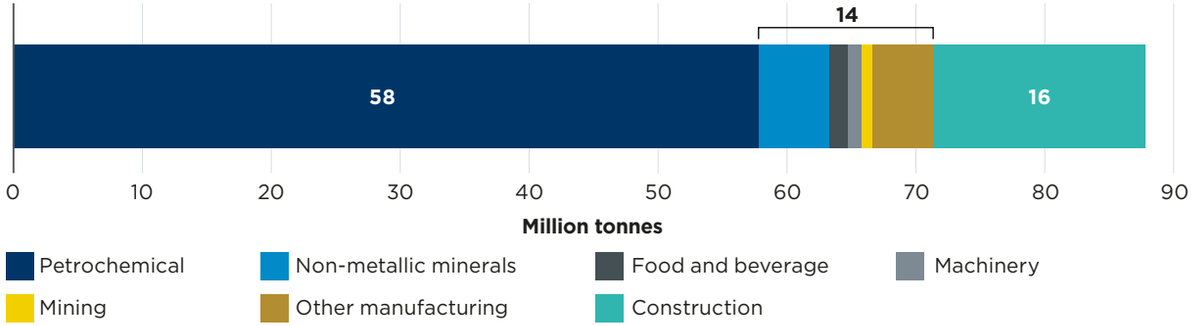
3.2 INDUSTRY

Refined petroleum products are used across the EU's manufacturing sectors. Industry accounts for 20% of final consumption of refined output, equivalent to 88 million tonnes.

- The fuel manufacturing and refining industry is closely integrated with the **petrochemicals sector**, supplying the feedstocks used to produce petrochemical products. Petrochemicals account for around two-thirds (66%) of industrial demand for petroleum products. **In turn, petrochemical outputs are used as inputs in the production of around 95% of manufactured goods across the economy**, including rubber and plastics, agricultural products, and construction materials (Figure 17).[28] Refined fuels were the largest input to petrochemical manufacture by value (7.8% of total inputs).

- The **construction sector** accounted for 19% of industrial demand. Purchases of bitumen, asphalt, and other refined products supported construction across the economy, including 334 million square metres of buildings—equivalent to 3.2 million houses.[29]

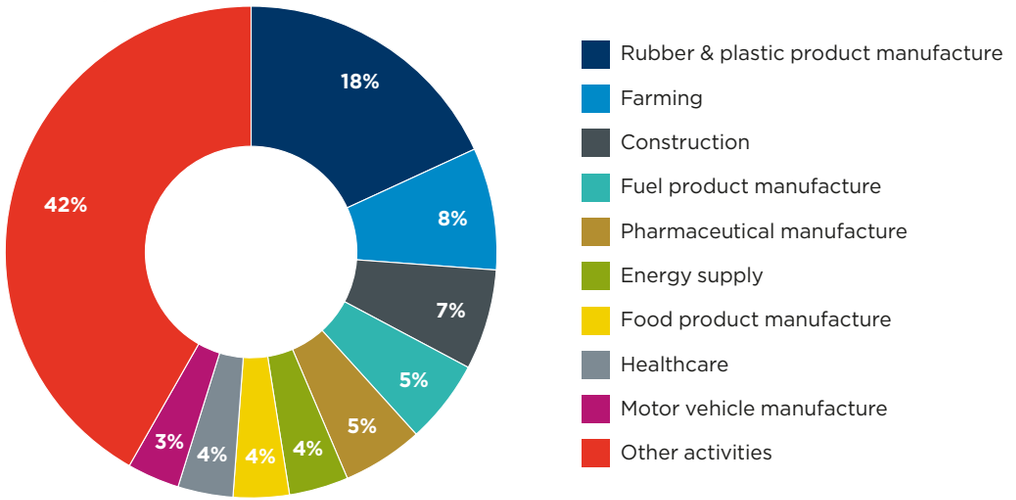
Figure 16: Industrial final consumption of refined output



Source: Eurostat Energy Statistics

Figure 17: Petrochemical sector's onward sales to other industrial sectors

% share by sector



Source: Eurostat supply-use tables

28 Cefic, The journey of petrochemicals explained: from raw materials to 95% of all manufactured goods. Accessed June 2026.
29 Eurostat, Building Permits. Accessed June 2026. Average floorspace for residential buildings (102.9 square metres) in EU from Eurostat, Housing Conditions.

3.3 OTHER USERS

The remaining 47 million tonnes of refined petroleum products were consumed by households (47%), agriculture (32%), and commercial and public services (21%).

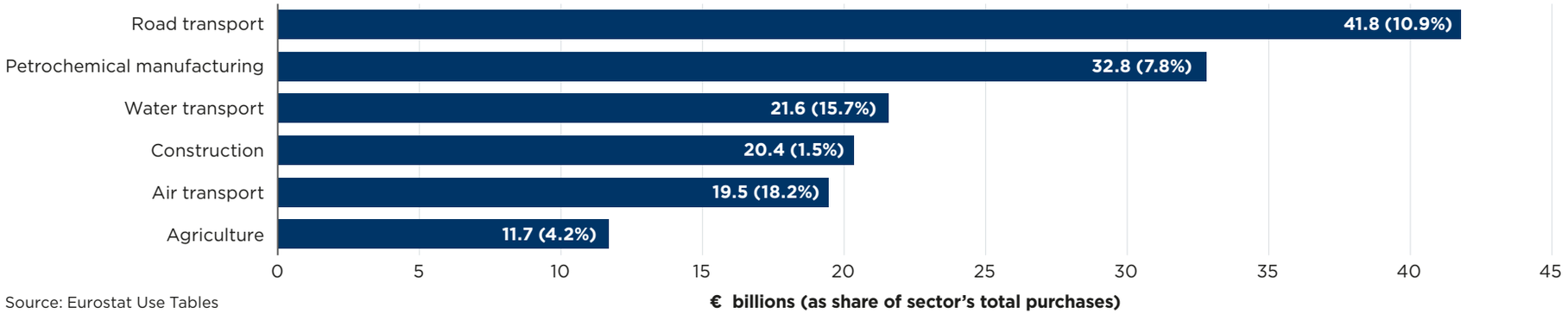
HOUSEHOLDS	AGRICULTURE
26.1 billion litres of refined fuels used for domestic heating.	**17.4 billion** litres of refined fuels.

3.4 THE ECONOMIC IMPORTANCE OF REFINED FUELS TO DOWNSTREAM SECTORS

Refined fuels are important inputs for several industries. We focus on six sectors that each purchased more than €10 billion of refined fuels to support their output in 2025 (Figure 18). In the transport sectors, these inputs made up the most significant share of total purchases—18.2% in air transport, 15.7% in water transport, and 10.9% in road transport. Refined products also accounted for 7.8% of inputs in the petrochemical sector and 4.2% in agriculture.

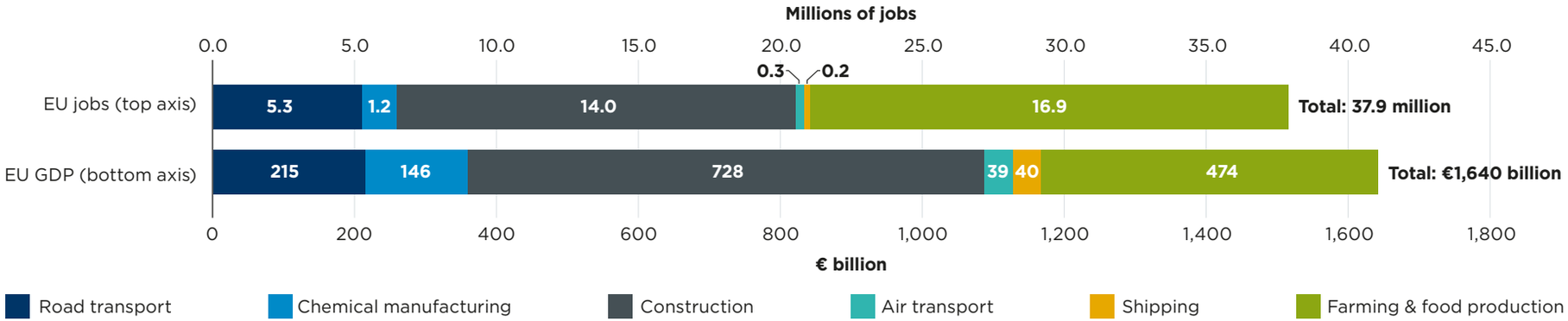
Together, these six key sectors directly generated €1.6 trillion in GDP in 2024, equivalent to 10% of total EU GDP. They also accounted for 38 million direct jobs—around 17% of total EU employment.

Figure 18: Purchases of refined fuels by key sectors in 2025[30]



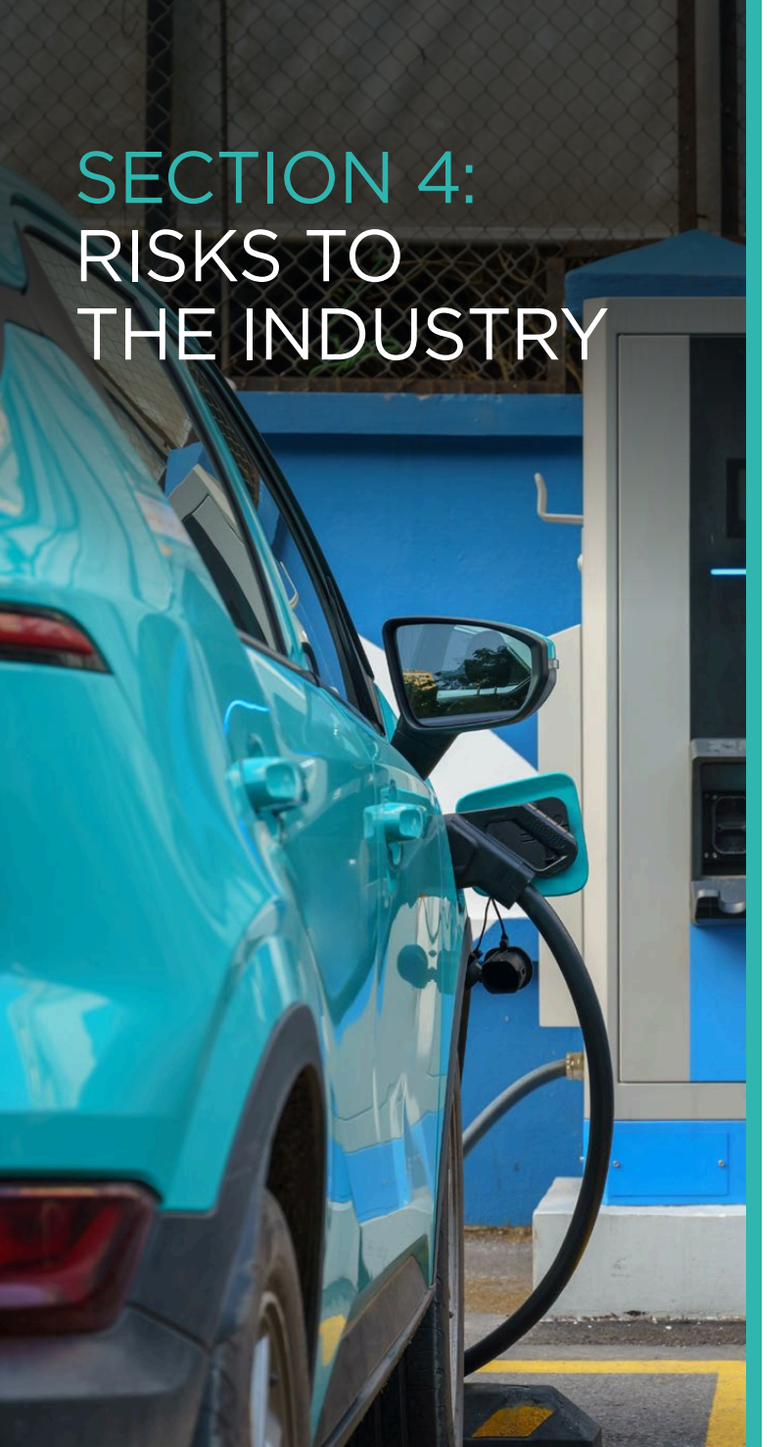
Source: Eurostat Use Tables

Figure 19: EU GDP and employment in key purchasing sectors



Source: Eurostat Structural Business Survey

30 Eurostat, Use Tables. Accessed May 2026. Data are available up to 2023, and are scaled to 2025 using the change in procurement estimated using the 2025 values for value of output minus the value added.



SECTION 4: RISKS TO THE INDUSTRY

4.1 CONSEQUENCES OF DECLINE: QUALITATIVE ANALYSIS

A further contraction in the EU's refining sector would carry costs well beyond direct losses in the industry, with consequences for emissions, regional resilience, and integrated industrial clusters.

Since oil demand in the EU peaked in 2006, consumption of refined fuels has fallen by 14%. That decline has so far been concentrated mainly in industry and households, which together account for 76% of the total decline since 2006. Road transport fuel consumption—the EU's largest source of demand, accounting for 58% of total consumption—only peaked in 2019. Over this period, new car registrations have grown steadily, increasing by an average of 0.9% per year. Only recently has this trend begun to be offset by the rising use of electric vehicles.[31] The pace and composition of future refinery adjustment will depend on several factors including electrification and renewable fuels. Further pressure could come if road fuel demand falls materially.

Figure 20: EU27 final consumption of oil & petroleum products, by end-use (select industries)

Final consumption (thousand tonnes)	2006	2024	Change (%)
Road transport	257,899	258,593	0%
Aviation (intl. bunkers)	31,656	39,847	26%
Aviation (domestic)	5,740	5,793	1%
Domestic navigation	5,801	4,175	-28%
Rail	2,392	1,020	-57%
Industry: chemical/petrochemical	68,956	59,675	-13%
Industry: other	59,193	31,003	-48%
Households (for energy use)	48,908	22,869	-53%
Agriculture & forestry	14,802	15,309	3%
Commercial & public services	20,817	6,584	-68%
TOTAL	**519,750**	**448,512**	**-14%**

Source: Eurostat

Refining capacity in Europe has already adjusted. Between 2009 and 2024, capacity fell approximately 17% with 32 refinery closures over this period (Section 1). The IEA has also flagged the likelihood of further rationalisation, noting that 2025 was the largest year of European refinery closures since 2022, with a 0.4 mb/d reduction in capacity and additional closures possible beyond the announced pipeline.[32]

In this section, we investigate three channels which connect a deeper contraction to broader economic costs: carbon leakage, regional industrial displacement, and the erosion of integrated refinery-chemical clusters. Below, we examine each in turn, before Section 4.2 quantifies the aggregate macroeconomic cost using Oxford Economics' Global Economic Model.

31 Eurostat, Road transport equipment - new registration of vehicles. Accessed June 2026.
32 International Energy Agency, Oil 2025. Accessed June 2026.

4.1.1 Carbon leakage and lost low-carbon transition opportunity

The decline of refining threatens the EU's net-zero ambitions not merely through carbon leakage, but also through the loss of the low-carbon transition opportunity itself. The leakage channel originates in a structural divergence between the EU and the rest of the world: under the EU Emissions Trading System (ETS), domestic refiners bear a real carbon cost that competitors in jurisdictions without comparable regulatory frameworks do not face. This cost gap is what makes relocation economically rational—production, and the emissions that go with it, can shift abroad rather than decarbonise in place. Refined fuels currently sit outside the Carbon Border Adjustment Mechanism (CBAM), so imports enter carrying no equivalent carbon charge and undercut domestic output at home. As of today this asymmetry is widening rather than narrowing: the carbon cost borne by EU refiners is rising, while imports remain untaxed—so the incentive to relocate is growing. However, as currently designed, the CBAM does not level the effective cost of carbon of EU industries in export markets: therefore, an import-only CBAM as currently designed would drive carbon leakage rather than preventing it.

The introduction of the ETS in 2005 has coincided with a decline in the EU's share of global refining output, from 16.1% in 2005 to 11.7% in 2024.[33] Carbon leakage estimates run between 5%–30%—or 0.5–3 tonnes of emissions abroad per 10 tonnes cut in the EU; though realised leakage is typically lower.[34]

But the more strategic risk is a second channel. Refineries hold assets, skills, and infrastructure that can be repurposed for biofuels, renewable hydrogen, e-fuels, and carbon-capture-enabled production. Analysis of the EU's net-zero pathway suggests that conventional refining capacity could fall by more than 80% by 2050, with the number of conventional refineries declining from 86 in 2024 to a potential low of 12 by 2050, but with a substantial build-out of renewable and low-carbon fuels capacity. By 2050, this pathway requires between 22 and 48 new biorefineries and 11 to 17 e-fuel plants, depending on the pace of electrification and the role of liquid fuels.[35]

The challenge, therefore, is not simply to manage refinery decline, but to ensure that European refineries remain competitive globally and therefore attractive to investors, both public and private, in order to obtain sufficient investment and policy support for refinery transformation, biofuel production, and e-fuels capacity. If that transition is not delivered, the EU risks losing both traditional refining capacity and part of the industrial base needed to produce renewable and low-carbon liquid fuels at scale.

33 Energy Institute, 2025 Energy Institute Statistical Review of World Energy. Accessed May 2026.
34 European Parliament, Economic assessment of Carbon Leakage and Carbon Border Adjustment (2020)
35 S&P Global, The refinery transition (2025)

4.1.2 Displacement in refinery-dependent regions

As refineries anchor petrochemicals, port, and pipeline logistics, closures displace far more activity than the refinery alone. While most capacity—and therefore potential closures—sits in large, diversified economies (such as Germany, Italy, Spain, Netherlands, and France), the relative economic exposure is most acute at the regional level, where refining is highly concentrated in a handful of areas.

Refining activities account for an outsized share of regional GDP in specific areas across the biggest producers in the EU: Siracusa in Sicily (6.9%), and Ciudad Real (3.9%) and Araba/Álava (3.6%) in Spain, significantly higher than the EU average of around 0.4% of GDP per region. Other regions, such as Prahova in south central Romania (9.7%) and West Attica in Greece (8.2%) depend even more heavily on refining, even if their overall capacity is lower than in Germany, Italy, Spain, Netherlands, and France. In these regions, a single refinery closure can lead to a severe shock to the local economy—direct job losses compound through the integrated supply chains that depend on the site.



Chris Chambers Yorkshire / Shutterstock.com

4.1.3 Erosion of integrated refinery-chemical clusters

Refineries and petrochemicals are physically integrated: refinery by-products (naphtha, off-gases) feed crackers, while heat, steam, hydrogen, and shared port, pipeline, and utility infrastructure are used across the site. This integration is a core source of European competitiveness—and of any future decarbonisation—but it also works in reverse. As refining contracts, domestic feedstock supply tightens and shared-infrastructure economics weaken, raising costs for the petrochemical plants that remain and leading to an increase in imported petrochemical feedstock from non-EU countries to meet the same level of energy demand. Meanwhile, the remaining plants in Europe face overcapacity pressures from external (non-EU) markets, creating a self-reinforcing cycle of decline across the cluster.

Regional data reveal where these integrated clusters are most exposed; areas scoring highly on both refining and petrochemicals sectors as shares of the local economy. The most concentrated regions include the Saxony-Anhalt chemical belt in Germany (Anhalt-Bitterfeld, Saalekreis and Börde, each combining local economy shares of between 1.2% and 1.5% for refineries and 4% to 5% for petrochemicals), Płocki in Poland (3.5% refineries, 3% petrochemicals), Castellón in Spain (2.5% refineries, 2.6% petrochemicals), and Gelsenkirchen in Germany's Ruhr (1.3% refineries, 3.4% petrochemicals). In these places, the refinery and the chemical complex are mutually dependent, so the loss of refining threatens a disproportionately large, co-located industrial base. Because chemicals are an input to 95% of manufactured goods (Section 3), the downstream reach is broad.

This erosion of integrated refinery-chemical clusters also poses a challenge to European decarbonisation strategies. Beyond their current industrial role, these sites provide one of the most practical pathways for reducing emissions across the chemicals value chain. Integration between refineries and petrochemical facilities enables crackers and downstream chemical units to transition from fossil-derived inputs to low-carbon hydrocarbon feedstocks, including bio- and e-naphtha. As a result, these clusters should be viewed not simply as legacy fossil fuel assets, but as strategic industrial platforms for maintaining competitiveness and facilitating the sector's transition. Allowing this integration to erode would therefore remove not only existing production capacity, but also critical infrastructure for the future decarbonisation of the European chemicals industry.

4.2 THE COST OF FASTER DECLINE: A QUANTITATIVE SCENARIO

The preceding section identified the channels through which a deeper contraction in EU refining would transmit costs across the economy. To quantify those costs, we modelled a downside scenario using Oxford Economics' Global Economic Model (GEM) over a 10-year horizon, assessed relative to a central baseline in which the industry's decline continues at the pace of the post-2009 period. The results measure the additional economic damage that would arise if that managed decline gave way to a faster and more disruptive contraction.

4.2.1 What could accelerate the industry's decline?

In the scenario, faster progress in reducing battery costs, extending vehicle range, and expanding charging infrastructure drives stronger EV uptake across both passenger and commercial segments. This is projected to accelerate the cumulative decline in refined fuel demand from around 8% by 2035 under the baseline to around 16% in the scenario.

Expanding EU regulatory requirements simultaneously raises operating costs and constrains access to compliant crude, widening the competitive gap with non-EU refiners. Together, these demand and policy pressures push refinery capacity down by around 30% by 2035, compared with around 16% in the baseline. With the policy framework providing limited support for asset conversion, closures are not matched by repurposing into biorefineries or e-fuel plants, and the industry loses industrial capacity that cannot easily be rebuilt.

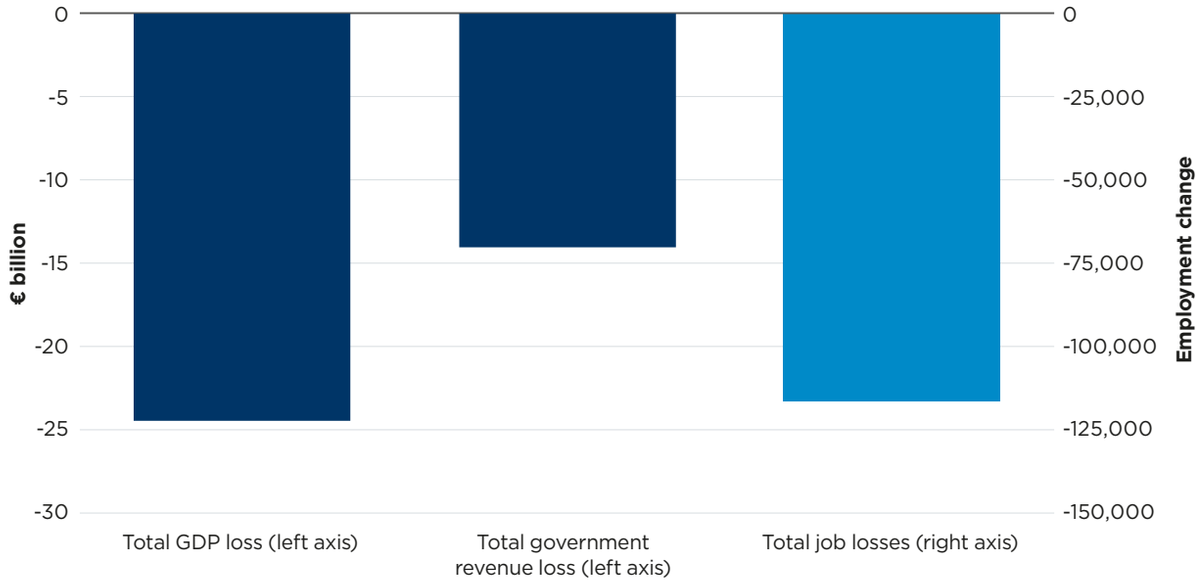
4.2.2 How a contracting industry weighs on the wider economy

Every refinery closure represents not just a loss of output but a withdrawal of investment from the economy. As capital expenditure falls across petroleum refining, petrochemicals, and transition investment, the effects ripple outward: suppliers to the refining industry see orders fall, reducing their own output and headcount.

Weaker employment and wages across this chain reduce household incomes, dampening consumer spending more broadly and further dragging on economic activity. Lower output and employment across the economy erode the tax base, reducing government revenues and widening the fiscal deficit. Separately, as domestic refining capacity contracts faster than demand, the EU sources a growing share of refined fuel from abroad, increasing its reliance on external suppliers and raising its exposure to supply disruptions and price volatility in global fuel markets.

By 2035, EU GDP is forecast to be nearly €25 billion below baseline in the scenario, as shown in Figure 21. Around €15 billion of that reflects the direct and knock-on effects of weaker investment, as the capex withdrawal spreads through supply chains and depresses broader business spending. A further €8 billion comes through consumer spending, as falling employment and wages reduce household incomes and discretionary spending contracts.

Figure 21: Macroeconomic damage in the scenario relative to baseline, 2035



Source: Oxford Economics

Employment falls by approximately 120,000 below baseline by 2035, representing nearly one in 10 of the 1.8 million total jobs the industry supports (Section 2). These losses originate in refining and petrochemical operations before spreading through the wider economy, as reduced household spending weighs on activity in sectors beyond the energy industry.



€15 billion

Total investment fall in the EU by 2035.

Weaker activity and lower employment erode the tax base across all major revenue streams. By 2035, government revenues are approximately €14 billion below baseline. Corporate tax receipts fall as margins compress across refining, petrochemicals, and the broader range of sectors affected by the macro spillovers from the investment and employment contraction. Income tax and social contributions decline as employment falls and wage growth weakens. Weaker consumer spending weighs on VAT and other consumption taxes. Together these effects widen the EU fiscal deficit by approximately €12 billion relative to baseline by 2035.

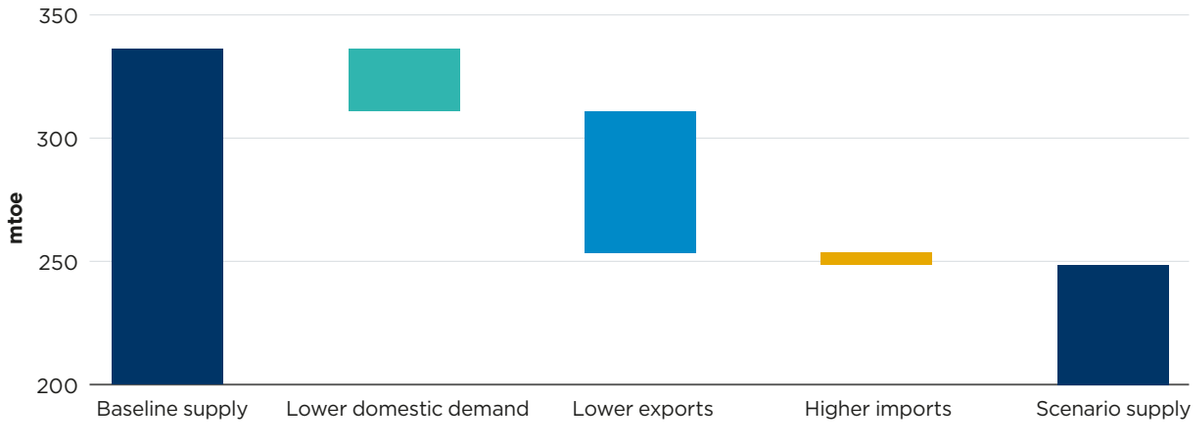
Beyond the fiscal damage, the scenario also deteriorates the EU's external position in refined fuels. Over recent years the EU has transitioned from a net importer to a net exporter of refined products (Section 1). Under the scenario this reverses: as domestic capacity contracts faster than the accelerated demand decline assumed in the scenario, the production shortfall is absorbed through a fall in exports and a rise in imports as shown in Figure 22. The combined effect turns a net exporter position in the baseline into a net importer position by 2035.

This deterioration in the EU's bilateral trade position in refined fuels carries consequences that extend beyond the trade balance itself. The most immediate is energy security: as domestic capacity contracts, the EU loses the buffer that insulates it from disruptions in global supply chains, leaving it more exposed to price spikes, geopolitical supply shocks, and the availability constraints that periodically affect international refined product markets.

The second consequence is carbon leakage. As documented earlier in this section, when EU refining capacity closes rather than transitions to lower-carbon alternatives, production does not disappear but relocates to refiners outside the EU, shifting the associated emissions abroad rather than eliminating them. The net effect is a weakening of the EU's supply position that persists beyond the scenario horizon, as the domestic industrial base needed to reduce that external dependence over time is progressively eroded.

Taken together, the results illustrate that the economic cost of accelerated refinery contraction extends well beyond the industry itself. The loss of domestic refining capacity erodes investment, employment, and fiscal revenues across the broader economy, while deepening the EU's dependence on external refined product supply.

Figure 22: Refined oil supply contraction and how it is absorbed in the scenario, 2035



Source: Oxford Economics, Haver Analytics

OXFORD ECONOMICS

CONTACT

Global headquarters
Oxford Economics Ltd
60 St Aldates, Oxford,
OX1 1ST, UK
Tel: +44 (0)1865 268900

London
4 Millbank, London,
SW1P 3JA, UK
Tel: +44 (0)203 910 8000

Frankfurt
Marienstr. 15
60329 Frankfurt am Main
Germany
Tel: +49 69 96 758 658

New York
2 Park Avenue,
Suite 1200, New York
NY 10016, USA
Tel: +1 (646) 786 1879

Singapore
6 Battery Road
#38-05
Singapore 049909
Tel: +65 6850 0110

Email:
mailbox@oxfordeconomics.com

Website:
www.oxfordeconomics.com

Further contact details:
www.oxfordeconomics.com/about-us/worldwide-offices

EUROPE, MIDDLE EAST AND AFRICA: OXFORD • LONDON • BELFAST • DUBLIN • FRANKFURT • PARIS • MILAN • STOCKHOLM • CAPE TOWN • DUBAI
AMERICAS: NEW YORK • PHILADELPHIA • BOSTON • CHICAGO • LOS ANGELES • TORONTO • MEXICO CITY
ASIA PACIFIC: SINGAPORE • HONG KONG • TOKYO • SYDNEY

© 2026 Oxford Economics Ltd. All rights reserved.

10148-08-26