Market evolution: Cyclic hydrocarbons (CN 2902) — 2015–2025

Introduction

Cyclic hydrocarbons (CN 2902) – which include benzene, toluene, styrene, xylenes and several other aromatics – are vital aromatic building blocks for petrochemicals, plastics and synthetic fibres. The European Union is a large global player, but between 2015 and 2025 the sector underwent profound shifts. This report describes and interprets the main observable dynamics over the period, drawing exclusively on the trade and production data provided. The analysis reveals three interlocking trends: a deepening structural trade deficit fuelled by falling domestic production, a major geopolitical realignment of import sources that increased supply-chain concentration, and a period of exceptionally volatile prices that reshaped the product mix.

1. A widening trade deficit and shrinking domestic production

The EU's trade deficit for cyclic hydrocarbons grew substantially, from EUR –780 million to EUR –982 million

Over the decade, the value of extra-EU exports fell from EUR 1,615 million to EUR 961 million (–40.5 %), while imports contracted more moderately, from EUR 2,395 million to EUR 1,943 million (–18.9 %). The result was a deficit that widened by 26 %, reaching EUR 982 million in 2025. Export quantities dropped by one-third (–34.1 %) and import quantities by –27.4 %, but the sharper fall in exports drove the negative balance deeper (General overview, trade balances).

Trade flow	2015 value (EUR)	2025 value (EUR)	Change (%)
Exports	1,615,505,378	961,201,731	–40.5
Imports	2,395,147,802	1,943,302,008	–18.9
Balance	–779,642,424	–982,100,278	–26.0 (deficit increase)

EU production contracted by a third, pushing the bloc's net import reliance to its highest level

Domestic production quantity fell from 16.2 million tonnes in 2015 to 10.7 million tonnes in 2024 (–34.0 %), while production value dropped from EUR 11.2 billion to EUR 9.2 billion (–

18.5 %) (Production volumes, EU total). With domestic output shrinking faster than demand, net import reliance climbed from 5.4 % to 9.4 % (+72.9 %) by 2024, underscoring the EU's growing dependence on foreign suppliers (Net import reliance indicator).

Export propensity edged up slightly, but the overall trade intensity remained high

Despite the fall in absolute exports, export propensity – the share of production that is exported – rose from 11.1 % to 11.8 % (+5.9 %) between 2015 and 2024 (Export propensity indicator). Trade intensity (imports plus exports relative to production) stood at 27.8 % in 2024, reflecting the sector's deep integration in global markets (Trade intensity indicator).

2. Geopolitical upheaval and the reshaping of import sources

Russia's abrupt exit after 2022 forced a rapid reallocation of imports towards Saudi Arabia and the United States

Imports from the Russian Federation ceased entirely from 2023 onwards, after falling from EUR 152 million in 2015 to zero. The detected supply shock had an abnormality score of 2.9 and eliminated 8 % of EU import value (Supply shocks, Russia exit). Saudi Arabia filled much of the gap, raising its share from EUR 326 million to EUR 656 million (+101.3 %), while the United States increased from EUR 384 million to EUR 565 million (+47.3 %). Together they accounted for 63 % of the value of EU imports in 2025.

Import partner	2015 (EUR)	2025 (EUR)	Change (%)
Saudi Arabia	325,937,334	655,988,278	+101.3
United States	383,654,051	564,932,094	+47.3
United Kingdom	386,861,640	131,385,242	–66.0
India	120,775,357	33,497,165	–72.3
Russian Federation	151,978,667	0 (exited)	–100.0

Source: Top partners, imports.

Import concentration intensified sharply, heightening supply-chain vulnerability

The Herfindahl-Hirschman Index (HHI) for import value rose from 1,267 in 2015 to 2,162 in 2025 (+70.7 %), indicating a much more concentrated supplier base (Concentration HHI). This trend was driven by the disappearance of several mid-sized suppliers and the growing dominance of Saudi Arabia and the US. Meanwhile, export concentration increased only modestly (+13.1 % by value), and the HHI by volume even fell (–10.3 %), suggesting that exports remained relatively diversified.

The United Kingdom’s role as a supplier faded markedly after Brexit

EU imports from the UK shrank by two-thirds, from EUR 387 million in 2015 to EUR 131 million in 2025 (–66.0 %). Although the UK remained among the top seven partners, its share dwindled from 16 % to 7 %, reflecting new trade barriers and the loss of single-market integration.

3. Extreme price volatility and a changing product mix

A broad price shock in 2021-2022 hit both imports and exports, with some bilateral flows recording abnormal swings

Import prices for the United States surged 43.5 % above the 2019-2020 baseline in 2021, with the abnormality score reaching 3.0 (Shock events, US import price). On the export side, the most extreme shock was a 431.2 % price spike to China in 2021 (abnormality 12.3), followed by spikes to Mexico and Norway. Overall, the EU average export price fell 9.7 % between 2015 and 2025, while the import price rose 11.7 %, compressing the terms of trade. The following table illustrates the volatility (coefficient of variation of quantities) for key partners on both flows.

Flow	Partner	CV (quantity)
Imports	Japan	1.43
Imports	China	0.91
Imports	India	0.63
Exports	Saudi Arabia	1.36
Exports	Korea, Republic of	1.26
Exports	India	0.92

Source: Volatility bars.

Styrene imports surged while benzene imports collapsed, transforming the import basket

Among the main product sub-headings, styrene (290250) saw import quantities jump from 780 thousand tonnes in 2015 to 942 thousand tonnes in 2025 (+21 %), accounting for almost half of total import tonnage. Benzene (290220) plummeted from 940 thousand tonnes to 337 thousand tonnes (–64 %). Cyclohexane (290211) halved from 526 thousand to 227 thousand tonnes (–57 %). In contrast, p-xylene (290243) rose strongly in the middle of the decade but ended the period with a modest net increase (+28 %, from 120 thousand to 153 thousand tonnes). The sharp shift reflects downstream demand changes and price-driven substitution effects.

Sub-heading	2015 import quantity (tonnes)	2025 import quantity (tonnes)	Change (%)
Styrene (290250)	779,511	942,292	+20.9
Benzene (290220)	940,197	337,234	–64.1
Cyclohexane (290211)	526,211	226,904	–56.9
p-Xylene (290243)	119,956	153,449	+27.9
Cumene (290270)	57,025	1	–100.0

Data from Product segment breakdown, imports.

Export structure also tilted, with a dramatic fall in toluene and a rise in benzene exports

Exports of toluene (290230) declined from 231 thousand tonnes to 117 thousand tonnes (–49.5 %) while benzene exports grew slightly from 327 thousand to 334 thousand tonnes, despite price-induced fluctuations. Styrene exports, on the other hand, fell from 280 thousand tonnes to 231 thousand tonnes (–17.5 %). The high-value segment “cyclanes, cyclenes and cycloterpenes” retained strong export values but its tonnage was modest. Overall, the export portfolio lost volume but shifted towards products where the EU retains a competitive advantage.

Sub-heading	2015 export quantity (tonnes)	2025 export quantity (tonnes)	Change (%)
Styrene (290250)	279,909	230,921	–17.5
p-Xylene (290243)	455,149	263,952	–42.0
Benzene (290220)	327,032	334,085	+2.2
Toluene (290230)	230,954	116,738	–49.5
Cyclanes, cyclenes… (290219)	37,591	44,939	+19.5

Data from Product segment breakdown, exports.

Conclusion

Between 2015 and 2025, the EU’s cyclic hydrocarbons market shifted from a manageable deficit to a structurally deeper one, driven by a steep decline in domestic production and a more import-dependent posture. The geopolitical rupture with Russia and the subsequent concentration of imports on Saudi Arabia and the United States increased the vulnerability of the supply chain, as shown by the sharply higher HHI. At the same time, the sector was buffeted by extraordinary price shocks – most notably a 431 % spike in export prices to China – which cascaded through the product mix, accelerating the shift away from benzene and towards styrene and p-xylene. Looking ahead, the combination of high import reliance, concentrated sourcing and a volatile price environment will remain central challenges for European industry and policy makers.

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If you need advice on European trade policy, or representation for your interests in Brussels, feel free to contact me at support@tradedashboard.eu. You can find my CV at this address.