Driving energy security: how electric cars cut oil dependence - T&E briefing

This short briefing highlights the benefits of accelerating vehicle electrification in the context of the war in the Middle East. As co-legislators discuss the EU's Automotive Package and decide on the trajectory for vehicle electrification in Europe, the emerging energy crisis should serve as a stark reminder that Europe's only path to true strategic sovereignty lies in domestic clean power and technologies.

Key findings: Only electric cars and regulatory ambition can break us free from oil dependency

- **Cars alone cost the EU €67 billion in oil imports (2025)**. Cars consume around 1 billion barrels of imported oil annually, making road transport the largest driver of Europe's oil dependency.
- **Electric cars are already cutting oil imports**. Nearly 8 million electric cars in the EU will save around 46 million barrels of oil in 2025, equivalent to €2.9 billion in avoided oil import costs.
- **Weakening EU electrification targets would deepen oil dependency**. A weaker automotive package could increase oil imports by 640 million barrels between 2026 and 2035, costing Europe €45 billion in additional oil import expenses compared to keeping strong EU vehicle targets with more ambition on corporate fleet electrification. This more ambitious scenario could avoid nearly 2.2 million barrels of oil imports over the next decade, saving around €150 billion in fuel costs.
- **Electric cars are expected to be far cheaper to drive during the coming energy crises.** In these times of high oil prices, driving a petrol car is expected to cost around €140 per month, compared to €65 for an EV. The expected crisis premium would add €38 per month for petrol cars but only €7 for EVs, meaning petrol drivers are expected to be five times more exposed to energy price shocks. For higher mileage corporate cars, the crisis premiums are higher: €89 for petrol versus €16 for BEVs.
- **Energy crises fuel fossil fuel profits and geopolitical adversaries at the expense of drivers.** When oil prices exceeded $100 per barrel in 2022, European drivers paid €55 billion extra at the pump, while fossil fuel companies earned €104 billion in profits. Plus, continuing oil imports fund geopolitical adversaries. With US sanctions on Russian oil lifted, Europe will come under pressure to also lift its restrictions and send money to Putin, undermining our efforts in Ukraine and further threatening peace and democracy.

Recommendations: The EU needs to take bold action to transition away from fossil fuels and ensure that businesses and citizens across Europe benefit from stable and affordable energy prices. Reducing the amount of oil we consume and import is a win-win. It improves economic security, saves costs for drivers, reduces geopolitical uncertainties and decreases our climate impact. To achieve this the EU should do the following as part of the Automotive Package discussions:

- **Reject any weakening of the 2030 car CO2 target ambition** to secure rapid mass adoption of electric cars and investment certainty,
- **Support the end of the sale of new petrol and diesel cars and vans by 2035** to ensure that the regulation remains aligned with the EU's climate and industrial objectives.
- **In the Clean Corporate Vehicles Regulation, set more ambitious electrification targets for large corporate fleets** and remove plug-in-hybrids from the scope.

1. Oil imports for cars amount to 1 billion barrels and costs the EU nearly €67 billion in 2025

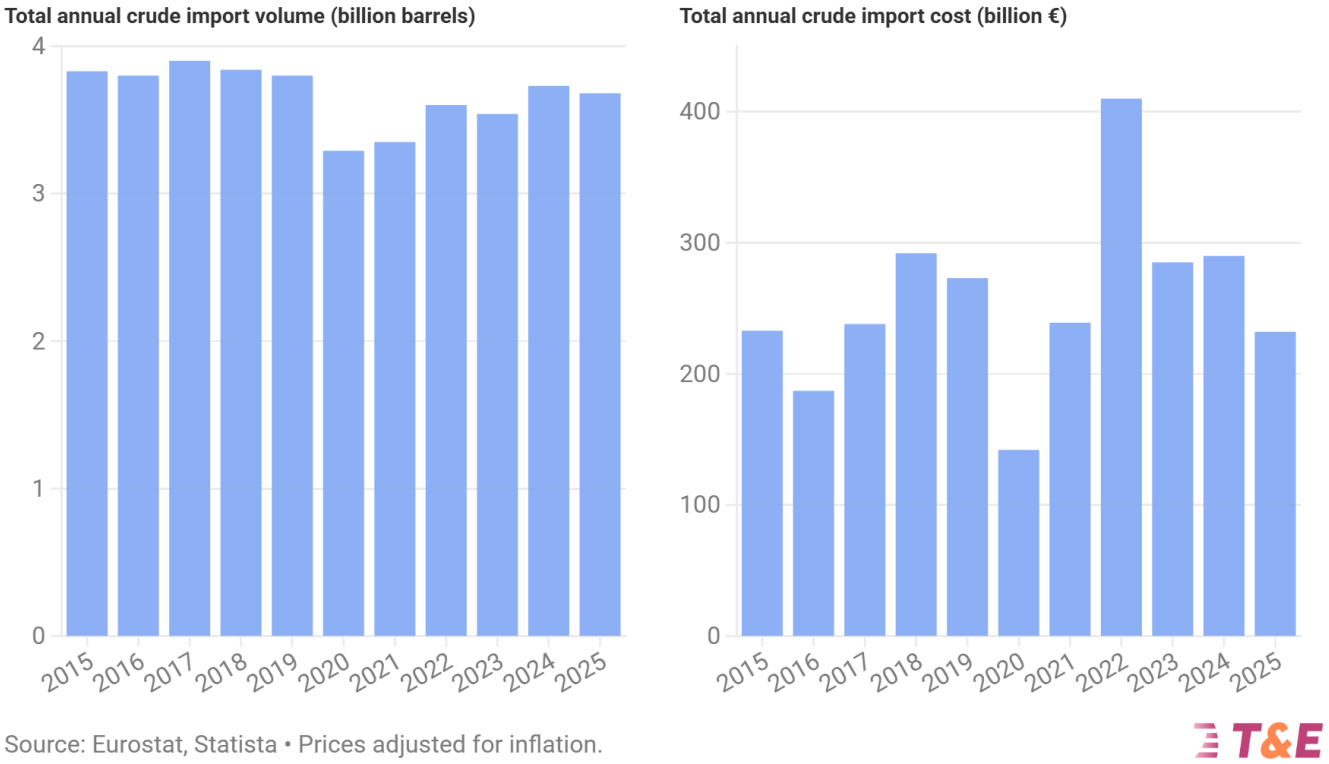
The EU is highly dependent on the import of fossil fuels: 96% for oil and 90% for natural gas.

This continued dependence has been a major driver of high and volatile energy prices and is the cause of one of our main competitive disadvantages at the global level.

We import 3 to 4 billion barrels of oil per year. For many EU countries, oil is the largest share of energy supply, hence the biggest source of energy dependency and spending. This oil dependency is costing the EU around 260 billion euros per year (average over 2020-2025).

Half of the EU oil consumption goes to road transport, with sixty percent of that being used for cars. **In total oil imports for cars amount to 1 billion barrels every year** (average 2020-2025) and **cost the EU nearly €67 billion in 2025** (80 billion average over 2020-2025).

In 2025, oil imports cost the EU €230 billion



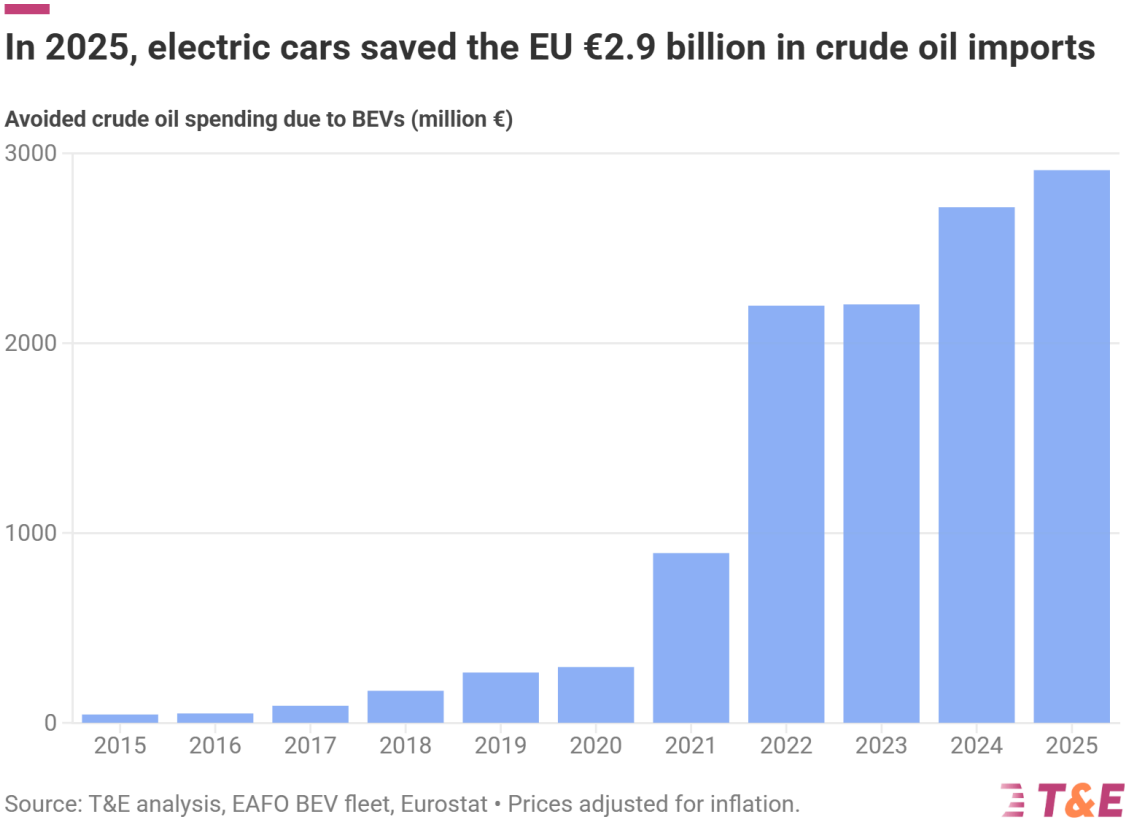
European drivers paid a €55bn '[geopolitical premium]' at the pump in 2022 when oil prices last averaged $100 a barrel. This additional €55bn in 2022 came despite EU governments forfeiting €30bn in fuel duty cuts - a subsidy essentially paid for by taxpayers.

Compared to the previous energy crisis in 2022, the current war in the Middle East is impacting oil more than gas. Since oil is more fungible than gas, we can expect the impact to be more uniform and less regionally focused on the pipeline connected countries than with the last crisis. Although Europe was only [importing] 6% of its oil from via the Hormuz strait, it doesn't protect the EU from global oil prices. This reliance exposes Europe to geopolitical instability and price shocks, particularly as a significant share of imports comes from politically volatile regions such as the Middle East.

2. Electric cars have already saved 46 million barrels of oil in 2025

Today there are close to 8 million electric cars (BEVs) in the EU. Each of these electric cars replaces a combustion car and its associated oil consumption. The electric car fleet continues to grow rapidly, but already these existing electric cars are saving the EU **46 million barrels of oil imports in 2025 for a total value of €2.9 billion.** This would increase to €4.7 billion euros with oil prices observed in the 2022 energy crisis. The savings from these vehicles will continue

to accumulate each year for the next 15-20 years and exponentially increase as the number of electric cars on the road increase.



Electrification drives the growth in clean domestic energy

With more BEVs on the road and a rising share of low-carbon electricity, domestic low carbon (non fossil) electricity is increasingly being used in cars as a replacement of imported fossil fuels.

The total amount of domestic clean electricity used in cars in the EU saw a 8-fold increase from 2020 to 2025 (around 1 Mtoe). The rising BEV share of the fleet is responsible for 90% of the increase.

The EU countries with the most domestic low carbon electricity used in cars are large markets such as France, Germany, followed closely by smaller countries with high BEV penetration and low-carbon grids, like Norway and Sweden.

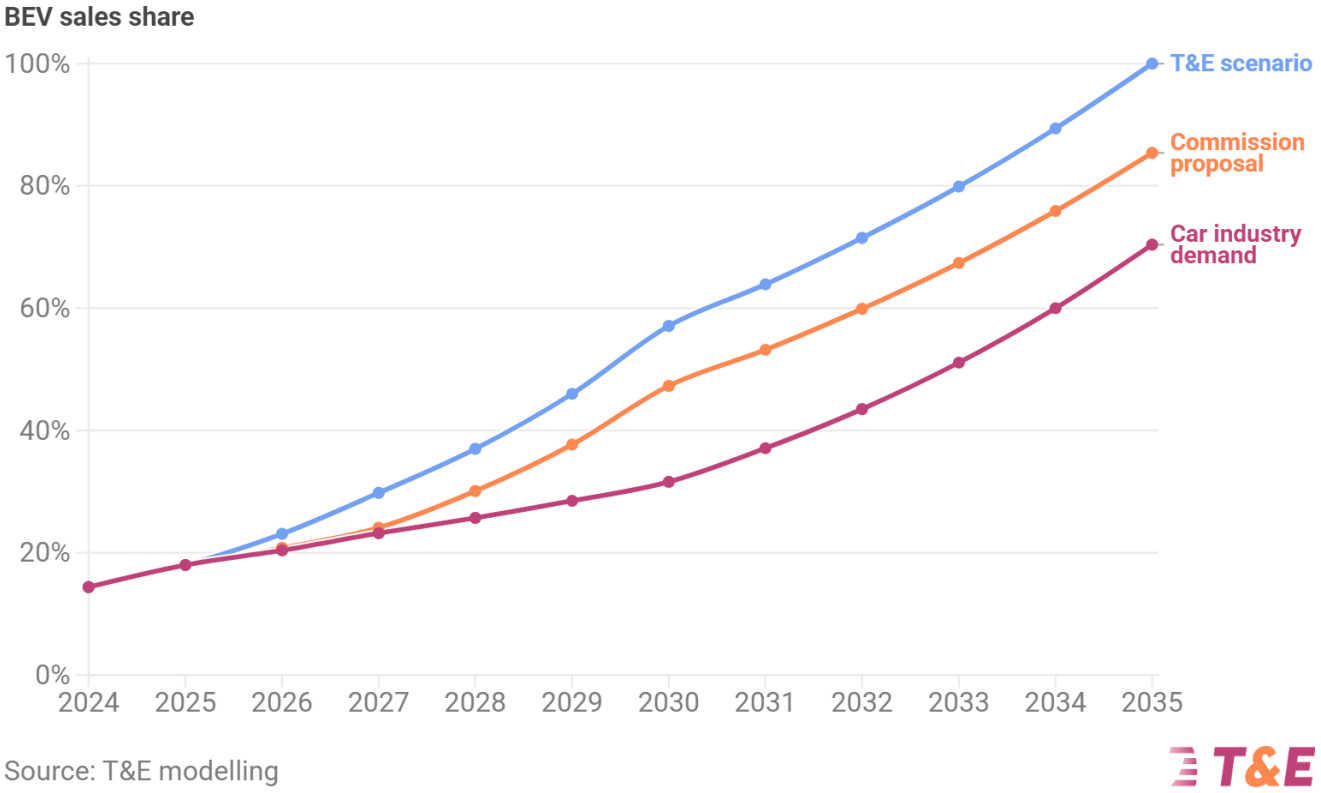
3. Weakening electrification ambition would increase oil imports by 640 million barrels of oil over 2026-2035

The European Parliament and EU Member States are currently discussing the automotive package proposed by the European Commission in December 2025. The outcome of these discussions will shape the future of the European automotive industry, and in particular the speed of the transition to electric vehicles.

T&E modelled possible outcomes for the automotive package based on three scenarios:

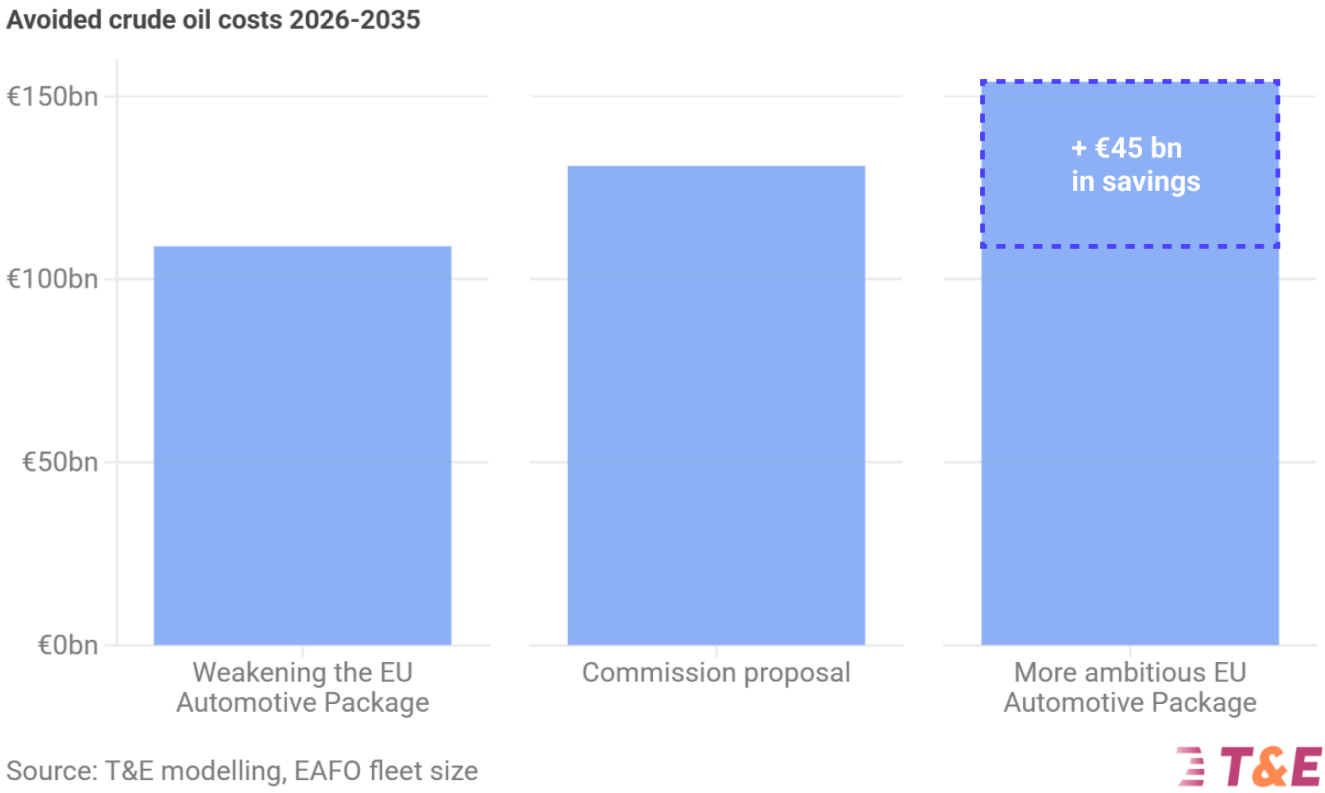
- **T&E scenario:** the EU safeguards the ambition of the 2030 car CO_2 target, excludes additional flexibilities, and implements stronger targets for corporate fleet electrification by 2030. The EU also maintains the 2035 phase-out of new combustion engine cars[1]. In this scenario there would be an additional 77 million BEVs on the road in 2035.
- **Commission scenario:** implementation of the automotive package as proposed by the European Commission (car CO2: 3 year average in 2030, small BEV supercredits and 90% target in 2035, combined with corporate fleet ZLEV targets). In this scenario there would be an additional 64 million BEVs on the road in 2035.
- **Weakened scenario**: the Commission proposal is further weakened, as advocated by the car industry. This includes extended flexibilities in 2030 (such as a five-year averaging of the target and a freeze of the utility factor correction), weakening the 2035 target to 80% and removal of corporate fleet ZLEV targets. In this scenario there are 26 million fewer electric cars on the road in 2035 than in the T&E scenario.

[1] Assumption: large corporate fleet at 69% ZEVs in 2030 (full Commission proposal target is met with ZEV and PHEV are excluded from the scope) while the rest of the market (small and medium size fleet and price buyers) is at 50% BEV.



In addition, we model a **sensitivity scenario 'accelerated fleet turnover'**, where older and higher consumption combustion vehicles are replaced more quickly with new electric cars. This would expand the new car market and can be supported by policies such as scrappage schemes and stronger electrification targets for corporate fleets.

Accelerating EV uptake would save €45 billion in oil imports over a decade compared to delaying



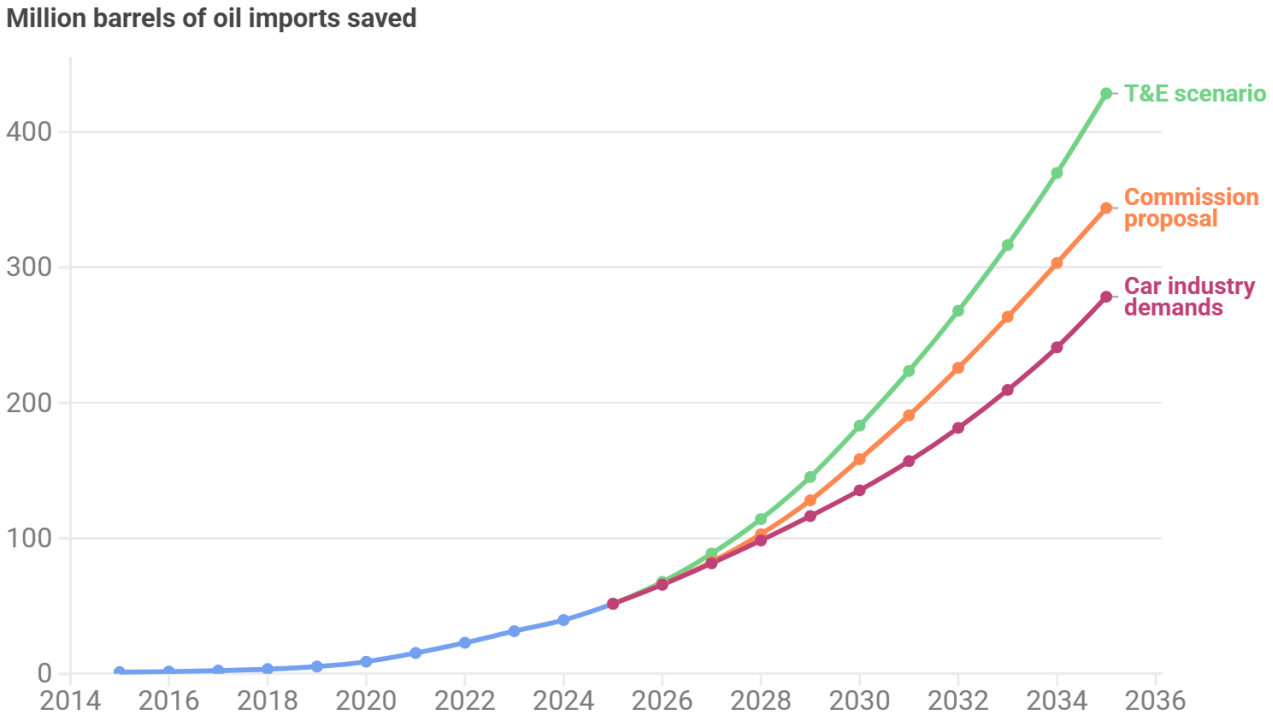
Between 2026 and 2035, the BEV fleet would save 2.2 billion barrels of oil with a more ambitious EU Automotive Package (T&E scenario), which amounts to about €150 billion in oil import savings. Weakening the ambition of car and corporate fleet regulations would decrease oil saved by the BEV fleet by 640 million barrels between 2026 and 2035 compared to the T&E scenario. This is equivalent to €45 billion in oil import expenses if prices remain similar to the 2023-2025 average[2]. This is equivalent to:

- Nearly 7 months of oil imports for cars (1.1 billion barrels per year for cars only).
- 13% of EU total military annual expenditure (€343 billion in 2024)
- A quarter of the total support the EU has given to Ukraine since the beginning of the war ($197 billion)

If accelerated fleet turnover is also implemented, an additional 200 million barrels could be saved over the 2026-2035 period, equivalent to €14 billion. Combined with the savings from keeping the ambition of the automotive package, the total savings would be 840 million barrels over the next ten years, or €58 billion in oil import expenses.

[2] Assuming a price of €70/barrel, based on the average of the past three years.

Current regulation would save Europe 2.2 billion barrels of oil imports in the next decade



Source: T&E analysis, EAFO BEV fleet, Eurostat

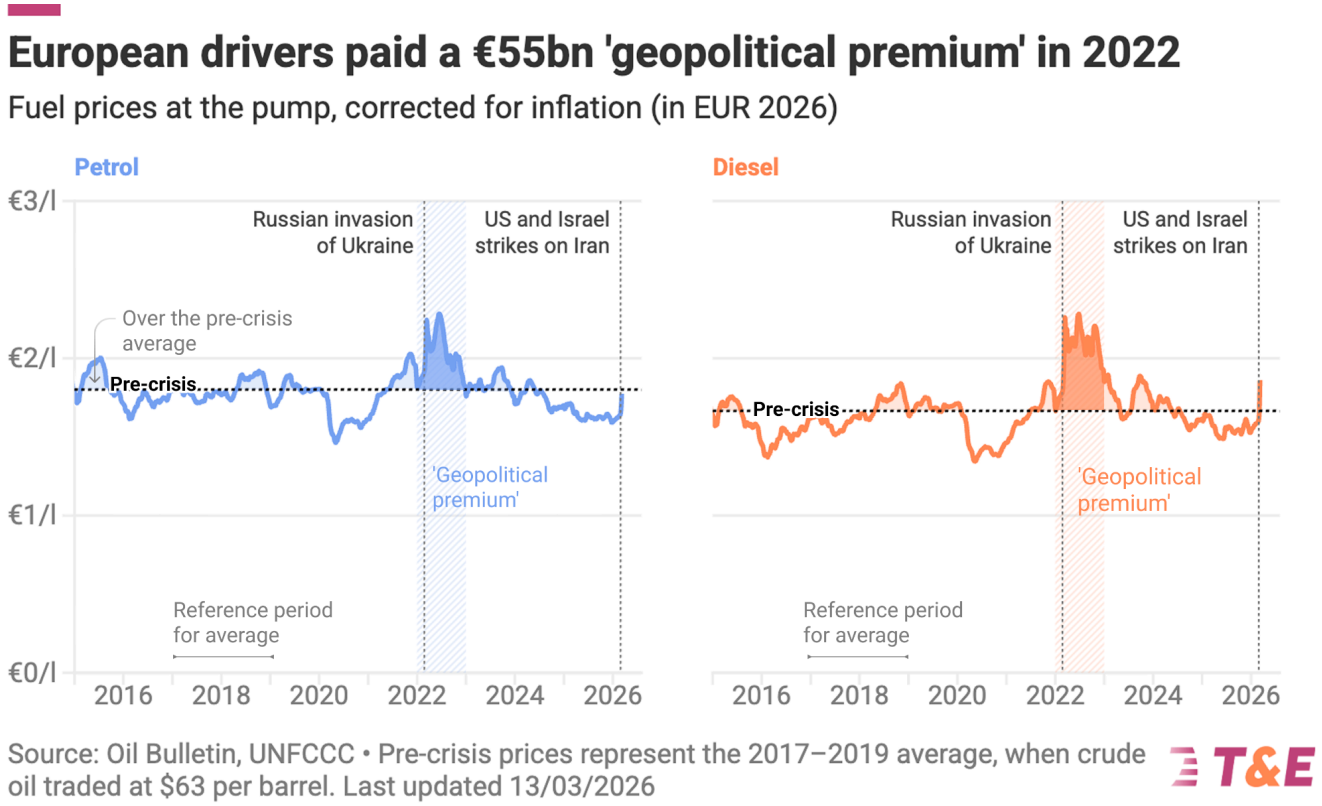
4. Petrol cars drivers are 5 times more impacted by energy crises than EV drivers

Since the beginning of the energy crisis, both oil and natural gas prices have increased. As a result electricity prices in Europe are also expected to increase.

Crisis impact on consumer petrol prices
Before the start of the war in the Middle East, oil prices were 67 $/barrel (Brent Crude Oil, 17 Feb), on March 9th and March 11th, they surpassed 100 $/barrel. Diesel and petrol prices are found to be closely correlated to crude oil prices. On the 10th of March, diesel and petrol prices had already exceeded €2 per litre of diesel and petrol in France, Germany, and the Netherlands.

Given the geopolitical uncertainties, it is quite possible that oil prices could reach, or even exceed, a level as seen during the 2022 energy crisis. In our analysis we assume that average petrol prices at the pump remain high at levels around €2 per litre, as last seen in 2022 when oil

prices stayed around $100/barrel. On average, this means a 24%-31% increase for petrol and diesel prices compared to a baseline (average 2025 prices)[3].



Crisis impact on consumer electricity prices

Since the start of the Iran conflict, gas prices have increased by 45% compared to the previous year. Given that wholesale electricity prices are heavily linked - despite the increased use of renewable energy in the power mix - to the gas prices, the EU average consumer electricity prices is likely to increase too[4].

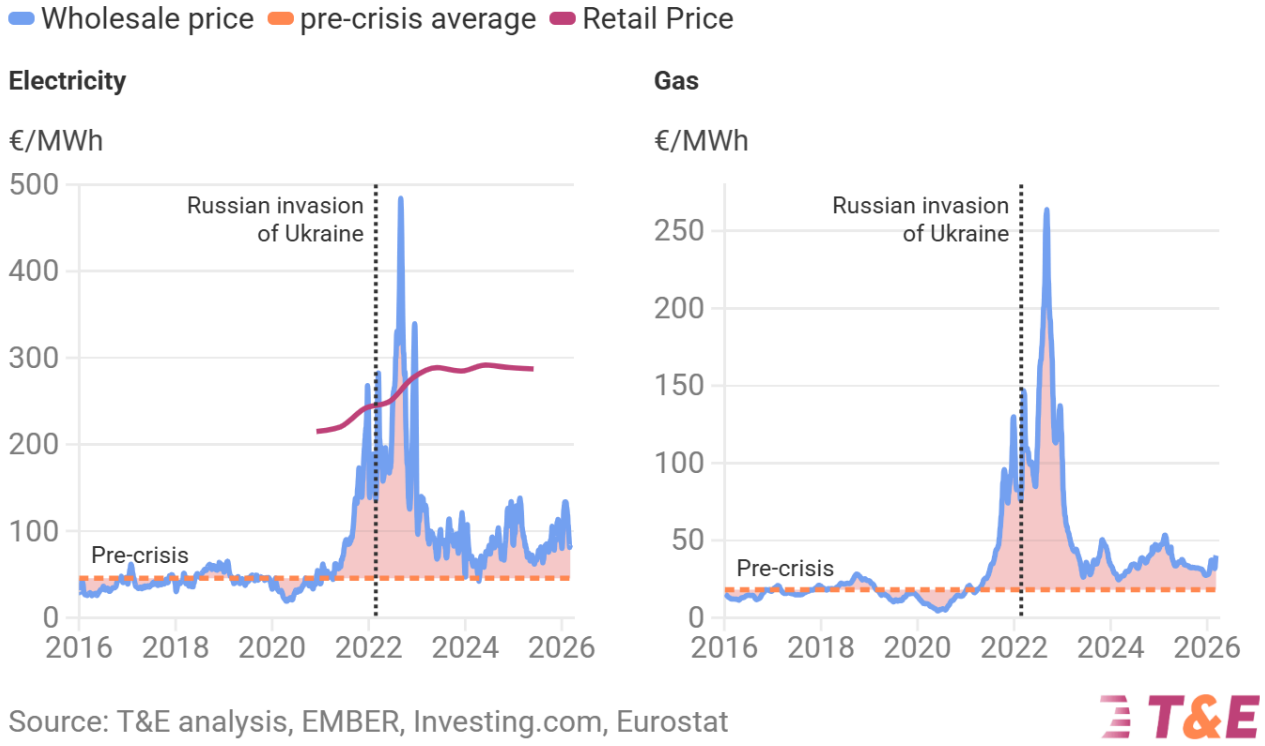
As observed during the 2022 energy crisis, we expect electricity prices for consumers to be only partly correlated to gas prices, so that the EU average consumer electricity price may increase to 321 €/MWh in the mid-term (12% increase compared to 288 €/MWh observed in H1 2025 according to Eurostat). Indeed for the 2022 crisis, while wholesale electricity prices spiked in 2022, the end consumer prices did not peak abruptly but progressively increased over a longer period (2-3 years).

[3] 24% price reduction between 2022 average petrol prices (2.0 €/L, 109$/barrel - inflation adjusted) and 2025 average petrol prices (1.6€/L, 63 $/barrel)

[4] This problem is widely recognised and in a speech in the European Parliament on the 11th March, President von der Leyen, stated "it is crucial that we reduce the cost impact, when gas sets the electricity price" ec.europa.eu

European electricity prices mirror gas quotations

Electricity and gas saw a 89% and 100% increase in wholesale price respectively after the Ukraine war compared to previous years



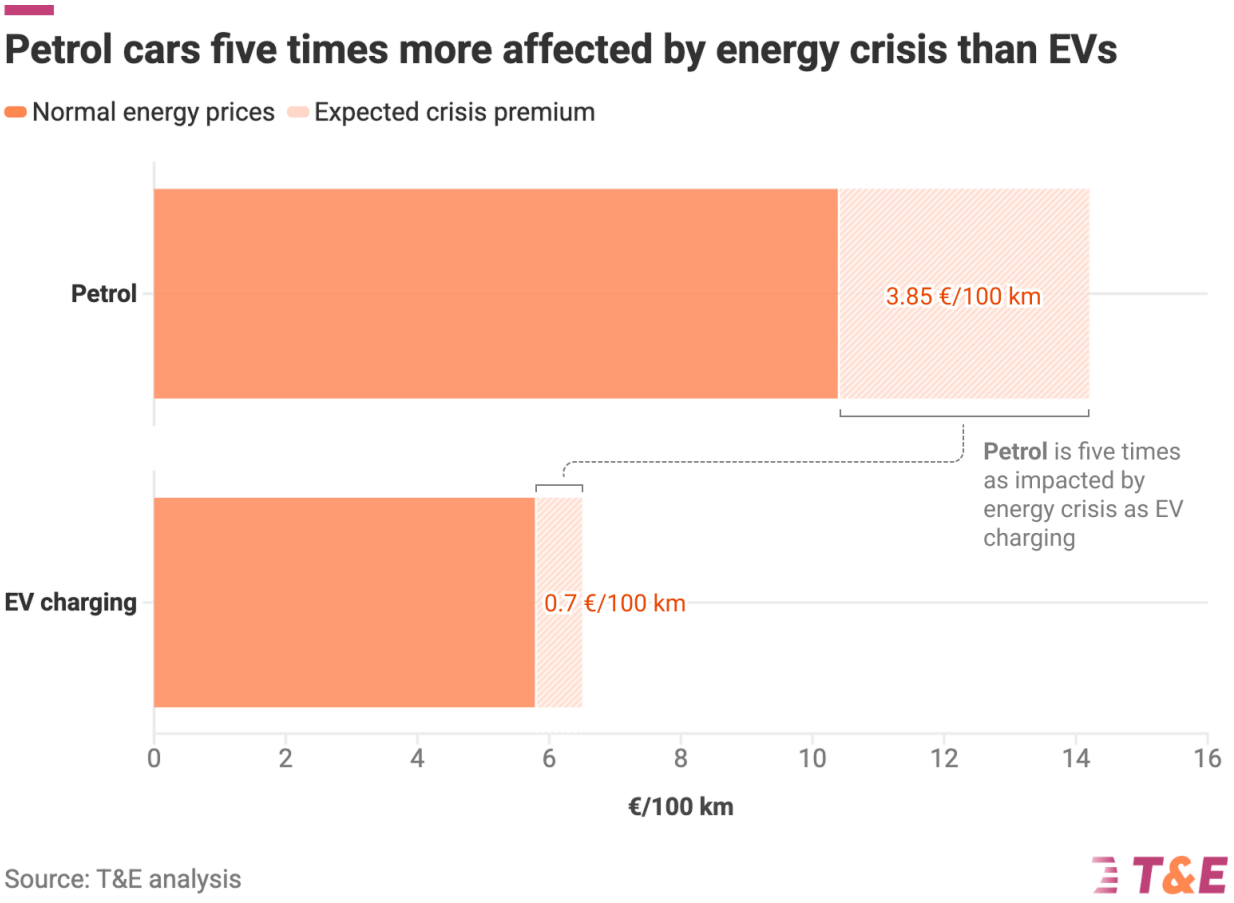
Source: T&E analysis, EMBER, Investing.com, Eurostat

Electric cars vs petrol cars during energy crisis

Gasoline cars are expected to be more impacted by the oil crisis than BEVs, with a 24% increase in use phase costs compared to an 12% increase for BEVs.

Based on the expected energy prices, we expect a new gasoline car to cost €142 over a month in time of energy crisis[5], or €38 more than in 'normal' energy price. In comparison, an average medium BEV would cost €65 over one year in the coming crisis[6]. This is a crisis premium of only €7, or five times lower than for a petrol car. This results in a €31 monthly saving on top of the €46 savings from BEVs under normal energy prices.

[5] Baseline for Gasoline car consuming 7L/100km; 2025 petrol: 1.6€/L; Petrol car fuel cost over one year: 1,370€ (11.4€/100km); 12,000 km annual mileage.
[6] Baseline BEV consuming 20 kWh/100km; Electricity H1 2025 price: 287 €/MWh; BEV electricity cost over one year: 696€ (5.8 €/100km)



For high mileage corporate cars, the expected crisis premium reaches €89 for ICEs versus €16 for BEVs, or a €73 monthly saving, on top of the monthly €107 savings under normal energy prices in 2025 (assuming 28,000 km per year).

	€/100 km		€/month			
	ICE	BEV	ICE corporate	BEV corporate	ICE average/ private	BEV average/ private
Expected 'energy crisis' prices[7]	14.2	6.5	331	152	142	65
'Normal' energy prices (2025)	10.4	5.8	243	135	104	58
Expected 'crisis premium'	3.8	0.7	89	16	38	7

[7] The petrol price is based on the 2022 average, when crude oil prices averaged $109 per barrel. The electricity price is based on T&E estimates, considering a 12% increase compared to H1 2025 electricity prices.

Overall, the energy price for BEVs is expected to be 54% lower than for a gasoline car during the coming energy crisis (44% in under 2025 energy prices) which highlights the benefits of electric cars both in terms of energy cost reduction but also resilience against energy price volatility.

Lesson from Ukraine war - 'geopolitical premium' fuels fossil fuel profits

In 2022, EU member states experienced some of the highest rises in petrol and diesel prices on record. After the Russian invasion of Ukraine, oil prices exceeded $100 a barrel, reaching $115 at the end of the month of May. As a result, across the EU by mid-2022, diesel prices were up 45%, and petrol increased by 36% (T&E briefing). Towards the end of June 2022, petrol and diesel prices at the pump exceeded €2 per litre meaning drivers were spending €24 to €31 more to fill up a 50 litre engine than they were in pre-crisis times (2017-2019), accounting for inflation.

The European Commission estimates that in 2022, the total subsidy to fossil fuels increased to €136 billion, of which €107 billion went to oil and gas consumers. More than half were spent as a direct response to the energy price crisis. €136 billion could have replaced 4.3 million diesel cars with affordable EVs (€25,000) which would have reduced the EU's oil dependency by 70,000 barrels of crude oil a day and save the continent $2.5 billion a year in oil imports, assuming $100 per barrel. Higher world market prices mean more profits for the fossil fuel sector. EU oil and gas companies earned about €104 billion in profits in 2022, a 45% increase compared to 2021.