



**BRIEFING - April 2026**

# **E-fuels in cars - Unaffordable for drivers**

An analytical assessment of the cost of e-petrol in Europe

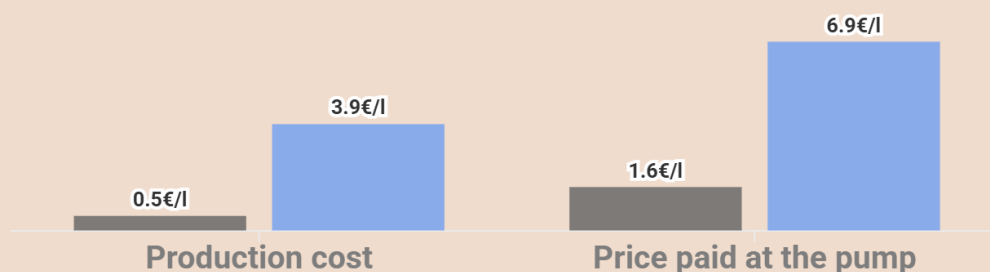
# Summary

E-fuels have entered the political debate on car CO<sub>2</sub> standards as a decarbonisation alternative to electric vehicles. To establish an up-to-date evidence base that can better inform ongoing policy discussions, T&E commissioned consultancy Ionect to **assess the technical feasibility and near-term cost of e-petrol production for cars**.

The study finds that producing **e-petrol in 2030 would cost around €4 per litre**. At the pump, this would translate into **fuel prices of roughly €7 per litre**, compared to less than €2 per litre for fossil petrol. At such prices, e-petrol would be **unaffordable for most drivers**, especially when electric mobility offers a much cheaper alternative.

## E-petrol would be four times as expensive as fossil petrol

■ Fossil petrol ■ E-petrol



Source: T&E (2026), based on Ionect (2025) • E-petrol production cost based on Norwegian Methanol-to-Gasoline plant in 2030. Fossil fuel price benchmark reflects pre-Iran war levels.



Proponents of e-petrol for cars say that some **e-fuel production co-products are unavoidable**, and that once the aviation sector scales up e-fuels, these co-products could become cheap and widely available for road transport. Ionect's findings challenge this narrative. The study concludes that producing e-petrol derived from aviation e-fuel co-products would actually be **even more expensive** than dedicated e-petrol production. Moreover, T&E estimates that **any potential e-petrol co-product volume would amount to less than 3%** of the [fossil petrol consumed by European cars in 2035](#). Crucially, the study also finds that **co-products from aviation e-fuel production can be avoided entirely**, at a relatively modest additional production cost of around **10%**. Alternatively, any co-products could be directed to the chemicals sector, including plastics.

Overall, there is **no credible case** for using e-petrol in cars: volumes would be minimal, they **do not reduce tailpipe air pollution**, and electric mobility offers a much more affordable alternative. The European Commission proposed to include a compensation mechanism for fuels in the car CO<sub>2</sub> regulation which would reward carmakers with lower CO<sub>2</sub> targets for the biofuels and e-fuels that are placed on the market by fuel suppliers. **T&E strongly recommends that co-legislators delete the proposed fuel credits mechanism** as it would only increase the costs of decarbonisation for both industry and drivers, and delay the inevitable transformation towards affordable electric mobility.

# 1. E-fuels in the EU's car CO<sub>2</sub> law: state of play

In 2023, the new CO<sub>2</sub> standards for cars and vans were adopted, setting new emission targets for automakers for 2030 and 2035. The 2035 target would require carmakers to sell only cars with zero emissions at the tailpipe (meaning battery or fuel cell electric), effectively phasing out the internal combustion engine. Despite agreement between the co-legislators, the German government performed a u-turn and threatened to block the legislation unless sales of new combustion engine cars be allowed after 2035, provided they run on e-fuels.

A non-binding recital was added to the final text, stating “the Commission will make a proposal for registering after 2035 vehicles running exclusively on CO<sub>2</sub>-neutral fuels”. This was followed by a draft proposal in 2023 that would allow the sale of new e-fuel cars in the EU as long as the car runs exclusively on CO<sub>2</sub>-neutral fuel (defined as e-fuel that achieves a 100% CO<sub>2</sub> reduction compared to fossil fuel, see [Commission statement](#)). Since then, there has been intense lobbying by the [fuel and automotive industry](#) to water down any sustainability requirements for the use of these fuels in road transport.

On 16 December 2025, the Commission published its [proposal](#) for a revision of the car CO<sub>2</sub> law, which included a headline weakening of the current 100% CO<sub>2</sub> reduction target for 2035. Instead of zero emissions, the new target would allow around 11 g CO<sub>2</sub>/km in 2035, equivalent to a 90% CO<sub>2</sub> reduction. The additional emissions from this flexibility would need to be offset by carmakers gaining credits for using green steel in vehicle manufacturing (with carmakers allowed to offset up to 7%, or 7.7 g CO<sub>2</sub>/km), and credits also being awarded for the total amount of advanced biofuels and e-fuels in Europe's fuel mix (capped at 3%, i.e. 3.3 g CO<sub>2</sub>/km), provided enough of these fuels are placed on the EU market (Article 5a). Provided carmakers meet these compensation mechanisms, this extra CO<sub>2</sub> room would allow them to sell any powertrain after 2035 (up to 11g/CO<sub>2</sub>/km of all their cars sold), including petrol, diesel, hybrids, plug-in hybrids and range extenders.

The fuel compensation mechanism proposed by the Commission has extended the scope of fuels to be covered in the car CO<sub>2</sub> regulation from ‘CO<sub>2</sub>-neutral fuels’ to ‘sustainable renewable fuels’ which include both e-fuels and advanced biofuels from waste and residue. First generation crop-based biofuels are not counted. Biofuels from waste oils (such as animal fats and used cooking oil) are capped at 1% given their availability is very limited and they may be subject to fraud. The scope of this briefing will, however, be limited to e-fuels only. For more on biofuels see [T&E's position](#) and [analysis](#) on biofuels in cars.

Despite the push to include e-fuels in the scope of the car CO<sub>2</sub> standards, **there is still only a limited amount of information on the availability of such e-fuels for cars and on the prices that drivers would have to pay for e-petrol in the near future**, with the bulk of the available price estimates relying on outdated assumptions for the cost of green hydrogen. This briefing aims to fill this knowledge gap by presenting analysis and key findings from a study undertaken by *lonect* consultants.

## 2. How e-petrol is produced

There are two mature production pathways for e-petrol: Fischer-Tropsch and Methanol-to-Gasoline. In both, CO<sub>2</sub> captured from point sources (e.g. pulp and paper mills) is combined with hydrogen to produce hydrocarbons, aiming to recycle CO<sub>2</sub> so combustion only releases carbon that was recently taken from the atmosphere.

In the Fischer-Tropsch pathway, the carbon dioxide is first converted to carbon monoxide. In the Fischer-Tropsch reaction, the carbon monoxide reacts with hydrogen to form hydrocarbons. Fischer-Tropsch technology was [first deployed at industrial scale in Germany during World War II](#) to produce synthetic fuels. The first post-war commercial Fischer-Tropsch plant [was established by Sasol in South Africa in 1955 using coal](#).

In the Methanol-to-Gasoline pathway, the carbon dioxide is combined directly with green hydrogen to produce methanol, which is then converted to petrol in a multi-step process. The first commercial methanol-to-gasoline facility was [established by ExxonMobil in New Zealand in 1985 using natural gas](#).

Both pathways produce a kind of synthetic crude oil, consisting of a mixture of shorter and longer hydrocarbon chains, which can then be further refined into drop-in fuels such as petrol. The exact mix depends on the technology and how the process is configured.

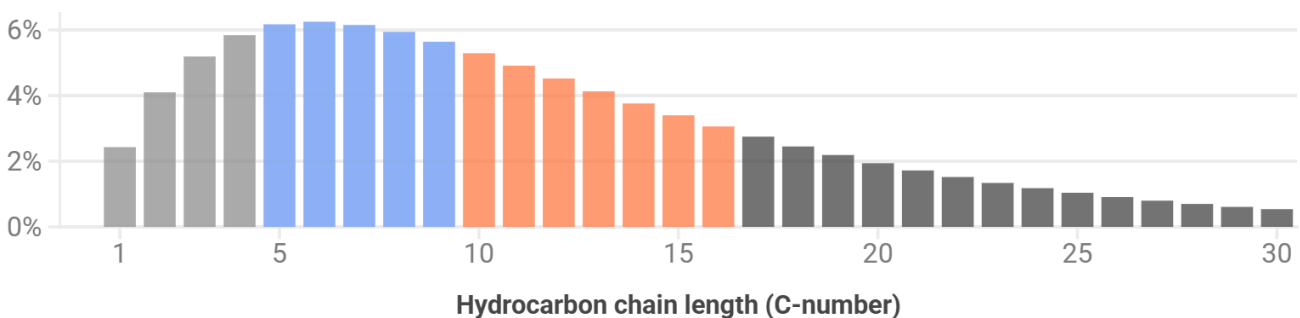
As shown below, e-fuel production does not deliver a single, pure fuel, but a mix of different fuels: shorter molecules form naphtha, slightly longer molecules form kerosene, and heavier fractions become diesel or waxes. So even if a plant is designed to maximise jet fuel, it will still produce some shorter and longer hydrocarbons, including naphtha, which can be converted into products such as petrol or chemicals, including plastics.



### E-fuels come out as a mix, not a single fuel

● Gases ● Light fuels (naphtha) ● Jet fuel ● Heavy fuels such diesel and waxes

Share of output



Source: T&E (2026) • Illustrative distribution that does not reflect real e-fuels pathways. In practice, the C-ranges of different products overlap.



### 3. E-petrol would cost drivers four times as much as fossil petrol

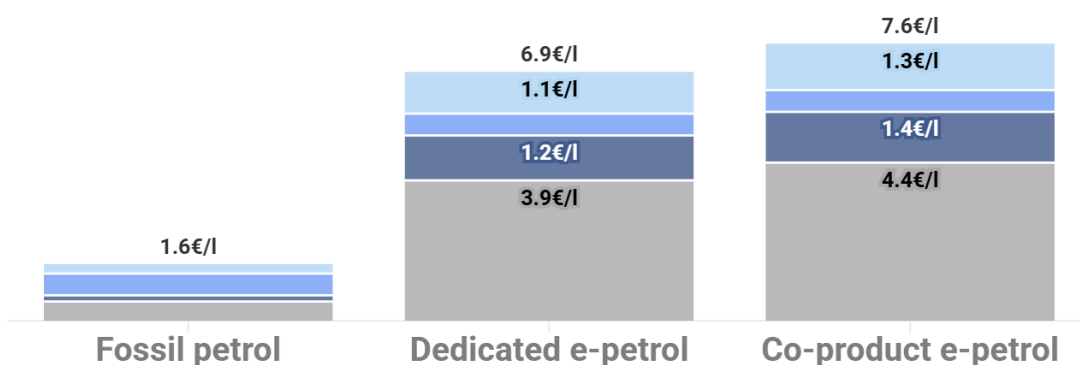
Some stakeholders highlight that there will be cheap and abundant e-petrol produced as a co-product of production of e-fuels for aviation (e-kerosene) which can then become available for cars. To assess the validity of these claims, T&E commissioned consultancy *lonect* to develop a cost model for e-petrol following two scenarios (more details [in the annex](#)):

- **Dedicated e-petrol scenario:** Produce methanol and convert it to e-petrol using a dedicated methanol-to-gasoline process, optimised for 100% e-petrol output. The methanol-to-gasoline process is used at [HIF Global's Haru Oni plant in Chile](#), for instance.
- **Co-product e-petrol scenario:** E-naphtha is produced as a co-product from a kerosene-optimised Fischer-Tropsch process with 84% e-kerosene and 16% e-naphtha output. This naphtha is converted into e-petrol in a dedicated conversion step.

lonect finds that producing e-petrol in 2030 would cost around €4 per litre compared to [less than €1 per litre](#) for extracting and refining fossil petrol. The high production cost of e-petrol translates into higher fuel prices paid at the pump. The below chart shows that the expected price of e-petrol at the pump, including profit margins, excise duty and VAT, would be around €7 per litre for e-fuel compared to [less than €2 per litre for fossil petrol](#). **At the pump, e-petrol would cost drivers four times as much as fossil petrol in 2030.** Note that the fossil fuel prices assumed in this briefing are based on pre-Iran war levels and do not reflect subsequent market disruption. The overall conclusions remain qualitatively unchanged even at higher fossil petrol prices (e.g. around €2 per litre).

#### E-petrol would cost drivers four times as much as fossil petrol at the fuel pump

■ Production cost ■ Margins (producer and retailer, 32%) ■ Excise duty (0.6 €/l) ■ VAT (20%)

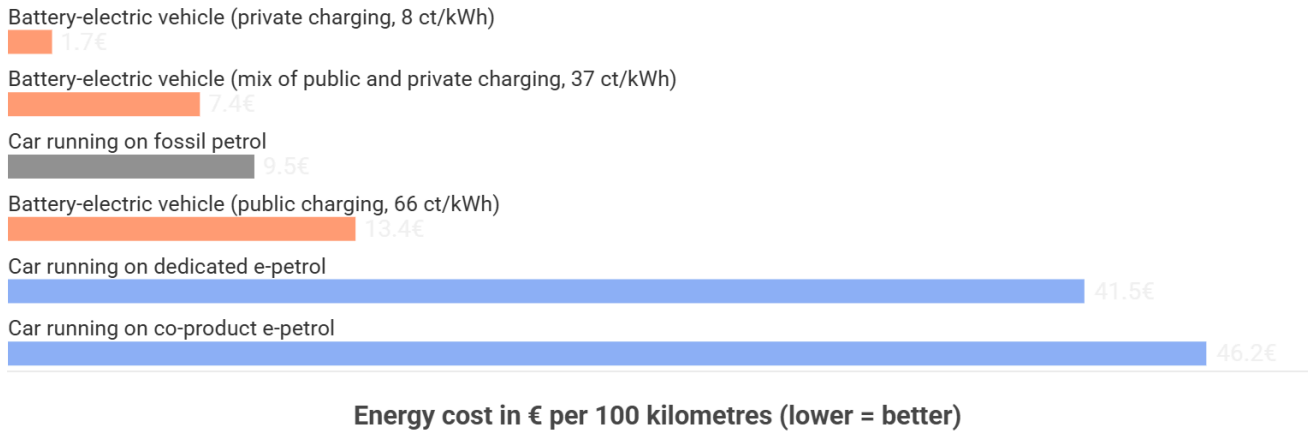



Source: T&E (2026), based on lonect (2025) • Costs based on Methanol-to-Gasoline and Fischer-Tropsch pathway for plant in Norway in 2030. Fossil petrol price benchmark reflects pre-Iran war levels.



Even for a new plant built in 2045, when the technology is assumed to be more mature, the production cost would still be around €3 per litre, translating into a pump price of more than €5 per litre when adding taxes and profit margins - still more than twice times as much as fossil petrol today. **In short, e-petrol will likely remain significantly more expensive than fossil fuels in the coming decades.**

## Cars running on e-petrol will be far more expensive to drive than battery-electric vehicles



Source: T&E (2026), based on Ionect (2025) and ICCT (2025) • Chart only reflects energy costs, not total cost of ownership. Fossil petrol price benchmark reflects pre-Iran war levels. 

E-petrol will not only be more expensive than fossil fuels, **but vastly more expensive than battery-electric driving.** As the above chart shows, battery-electric vehicles incur only a fraction of the energy cost of cars running on e-petrol, even when assuming higher public fast-charging prices. In other words, **battery-electric vehicles are by far the most cost-effective decarbonisation option for drivers.** Driving on e-petrol could be up to 20 times more expensive than charging a battery-electric vehicle at home with rooftop solar electricity.

## 4. Avoiding e-kerosene co-products is possible

T&E also commissioned consultancy Ionect to investigate **whether it is technically and economically feasible to avoid co-products in the production of e-kerosene**, thereby limiting the availability of co-product e-petrol.

Most currently operational large-scale gas-to-liquids plants produce a range of fuels and are not optimised for a single product such as e-kerosene. By contrast, **e-kerosene project developers want to maximise e-kerosene output**, since e-kerosene is widely considered one of the highest-value e-fuel products and is mandated by the ReFuelEU aviation regulation. This reflects the fact that aviation has far fewer alternatives to decarbonise than other parts of the transport sector.

To increase e-kerosene output, established technology providers and start-ups are working on process improvements to ensure that as much of the production as possible ends up as jet fuel. In practice, this can involve [optimising the process](#) to produce very long hydrocarbon chains, so-called waxes, and to break them down into shorter, jet fuel-range hydrocarbons using a process called cracking. This produces a high share of jet fuel, but usually still leaves a small share of lighter co-products, such as naphtha. **100% e-kerosene without co-products is technically possible** by recycling these lighter co-products back into the process. Notably, technology provider Topsoe [offers such an e-fuels production process](#) that [achieves 100% kerosene output](#).

In this report, Ionect modelled the extra cost of moving to a e-kerosene-only Fischer-Tropsch production route by gasifying the lighter co-products and recycling them back into the Fischer-Tropsch reactor. For the Methanol-to-Gasoline process considered in the report, Ionect also assumed that lighter co-products are recycled to achieve 100% e-petrol output.

The below chart compares expected e-kerosene production costs for two Fischer-Tropsch pathways. The benchmark production cost reflects a process with 84% kerosene selectivity, as assumed in Project SkyPower's cost model. **Moving to a kerosene-only route would increase e-kerosene production costs by around 10% only.** This shows that a **100% e-kerosene production pathway without co-products could be economically viable.**

### **Avoiding co-products** expected to increase production cost of e-kerosene by around 10%

■ Production cost of e-kerosene with co-products ■ Additional cost to avoid co-products



Source: T&E (2026), based on Ionect (2025) • Comparison of two Fischer-Tropsch plants. Higher CAPEX for 100% e-kerosene due to larger gasifier and Fischer-Tropsch unit.



## 5. E-kerosene co-products could be used for chemicals

Most e-kerosene project developers that T&E interviewed for its [e-kerosene market report](#) are aiming for at least 75% kerosene output with some aiming for shares above 90% in their plants. That means that even if co-products end up on the market, they **would not create a significant supply of e-petrol**.

Assuming that the 2035 ReFuelEU Aviation e-kerosene mandates are met using e-kerosene production processes with 75% e-kerosene output, the total amount of e-petrol that could become available as a co-product would be less than 1 million tonnes of oil equivalent. This represents **less than 3% of the petrol used by cars in Europe in 2035**. Beyond being limited in quantity, these volumes are likely too small to justify building dedicated facilities just to turn the e-naphtha co-product into e-petrol.

**So what else could be done with the e-naphtha?** The Ionect report finds that it could also be used to produce plastics. This already happens today for bio-feedstocks: companies such as [Neste](#) and [TotalEnergies](#) already co-process bio-feedstocks for the chemicals industry.

Likewise, **e-naphtha could be co-processed alongside fossil naphtha to produce a share of e-chemicals, including e-plastic** - a potentially valuable opportunity for the chemicals industry. While avoiding, reusing and recycling should remain the essential pillars for lowering the environmental impact of the sector, chemicals have far fewer decarbonisation options than road transport and will continue to need carbon-based feedstocks to produce plastics and other everyday materials. Using e-naphtha to make e-chemicals would therefore direct scarce renewable carbon to a sector where alternatives are limited, supporting the transition of Europe's ageing chemical plants.

## 6. Conclusions and recommendations

This briefing presents information on the technical feasibility, availability and cost of e-petrol for cars in the near future. It finds that e-petrol will cost drivers several times more than fossil petrol and will therefore be unaffordable for most drivers, especially when electric mobility offers a much cheaper alternative. Moreover, it shows that e-petrol is not a necessary co-product of the production of aviation e-fuels. In fact, co-products in the production of aviation e-fuel can likely be fully avoided or alternatively be used for the production of chemicals, including plastics.

These findings underscore that **e-petrol should not be used in cars, as doing so would not only divert scarce resources away from other sectors that rely on these fuels to decarbonise, but also jeopardise car decarbonisation as direct electrification is much more energy-efficient, cost-efficient and has co-benefits for air quality in cities**. In light of these findings, T&E recommends the following:

1

**Delete proposed fuel credit mechanism (Article 5a) and reject any additional proposals for the accounting of fuels under the revised car CO<sub>2</sub> standards.**

The introduction of a fuel Carbon Correction Mechanism (CCM) would only increase the costs of decarbonisation for both industry and drivers, and delay the inevitable transformation towards affordable electric mobility.

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2

**Prioritise e-fuels for hard-to-abate sectors like aviation and shipping:**

Projected near-term availability of synthetic e-fuels will not even be enough to decarbonise ships and planes. Any fuel diverted to new cars will increase competition, and increase decarbonisation costs.

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3

**Maintain the 2030-2035 car CO<sub>2</sub> targets** as were adopted in 2023 and the current tailpipe approach. Alternatives like synthetic- and bio-fuels lead to regulatory ambiguity, undermine company, investor and consumer confidence, and put jobs and EV momentum at risk.

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## Further information

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# Annex

## Assumptions for the considered e-petrol pathways

The e-petrol and e-kerosene production cost models used in Ionect's report are based on Project SkyPower's [open-source techno-economic model for e-kerosene](#), adapted to reflect the production of e-petrol. Compared to other cost models, Project SkyPower has the advantage of modelling the potential for **European e-fuel production**, using detailed and up-to-date cost assumptions for green hydrogen and plant investment costs.

The detailed assumptions are as follows:

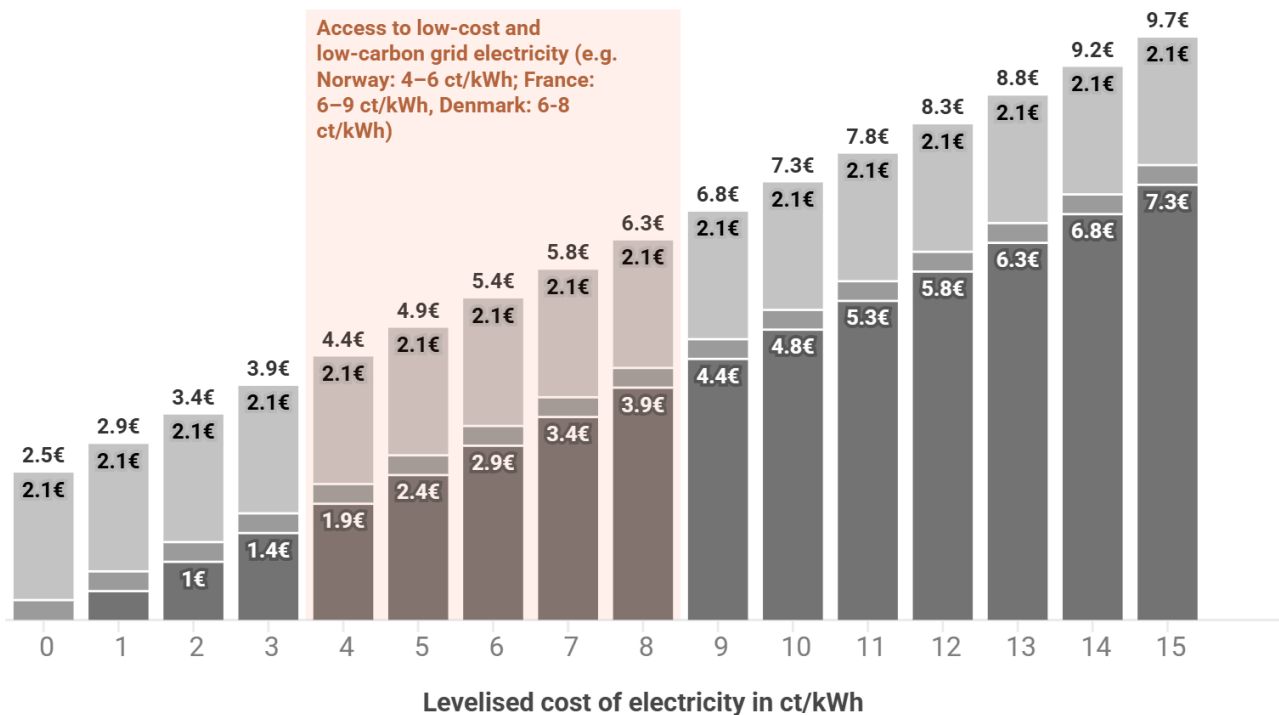
- **Technology:**
  - Co-product e-petrol pathway
    - Reverse Water-Gas Shift + Fischer-Tropsch with 84% kerosene and 16% naphtha output. In the 100% kerosene output configuration, the naphtha is recycled back into the process using a syngas generator.
    - Alternatively, the Methanol-to-Jet pathway could have been chosen here as it also typically produces co-products.
  - Dedicated e-petrol pathway
    - Methanol-to-Gasoline with 100% e-petrol output. The single-pass process is assumed to have 55% e-petrol and 45% fuel gas output. The fuel gas is recycled back into the process using a syngas generator.
- **Plant size and location:**
  - 50 kt/year (nameplate capacity) plant located in Norway (cheapest location in Project SkyPower's techno-economic model)
  - While larger plants may offer cost reductions through economies of scale, **the size of e-fuels plants is constrained by the required carbon and electricity inputs.** Furthermore, the high cost of capital and technological risk further constrain the size of first-of-a-kind plants. As a result, most project developers aim for large-scale plants below 100,000 tonnes per year of syncrude production capacity.
- **CO<sub>2</sub> source:**
  - Biogenic point source (captured CO<sub>2</sub>) for ~160 €/t CO<sub>2</sub>
  - CO<sub>2</sub> supplied via Direct Air Capture would be more expensive (estimate to cost at least ~600 €/t CO<sub>2</sub>) and increase the production cost of the fuel by at least €1 per litre
- **Final investment decision (FID) for the plant:**
  - FID taken in 2025
  - Entry into service in 2030

- **Hydrogen:**

- Levelised cost of **€5.6/kg H<sub>2</sub>** assuming a grid connection with a price of 6 ct/kWh and an electrolyser CAPEX of ~€2,300/kW installed capacity - this reflects the higher cost of electrolysers in Europe versus other countries such as China.
- The chart below shows the levelised cost of hydrogen as a function of electricity prices. It also illustrates a **lower-bound cost of around €2.5/kg**, which assumes zero electricity costs and highlights the relative contribution of electrolyser CAPEX and other OPEX.

## Green hydrogen is the main cost driver for e-fuels

● Electricity ● Other OPEX ● CAPEX



Source: T&E (2026), based on SkyPower (2024) • Electrolyser with FID in 2025



## Assumptions regarding ICE and BEV energy cost

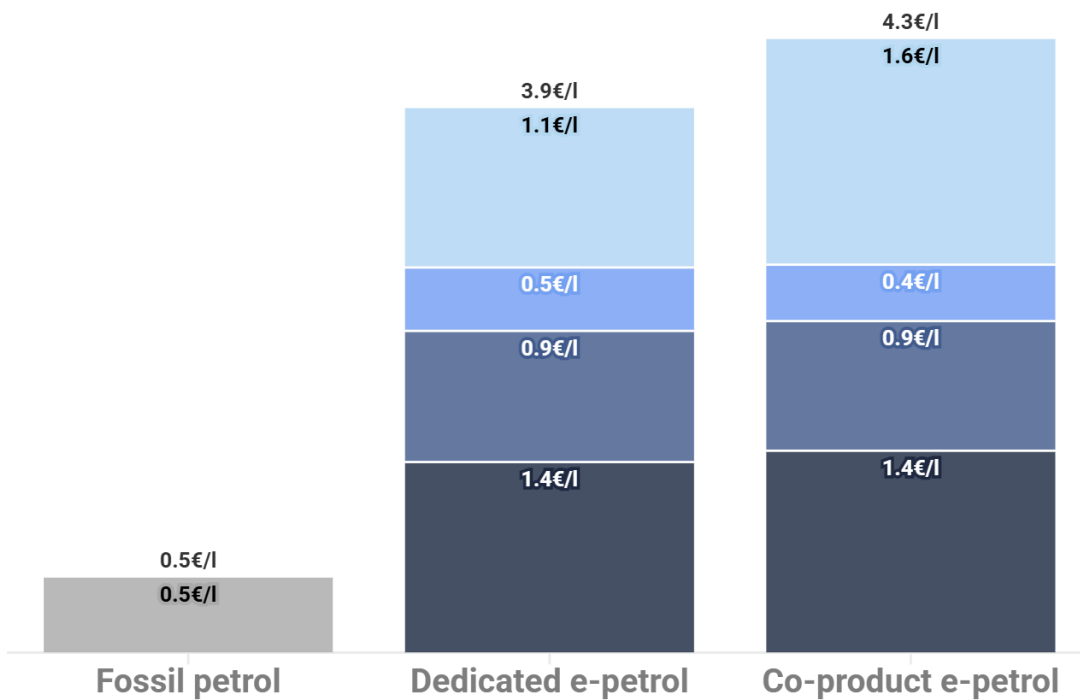
- Fuel consumption of gasoline-powered car assumed to be 6 litres per 100 km for a plug-in hybrid-electric vehicle based on [EEA OBFCM data \(2023\)](#)
- Energy costs of battery-electric vehicles based on [ICCT \(2025\): EV Transition Check - Measuring progress towards zero-emission for passenger cars in the European Union](#)




# Production cost of e-petrol

## Producing e-petrol costs more than 5x as much as fossil petrol

● Extraction + Refining ● Renewable energy ● Electrolysis ● CO<sub>2</sub> ● Synthesis



Source: T&E (2026), based on Ionect (2025) • Costs based on Methanol-to-Gasoline (*Dedicated e-petrol*) and Fischer-Tropsch (*Co-product e-petrol*) pathways for plant in Norway in 2030. 

The above chart shows the production of e-petrol in both scenarios and compares it with the production cost of fossil petrol. It demonstrates that **producing e-petrol in 2030 will be many times more costly than extracting and refining fossil petrol**. Just the energy input component of production cost alone exceeds €1 per litre of e-petrol, despite low assumed electricity prices of around 6 ct/kWh for Norwegian grid electricity that has [a large share of hydropower](#).

While production costs are expected to fall over time, mainly due to cheaper renewable electricity and electrolysers, the cost model still projects e-petrol production costs of **€3.6 per litre for new plants operational by 2035, €3.1 per litre by 2040 and €2.9 per litre by 2045**. That remains more than five times the production cost of fossil petrol today.

**E-petrol made as a co-product** of Fischer-Tropsch production of e-kerosene **has a higher production cost than dedicated e-petrol production**. This is mainly because converting e-naphtha into e-petrol requires an additional conversion unit. If the full cost of this extra unit is allocated only to e-petrol (rather than shared with the main product e-kerosene), the **resulting e-petrol production cost would rise even further to around €5.3 per litre**.

While this briefing does not explicitly analyse the cost of e-diesel, the Fischer-Tropsch process can be optimised to produce a share of e-diesel next to e-kerosene. The **production cost of e-diesel would therefore be around €5 per litre**. Note that these production cost estimates also broadly agree with the [2024 Aviation Fuels Reference Prices for ReFuelEU Aviation](#) that the European Aviation Safety Agency published in 2025.

## Why focus on European production rather than imports?

Some stakeholders argue that e-fuels imports from countries with cheaper renewable electricity could deliver extremely low production costs. However, the e-fuel pathways considered technologically mature today are based on large, integrated chemical plants, similar to existing gas-to-liquids plants. These plants are designed to run continuously and are not built to frequently ramp up and down in line with fluctuating wind and solar generation.

In practice, this means they require a stable, reliable, low-carbon electricity supply. In regions without low-carbon grids - [almost everywhere outside of Europe](#) - project developers would either need to rely on less mature, more flexible process designs, or invest in significant energy buffering capacity, such as large-scale batteries or hydrogen storage. Both options add cost and complexity.

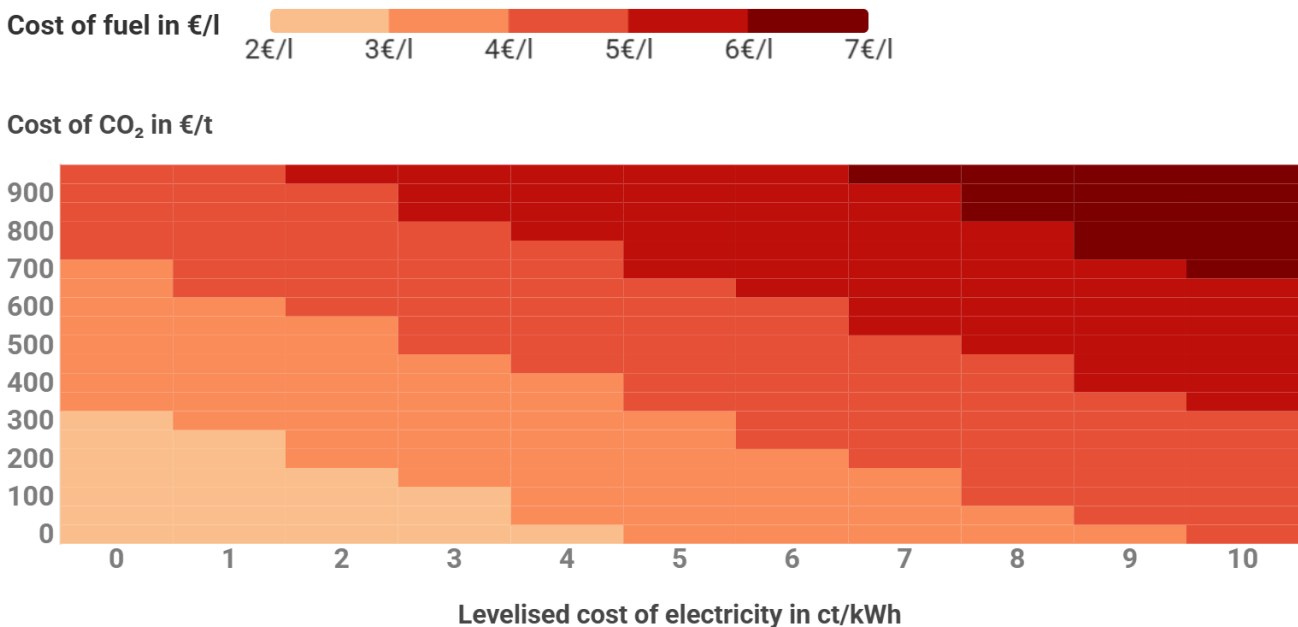
At the same time, first-of-a-kind plants are highly capital intensive. Their economics depend strongly on high utilisation rates to recover upfront investment. Lower utilisation increases the capital cost per tonne of fuel produced. For example, a Methanol-to-Gasoline plant accessing electricity at 3 ct/kWh but operating at 70% utilisation could end up with similar production costs to a plant paying 6 ct/kWh while operating at 100% utilisation. This is because the savings from cheaper electricity can be offset by higher capital costs per unit of output. In other words, significant reductions in CAPEX are a precondition for low-utilisation renewable operation to deliver genuinely lower e-fuel production costs.

As a result, producing e-fuels in European countries with low-cost, low-carbon grid electricity **could be a globally cost-competitive pathway**, particularly where alternative locations face higher utilisation constraints.

## Sensitivity to electricity prices

### Even with free CO<sub>2</sub> and electricity, producing e-petrol would be more expensive than fossil petrol

Cost of e-petrol as a function of electricity and carbon dioxide prices. The current cost of fossil petrol is **below 1 €/l**.



Source, T&E (2026), based on SkyPower (2024) • Methanol-to-Gasoline plant with 50 kt nameplate capacity in Norway in 2030.



Today's high capital costs mean that **e-petrol cars will not be cost-competitive with battery-electric vehicles, even under highly optimistic assumptions** such as free CO<sub>2</sub> and electricity (as illustrated in the bottom-left of the chart above). Using more realistic, yet still cheap, inputs, such as electricity at around 5 ct/kWh (moving to the center of the chart) and low-cost biogenic CO<sub>2</sub> at roughly €100 per tonne, still results in estimated e-petrol costs of €3-4 per litre. To put this in perspective, the cheapest non-household electricity prices in Europe in 2024 were [between 6 - 8 ct/kWh](#). The global weighted average levelised cost of onshore wind power in 2024 reached [as low as around 3 ct/kWh](#).

If instead e-petrol were produced **using Direct Air Capture (DAC)** to achieve genuinely carbon-neutral supply, CO<sub>2</sub> costs would currently exceed €500/t (moving to the upper half of the chart), **pushing e-petrol production costs to above €4 per litre**.

## Minimum viable selling price of co-products

The economic performance of an e-kerosene plant can be measured using the levelised cost of output (LCOX). This shows the average cost per unit of total output needed to cover both the upfront investment and operating costs over the plant's lifetime. The LCOX is a plant-level cost benchmark. For the plant to be financially viable, total revenues from all products must at least match this cost. Minimum viable selling prices for individual products are then calculated based on how costs are shared between products and how co-products are valued.

**E-kerosene is always considered a main product.** This means that the minimum viable selling price of e-kerosene co-products depends on whether those co-products are treated as main products or as by-products. In practice, the main product(s) must generate sufficient revenue to ensure that total plant revenues cover the LCOX. By contrast, by-products may be sold below their allocated production cost, effectively being subsidised by the main product, if the market is not willing to pay their full cost of production.

The chart on the following page illustrates **five different product pricing scenarios**:

- **1. E-naphtha as main product:**

This is the default for the Project SkyPower mode. It assumes 84% kerosene and 16% naphtha output on an energy basis. In this case, both products are expected to contribute to recovering total plant costs, and the LCOX is effectively shared between them.

- **2. E-naphtha as by-product:**

The e-naphtha is assumed to be sold at bio-naphtha market prices (around 2,000 €/t according to recent market estimates), regardless of its allocated production cost. Because this generates lower total revenue than in scenario 1, e-kerosene must generate more revenue to ensure that total plant revenues still cover the LCOX. This results in a higher minimum viable selling price for e-kerosene.

- **3. E-petrol as main product:**

If e-naphtha is upgraded to an e-petrol blending component, an additional conversion unit is required, therefore raising the plant-level LCOX. Both e-petrol and e-kerosene are expected to contribute to recovering these higher total costs. As a result, the minimum viable selling prices of both products increase compared with the base case.

- **4. E-petrol as by-product:**

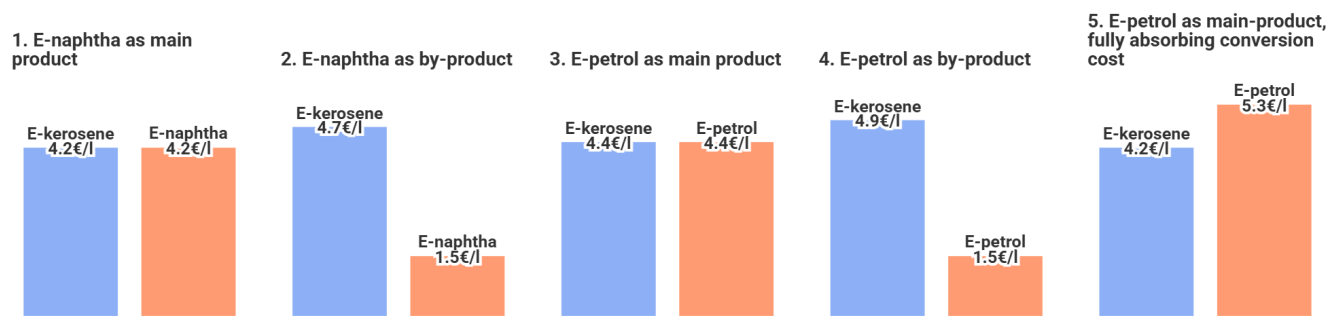
E-petrol is not required to recover its full share of the additional conversion cost. Instead, it is assumed to be sold at bio-naphtha market prices, reflecting the fact that its closest blending substitute, bio-ethanol, is even cheaper. E-kerosene must compensate for both the lower e-petrol revenues and the higher overall plant costs. This leads to an even higher minimum viable selling price for e-kerosene than in scenario 1.

- **5. E-petrol as main product, fully absorbing the additional conversion cost from naphtha to petrol:**

If e-petrol is required to fully recover the additional conversion costs, it must be treated as a main product. In this case, its minimum viable selling price increases further, as it must achieve a premium compared with selling e-naphtha directly as a co-product.

**Aviation sector would need to subsidise cars for e-petrol to be affordable**

Minimum viable selling prices of **e-kerosene** and **co-product** in different scenarios



Source: T&E (2026), based on Ionect (2025)



As explained in this briefing, e-kerosene producers can avoid low-value co-products through additional upgrading. Therefore, we assume that co-products are not sold significantly below their production costs in the long run. If e-naphtha could only be sold at current bio-naphtha prices, producers would likely invest in upgrading it into e-kerosene instead. This is particularly relevant in the EU, where [ReFuelEU Aviation creates strong demand for compliant e-kerosene through binding mandates and penalties](#), supporting a higher value than alternative uses.

