

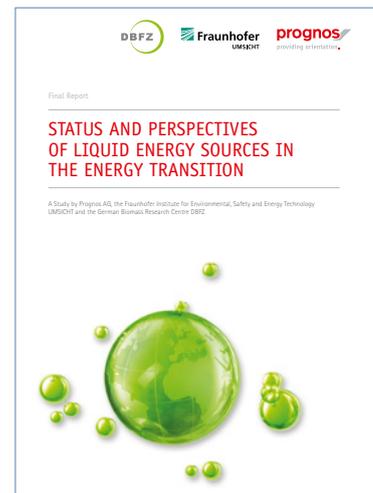


UNITI Bundesverband
mittelständischer
Mineralölunternehmen e. V.

UNITI information

This is what climate-neutral
fuels will cost in the future

(Baseline data: Prognos et al.)



What will climate-neutral fuels cost in the future?

Mixing e-fuels with conventional fossil fuels will result in two positive effects on the path to climate-neutral fuels in 2050 complementing each other.

1. The cost of e-fuels will fall sharply between 2025 and 2050 (See 1).
2. The initial level of e-fuel admixture will be very low in 2025 but will reach 100% by 2050, making fuels climate-neutral (See 2).

Conclusion: These two effects will lead to a moderate increase in fuel prices. Climate-neutral mobility will therefore be affordable for everyone. (See 3).

What are the cost advantages of liquid e-fuels?

- E-fuels have the same comparatively high energy densities and storage potential of today's liquid fuels.
- This ensures the same easy and efficient handling along the entire logistics chain – from generation to consumption.
- Greater logistical distances are almost irrelevant due to the excellent transportability of liquid e-fuels: transport costs PtL = 1/40 of PtG.¹⁾
- This makes it possible to import high-efficiency e-fuels from regions around the globe with potential for renewable energies.
- At user level, climate-neutral e-fuels can be added to today's conventional liquid fuels and combustibles.

¹⁾ "PtX transport costs from non-EU countries", dena pilot study, 2018.

1 E-fuel generation costs (PtL – Syncrude as a crude oil substitute) for large-scale industrial production in wind- and sun-rich regions of the world.

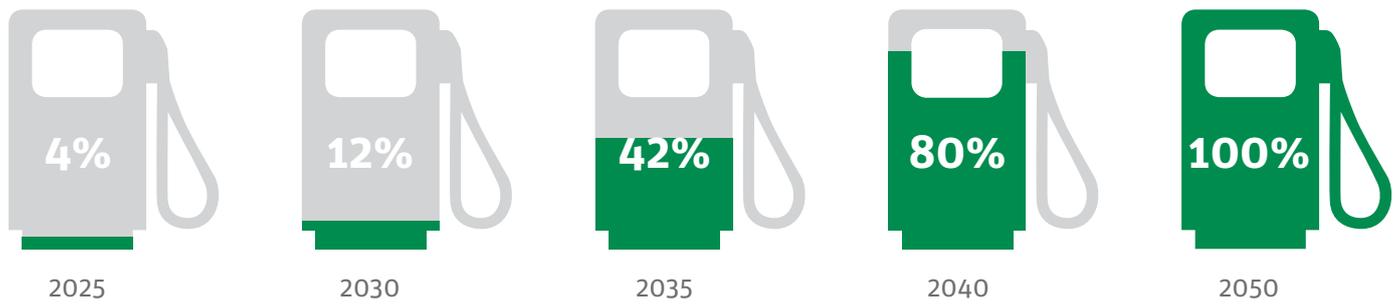
1 Low scenario (cost per litre in euros)



2 High scenario (cost per litre in euros)

- 1 Lower cost path of e-fuels: cost-effective international provision with optimal site conditions for renewable power generation and better electrolysis efficiency
- 2 Higher cost path of e-fuels: international provision with a not always optimal choice of location for renewable power generation and slower increase in electrolysis efficiency

2 Increasing the admixture of e-fuels will lead to climate-neutral fuels in 2050.



- Example of a market ramp-up of e-fuels with steadily increasing proportion in conventional fuels from today up to climate neutrality in 2050

3 Development of end-user fuel prices – Future costs for the customer at the filling station.

price per litre in euros ● Low scenario ● High scenario

Country		2025		2030		2035		2040		2050			
Czech Republic		diesel		1,17	1,18	1,22	1,34	1,35	1,74	1,49	2,20	1,38	2,18
		petrol		1,20	1,21	1,23	1,36	1,36	1,75	1,49	2,21	1,38	2,18
France		diesel		1,33	1,34	1,36	1,48	1,48	1,86	1,60	2,31	1,47	2,26
		petrol		1,37	1,38	1,39	1,51	1,50	1,88	1,62	2,32	1,48	2,27
Germany		diesel		1,21	1,22	1,24	1,36	1,36	1,75	1,50	2,19	1,38	2,17
		petrol		1,34	1,36	1,36	1,48	1,46	1,85	1,59	2,28	1,45	2,24
Hungary		diesel		1,14	1,15	1,20	1,32	1,34	1,75	1,50	2,24	1,40	2,24
		petrol		1,12	1,14	1,18	1,30	1,32	1,73	1,47	2,22	1,37	2,20
Italy		diesel		1,37	1,39	1,40	1,52	1,52	1,91	1,64	2,36	1,51	2,32
		petrol		1,44	1,45	1,45	1,58	1,56	1,95	1,68	2,40	1,53	2,34
Poland		diesel		1,10	1,11	1,16	1,28	1,30	1,69	1,45	2,17	1,35	2,16
		petrol		1,10	1,11	1,15	1,27	1,29	1,68	1,43	2,16	1,33	2,14
Spain		diesel		1,13	1,14	1,18	1,30	1,31	1,70	1,45	2,17	1,35	2,15
		petrol		1,20	1,21	1,24	1,36	1,37	1,75	1,50	2,21	1,38	2,18

Basic assumptions for calculations:

- For the e-fuel/conventional fuel mixtures (diesel/petrol), member states' individual energy tax rates apply. Energy tax is levied to the same extent as today for pure fossil products.
- The same applies to transport and distribution costs, margins and VAT.
- Calculations are based on large-scale expansion with efficiency gains and economies of scale as well as optimal international locations.

Conclusions:

E-fuels harness electricity from renewable energies around the globe.

E-fuels ensure the attainability of global and national climate targets.

They can be mixed, resulting in affordable fuels and combustibles at all times during the market ramp-up phase.

Policymakers must open the regulatory framework for e-fuels as soon as possible in order to enable their market ramp-up.

Only then can politicians ensure the sustainable, reliable and affordable transformation of transport.

E-fuels can thus make a significant contribution to the achievement of climate protection targets in the transport and building sector. Both in the EU and worldwide.

The study can be found at: www.uniti.de/aktuelle-studien

UNITI – Association Profile

UNITI Bundesverband mittelständischer Mineralölunternehmen e. V. (the federal association of small- and medium-sized mineral oil companies in Germany) has existed since 1927. It gathers together expertise in fuels, the heating market and lubricants, representing around 90 per cent of the mineral oil SME sector in Germany.

Every day, 4.5 million customers visit petrol stations run by UNITI member companies. Association members supply 115 federal motorway petrol stations and operate nearly 6,000 roadside petrol stations, constituting over 40 per cent of the roadside petrol station market. At around 3,700 independent petrol stations, almost 75 per cent of independent petrol stations are represented by UNITI. The association's members hold a market share of over 40 per cent for diesel and petrol and around 42 per cent for autogas (LPG).

UNITI members supply some 20 million people with heating oil, one of the most important energy sources in the heating market. The association's members serve around 80 per cent of the total market for light heating oil and solid fuels. Meanwhile, their product ranges also include regenerative energy sources as well as gas and electricity.

Also included in the association are most of the independent, medium-sized lubricant manufacturers and lubricant dealers in Germany. Their market share is around 50 per cent.

The more than 1,000 UNITI member companies generate annual turnover of around 35 billion euros and employ around 80,000 people in Germany.

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