

Over 10,000 kilometres through southern Europe with HVO100 Diesel fuel



Description and evaluation of the tour

September 2025



Picture: eFuelsNow





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eFuelsNow Map with HVO stations:

https://efuelsnow.de/tankstellen-karte

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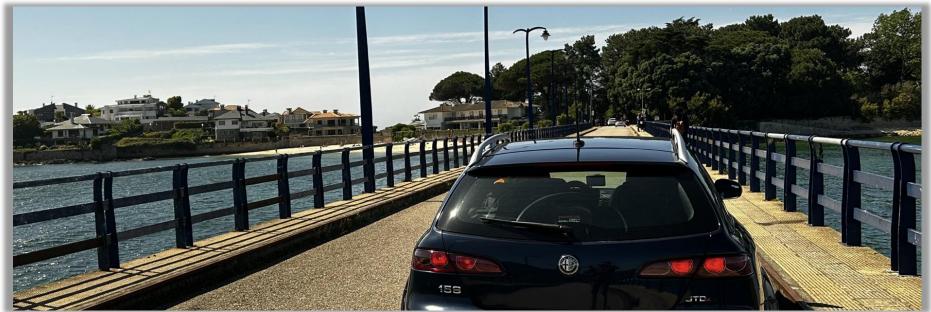
Travel period: 16 May 2024 to 5 June 2024



Preface

Who is eFuelsNow and why do we need synthetic fuels in road transport?

EfuelsNow is a group of engineers and technology enthusiasts who spend their free time supporting technological openness and a free market economy. That's why we also need synthetic fuels in road transport. Only if there is a suitable concept for every consumer, climate protection will be supported by the whole society. Targets have to be defined in agreement with the public (e.g. CO2=0). But only the application specialists (customers) and the technology specialists (engineers) decide individually how to proceed. Historically, it has been proven many times that environmental protection and progress can only be realised quickly, cost-effectively and in a customer-oriented manner in a competitive market economy. 'One-fits-all' has never been successful. New technologies always need alternatives so that they are not considered oppressive. That's why synthetic fuels are also important for the social acceptance of e-mobility. A planned economic allocation is bad for climate. If, for example, drivers are not allowed to refuel with green fuels, they will continue to use fossil fuels. It also means that urgently needed production capacities for green energy are not built. Restricted user groups limit the return on investment. Money that is urgently needed for the production scale-up of green fuels. The demand for ships and aeroplanes is far too low. And especially for these very cost-sensitive small areas, road transport is irreplaceable as a 'volume propeller'. Higher production volumes enable more favourable prices. Furthermore, the co-products for road transport are automatically created during jet fuel production. In short: Allocation slows down climate protection. The climate doesn't care where CO2 is saved first. Last but not least, it is becoming increasingly clear that the current way is also damaging the financial grounds for environmental protection. In short, the financial grounds for investment in modern GreenTec technology must be preserved. Therefore, we urgently need a market-based environmental protect



Near Vigo in north-west Spain (Image: eFuelsNow)



Why did we start the tour?

There are some myths about synthetic fuels that are not correct in terms of content. The truth is that there is currently not enough green energy in any energy sector (including electricity) worldwide. Around 65% of the world's electricity is fossil fuelled ¹²⁾. The green energy sector is still developing. Nevertheless, synthetic fuels such as HVO are already widely available at numerous petrol stations at prices similar to fossil fuels. In some countries, HVO already represents 20 to 50% of the diesel market. 6) The journey, in connection with our fuel card, shows the high density of petrol stations throughout Europe. It is already possible to drive to Lisbon and Gibraltar in a diesel car with minimal CO2 footprint. In addition, the compatibility of HVO100 was demonstrated by using a vehicle not certified by the manufacturer. It should be noted that the tour of almost 10,000 kilometres corresponds to an average annual mileage of 12,000 kilometres. In countries such as California, where (by 2023) 50% of the diesel market already consists of HVO, you can no longer fill up with anything else at many petrol station chains! There are no known problems.



Image: eFuelsNow



What is HVO100?

HVO100 is a synthetic, residue-based reFuel with up to 90% CO2 reduction. It is not an e-fuel. But both fuels comply with the DIN EN 15940 standard.

Definition of reFuels

Difference between electricity-based and waste-based reFuels



reFuels or SynFuels made from renewable sources



Electricity-based reFuels as e-fuel or PtL

- synthetic fuel produced from electricity-based sources
- Production in mostly southern, very sunny and windy countries (favourable locations) => Analogy: Orange
- E-fuels are produced from "green hydrogen", which is produced by electrolysis of water.
- E-fuel is produced from water, CO2 and solar/wind energy
- Use of CO2 removed by air extraction (CO2 capture) or separation of unavoidable CO2 from the chemical industry.
- Use included, it is almost 100% CO2-neutral.
- E-fuels can be produced unlimitedly at favourable locations.



Waste-based reFuels (HVO, HEFA, HCVO, BtL, Renewable Diesel etc.)

- It is a synthetic fuel made from residues and waste materials of biogenic origin.
- The production of HVO requires very little electricity and can also be realised in northern countries with few green energy => Analogy: Appel
- The EU calls it "advanced biofuels". In Germany, they are also called second-generation biofuels.
- The chemical name is paraffinic diesel and paraffinic aviation fuels.
- "Biofuel" is a very similar expression like biodiesel (FAME), to describe HVO for example. But HVO is not biodiesel (risk of confusion!).
- CO2 capture from the atmosphere indirectly via plants as a source of residues and waste materials.
- The name HVO comes from the first products based on hydrogenated vegetable oils
- HVO is currently synthesised in the EU exclusively from used fats, used cooking oils, waste biomass and carbon-containing waste materials.
- Today's HVO contains minimal grey H2 (approx. 90% CO2 reduction).
- Both, E-Diesel (E-Fuel) and HVO100 are reFuels. And both meet the DIN EN 15940 standard for paraffinic diesel fuels. But they are produced from different raw materials.
- Petrol, diesel and aviation fuel can be produced from electricity or from residues and waste materials.
- Residues and waste materials or CO2 and electricity-based green H2 are the basis of the two different production processes.
- 1 WS 23/24 nachhaltige Anriebssysteme Kraftstoffe



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Pine avenue near Florence, Italy. (Image: eFuelsNow)



1.0 Journey figures



The entire distance of 10,131 kilometres was covered on own wheels, without aferry connection. The distance is roughly equivalent to a flight from Vienna to Los Angeles. The use of synthetic fuels in road transport also has a positive impact on air transport. The more people refuel their cars with synthetic fuel, the cheaper it becomes for ships and planes. Both are very cost-sensitive areas that generate far too little volume on their own. Road transport is the volume propeller that lowers prices. Furthermore, fuels are already produced in refineries today as a by-product. They co-finance the flight ticket. More customers also mean a faster return on investment and a faster ramp-up of production. The climate doesn't care where CO2 is saved first. 99.5% of the world's cars and the lack of green electricity, which is also needed by industry, leave no other alternative.

Pictures: eFuelsNow

Start	16. May 2024/ 1:52 PM/	Ludwigsburg (D)		
Mileage (Start):	390.198 km			
Destination	05. Jun 2024/ 07:42 AM/	Ludwigsburg (D)		
Mileage (Destination):	400.329 km			
Time duration:	ca. 19,75 Tage			
Regenerative share:	100% mit synthetischen	HVO100 Diesel		
Travel distance (on wheels)	10.131 km			
Ø Daily Travel distance	513 km			
Länderabschnitte in Kilometern (Cirka-Anteile, nicht ganz genaue Zahlen)				
Travel distance in Germany	≈650km	6,42%		
Travel distance in Switzerland	≈315km	3,11%		
Travel distance in Itaky	≈1655km	16,34%		
Travel distance in France	≈1205km	11,89%		
Travel distance in Spain	≈4340km	42,84%		
Travel distance in Portugal	≈1465km	14,46%		
Travel distance in Monaco	≈30km	0,30%		
Travel distance in Gibraltar	≈45km	0,44%		
Travel distance in San Marino	≈30km	0,30%		
Travel distance in Slowenia	≈190km	1,88%		
Travel distance in Austria	≈206km	2,03%		







2.0 Vehicle data and figures

Vehicle type	Alfa Romeo 159 2.0 JTDm SW
Date of construction	June 2011
Power of engine	125KW / 170PS
Emission standard	Euro 5
Mileage (Start)	390.198km
Mileage (destination)	400.329km
Tank-filling-volume	65 Liter
Maximum range	app. 1.100km, filling time: 1Min 50Sek.
Driven with HVO100 until Nov 2023	app. 200.000km
Oil consumprion during the trip	app. 0,3 Liter
Waer parts during the trip	No parts changed
Tyres	Michelin Primacy 4, summer tires, 225/50 R17
Use of production- / lifetime footprint	Double-use of production footprint
Use of electricity for HVO production	≈5KWh/100km (waste-to-fuel)
(5Litres/100km)	(Calculated Prof. Willner HAW Hamburg, Faculty of
100km = 62,14 miles	Process Engineering, Fuel Research) 1) 2)
	There is already a lot of energy inside the waste.
	Little electricity needs to be added for production.

Sonstiges:

The car was purchased in Italy in 2017 with 80,000 kilometres (49.710 miles) for approx. 9000 euros. The Alfa has the first engine and the second clutch. It is in complete standard condition, without any conversions or chip tuning. The engine runs much more smoothly with HVO100. The particulate filter regenerates less frequently. It feels like the car accelerates slightly better. There is no recognisable difference in fuel consumption. At almost 400,000 kilometres (248.548 miles), the car has more than doubled its calculated lifespan. In combination with HVO100, this results in an extremely climate-friendly lifecycle and a very small CO2 footprint. On top of this the materials are simple and can be produced and recycled in a resource-friendly way.

HVO/XtL release (DIN EN 15940):

Alfa Romeo has not yet approved the Type 159 for fuels complying with the DIN EN 15940 standard. The car has already travelled approx. 180,000 km on HVO100 (by Nov 23). In the near future, the car will reach 400,000km. Then about half of the kilometres driven will be on HVO100. A similar engine, constructed during a Fiat-GM-partnership, was used in several Saab models (9-3 and 9-5). You find it also in different Opel and Vauxhall models (Astra, Zafira, Vectra, Insignia).



Picture taken in Luarca, Asturias, northern Spain. (Image: eFuelsNow)



3.0 Petrol station network with HVO

Number of refuellings	21 refuellings
Petrol stations along the whole tour corridor (10.131km), approx. 5km left and right of the route	
HVO100 (June 2024)	Ø every 30-31km (327 Stations)
HVO100 (September 2025)	Ø every 18 km (563 Stations)
Network in different countries (during the trip in June 24)	
Italy	Ø every 8 km
Spain	Ø every 27 km
Germany	Ø every 67 km
Austria	Ø every 23 km
Portugal	Ø every 56 km

Conclusion:

The distance of approx. 30 - 31 km between the HVO100 filling stations shows that it is already possible to make long holiday trips across southern Europe with a Diesel car in a very climate friendly way. The long range of diesel vehicles plays an additional positive role here. Vehicles that rarely need refuelling also need fewer petrol pumps.

Blends were not taken into account for this analysis. In Spain, there are diesel fuels that could contain a fluctuating proportion of HVO, but could possibly also be blended with biodiesel.

In Portugal, there is already a well-developed HVO100 network, but (in 6/24) this still requires a separate procurement card (e.g. Repsol Solored Card).



Night-time fuelling with HVO100 at a Repsol station in Bilbao. (Image: eFuelsNow)



4.0 Time for refuelling

Maximum tank filling volume (Alfa 159)	65 Liters
Total refuelling time for 6279km, measured and calculated	≈56min (21x refuelling, of which 3x
18x fuel pump	per canister), with full utilisation of
3x with canister	the range approx. 35min
1x refuelling (65L, pure filling time)	1min 50Sec (bei ca. 35L/Min)
1x refuelling (65L with payment and walking)	2min 50Sec
Single time (for walking)	30 Sec
Single time (automatic pay station)	40 Sec
Energy transfer passenger car (35L/min)	ca. 18 megawatts ³⁾
Energy transfer truck (up to 130L/min 4))	bis zu 66 megawatts
Energy transfer tank canister (12L/min)	ca. 6,2 megawatts

Conclusion:

The importance of short refuelling times was demonstrated several times during the journey. The figures above were calculated. This results in:

In total, we needed about 1 hour to refuel (filling, walking, paying). This includes automatic pay stations, but also petrol stations with normal payment in shop. The minimum refuelling time would have been around 35 minutes if the car's range had been fully used.

2) Everyone knows many situations with little time for refuelling. On the way to the hospital, or in holiday and in rush-hour traffic (after a long traffic jam, on the way to a ferry ...). Reality is usually not 100% predictable. A machine is only helpful to people if it is always ready for use and the loss of time is minimal.

The time factor is essential, especially for delivery traffic or commercial travellers. Long refuelling stops are comparable to long set-up times at a production facility. Prosperity needs high productivity. So in the end, prosperity also finances environmental protection.



Cepsa station, south of Valencia. (Image: eFuelsNow)



4.1 Illustration of the short refuelling time and high energy density

The energy transfer (volume rate) is illustrated in this chapter using a 1 litre bottle (picture right). At a fuel pump for passenger cars, 35 of these bottles are filled into the tank every minute. A "mandatory slowing down" of this filling process (by using a different powertrain technology) is currently being discussed politically.

discussed politically.					
	Volume rate:				
canister	12 litres / min (measured)				
Truck station	50 bis 66 liters / min				
Passenger car station	35 litres / min				
In just under 30 sec. it is possible to fill up the Alfa with energy for a range of 300 km (volume rate					
35 litres/min). Slowing down the energy transfer achieves the following volume rates (interpolated).					
700km (435 miles) in 10 Min corresponds to	≈4 liters / min (Ein Kanister liegt 3x höher !)				
300km (186 miles) in 30Min corresponds to	≈0,6 liters / min				
300km (186 miles) in 9 hours corresponds to	≈0,033 liters /Min (less than a 50mL glass !)				
Energy density illustrated by two glasses (50 mL und	1L), picture left				
Calculation with: 5L / 100km consumption Alfa 159 (app. 1.600kg), motorway					
Kilometers with 1 litre bottle of HVO ≈ 20 km (12,4 miles)					
Kilometers with 50 millilitre glass of HVO ≈ 1 km (0,62 miles)					

Example, tour around Sicily:

Example from the last tour (6300km in Nov 23): In Sicily, almost only HVO blends were available in Nov 23. There was only one HVO100 station in Catania. Even with this single station, it would be possible to drive around the entire island (850 kilometres) with the Alfa. It achieves a consumption of 5L/100km on the motorway). This allows a range of approx. 1,100km. Travelling through urban areas (Stop&Go) reduces the range to 900-1000km. The tank of the Alfa is 65 litres. This means: approx. 60 bottles (as shown in the picture) allow a trip around Sicily, depending on the driving profile (city / country road / motorway). In the meantime, Sicily also has a dense HVO100 refuelling network.





1 litre HVO≈ 20km Reichweite

- ⇒ 35 of these bottles (per min) are filled at the petrol station
- ⇒ You can drive all around Sicily with about 60 such bottles
- HVO can sometimes (as in Spain) be slightly red or yellow. But it is HVO100.

50 millilitres HVO≈ 1km Reichweite (leer)

⇒ Under optimal conditions, 100 - 120

km/h on the motorway

(all pictures: eFuelsNow)

road, motorway

⇒ ≈ 700m range (loaded) city, country



5.0 Overview - Refuelling, CO2 reduction and costs

The following table shows an overview of the refuelling processes. The CO2 reduction was calculated on the basis of figures provided by the Karlsruhe KIT. The points below should be noted:

- The tour started with a full tank of HVO100. Until the return the car was refuelled 21 times (on return: full tank)
- The consumption values were calculated using the local fuel gauges. Therefore, there may be inaccuracies.
- The average price per litre was around 1.67Eu/L (between 1.589 and 1.88 Eu/L).
- The calculation basis was created together with the reFuel department of the Karlsruhe KIT and the CO2 certificates available there 5).

efuelling process	fuelling (Place)	Driving profile	Volume (L) according to the pump's gauge	Price (Eu/L)	total price (Eu)	mileage (km)	Distance since the last refuelling (km)	Consumption since the last refuelling (Lters /100km)	fuel type	CO2 emissions (g) for the refueled Diesel Basis HVO: 300g CO2 / L Fossil Diesel (80): 3000 CO2 / L (calculated with fuel transport)
×	Ludwigsburg, Germany (at the start of the journey, 100% tank full)		65	1,88	122.20	390.198			HVO100	1950
			65	1,00	122,20	330.130			NVOIDO	1330
	From here, the used fuel was refilled			4.070	00.00		705		1110400	44.050
	Savona / ENI	Motorway through the Alps to Italy	39,86		66,92	390.993	795	7.54	HVO100 HVO100	11.958
	Ventimiglia /ENI La Jonguera / Cespa	Motorway	28,49 14,97	1,734 1,715	49,40 25,67	391.108 391.647	115 539	7,51	HVO100 HVO100	8.547 4.491
	La Jonquera / Cespa La Jonquera / Repsol	Motorway Town	22,23	1,715	25,67 37,10	391.651	4	6.85	HVO100 HVO100	6.669
	San Miguael de Salinas / Repsol	Motorway and Town	1,28		2,03	392.525	874	0,00	HVO100	384
	Torrevieja / Repsol	Town	4,3		6,88	392.537	12		HVO100	1.290
	Cartagena / Repsol	Motorway	63,08		100,86	392.604	67	7,20	HVO100	18.924
	Garrucha, Almeria / Repsol	Motorway	12,7	1,649	20,94	392.781	177	7,18	HVO100	3.810
	Algeoiras / Repsol	Motorway / Town / mixed	40,06		65,66	393.284	503	7,96	HVO100	12.018
	Lissabon	Motorway	22,5		42,30	394.142	858	.,	HVO100	6.750
11	Lobón / Repsol	Motorway	62,52	1,649	103,10	394.407	265	7,57	HVO100	18.756
12	Vigo / Repsol	Motorway	55,22	1,629	89,95	395.146	739	7,47	HVO100	16.566
13	Bilbao / Kanister	Motorway	1,6		2,64	396.065	919		HVO100	480
14	Bilbao / Repsol	Motorway	64,21		108,19	396.067	2	7,15	HVO100	19.263
	Madrid / Repsol	Motorway	55,92		92,55	396.813	746	7,50	HVO100	16.776
	Valencia / Repsol	Motorway	37,42		61,71	397.317	504	7,42	HVO100	11.226
	La Jonquera / Cespa	Motorway	18		30,87	397.829	512		HVO100	5.400
	Albenga / ENI	Motorway	64,01		109,39	398.478	649	7,06	HVO100	19.203
	Venedig / Vegacarburanti	Motorway	63,62		103,00	399.324	846	7,52	HVO100	19.086
	Anif bei Salzburg / AP	Motorway	45,5 22.5		78,67 37.10	399.930 400.329	606 399	7,51 5.64	HVO100 HVO100	13.650 6.750
21	Ludwigsburg / Kanister	Motorway	22,5	1,043	31,10	400.323	333	5,64	HVO IOU	6.150
Evaluation	in total		739,99	1,67	1.234,95		10.131	7,30	use of 100% HVO (90% CO2 neutral) - CO2 (g)	221.997
Evaluation	iii totai		703,55	average price	total price		total distance	-,	CO2 /km (g)	21,91
									CO2-reduction (%)	90,00
									Comparison 100% Fossil - CO2 (g)	2.219.970
									CO2/km (g)	219
									CO2-reduction (%)	0'
									Comparison 100% HVO (80% CO2 neutral) - CO2 (g)	443.994
Figures from Ka	rlsruhe Institute of Technology, KIT, Department for refuels								CO2/km (g)	43,83
	90% CO2 neutral (sometimes up to 95%)								CO2-reduction (%)	80,00





Refuelling stops (numbering according to the table); Picture:eFuelsNow



6.0 CO2 balance - comparison between aeroplanes and cars

First things first: as already mentioned in one of the earlier chapters, the use of synthetic fuels on the road does not conflict with aviation needs. Road and aviation fuels are co-products that are produced side by side in refineries. Their use in cars helps to increase production and lowers prices for all areas of use.

The following chapter compares the carbon footprint of this extremely long road trip with that of a flight. The calculation was performed once for fossil fuel and once for synthetic fuel.

Route	Vehicles	distance	Fuel	Passenger factor	CO2 reduction	CO2 emissions (total distance)
Tour as shown in the report	Passenger car	10.131km	100% with HVO100	1,46	approx. 90%	221.997 g CO2
Tour as shown in the report	Passenger car	10.131km	100% with B7 Standard Diesel fuel	1,46	approx. 3,5%	2.142.271 g CO2
Comparable flight for the same route	Airplane	10.131km	100% synthetic SAF / Neste	1,46	approx. 80%	293.799 g CO2
(approximately Vienna-Los Angeles)						
Comparable flight for the same route	Airplane	10.131km	100% fossil fuel SAF	1,46	0%	1.468.995 g CO2
(approximately Vienna-Los Angeles)						
Tour as shown in the report	Passenger car	10.131km	100% with HVO100	1	approx. 90%	207.381 g CO2
Tour as shown in the report	Passenger car	10.131km	100% with B7 Standard Diesel	1	approx. 3,5%	2.001.231 g CO2
Comparable flight for the same route	Airplane	10.131km	100% synthetic SAF / Neste	1	approx. 80%	202.620 g CO2
(approximately Vienna-Los Angeles)						
Comparable flight for the same route	Airplane	10.131km	100% fossiles SAF	1	0%	1.013.100 g CO2
(approximately Vienna-Los Angeles)						
Tour as shown in the report	Passenger car	10.131km	100% with HVO100	2	approx.90%	230.987 g CO2 (e)
Tour as shown in the report	Passenger car	10.131km	100% with B7 Standard Diesel	2	approx.3,5%	2.229.024 g CO2
Comparable flight for the same route	Airplane	10.131km	100% synthetic SAF / Neste	2	approx.80%	405.240 g CO2 (d)
(approximately Vienna-Los Angeles)						
Comparable flight for the same route	Airplane	10.131km	100% fossil SAF	2	0%	2.026.200 g CO2
(approximately Vienna-Los Angeles)						

Assumptions for the calculation:

- The following calculation also takes into account the passenger factor. The journey from Ludwigsburg to Porto (4,702 km) was made by two people. This corresponds to 46.4% of the total distance and therefore results in 1.46 passengers over the entire distance.
- The second person travelled back by plane with hand luggage. Most of the suitcases were transported back to Germany by car. It is difficult to determine the exact luggage factor. I estimate that I had a total of approximately 100-120 kg of luggage with me.
- Flying is estimated to produce approx. 83 g CO2/km (source: Swiss Civil Aviation Authority ¹⁵⁾). According to Statista, Lufthansa produces approx. 88 g ⁸⁾. Other sources (e.g. on the radio, ARD) even assume over 200 g CO2/km. For simplicity's sake, we calculated 100 g CO2/km, which is roughly in line with the figure given by the Swiss Civil Aviation Authority.
- For comparison purposes, I used standard B7 diesel for passenger cars. This contains up to 7% biodiesel (FAME). I assumed that biodiesel reduces CO2 emissions by approximately 50%.
- To calculate the car journey with one person, I used the average fuel consumption from the previous 6,300 km journey, which I travelled alone. The fuel consumption was approximately 0.5 L/100 km lower (at 6.8 L/100 km). However, the difference may also be due to the heavier luggage. The influence of fuel gauges, which are not always 100% accurate, cannot be ruled out either.

Findings:

• The footprint of a single-person flight (value a) with average luggage is roughly equivalent to that of a car journey with one person. If more people get into the car, the footprint is reduced by the number of passengers. A scheduled flight usually already has many passengers on board. Therefore, one more or less person has little effect. Here, a fixed average CO2 footprint per passenger is assumed, which then doubles for two people. In a car (with comparatively few seats), the impact on the footprint is correspondingly greater.

Conclusion:

When fuelled with HVO, travelling by car is more climate-friendly than travelling by plane, especially when there are many passengers.



7.0 Summary of findings

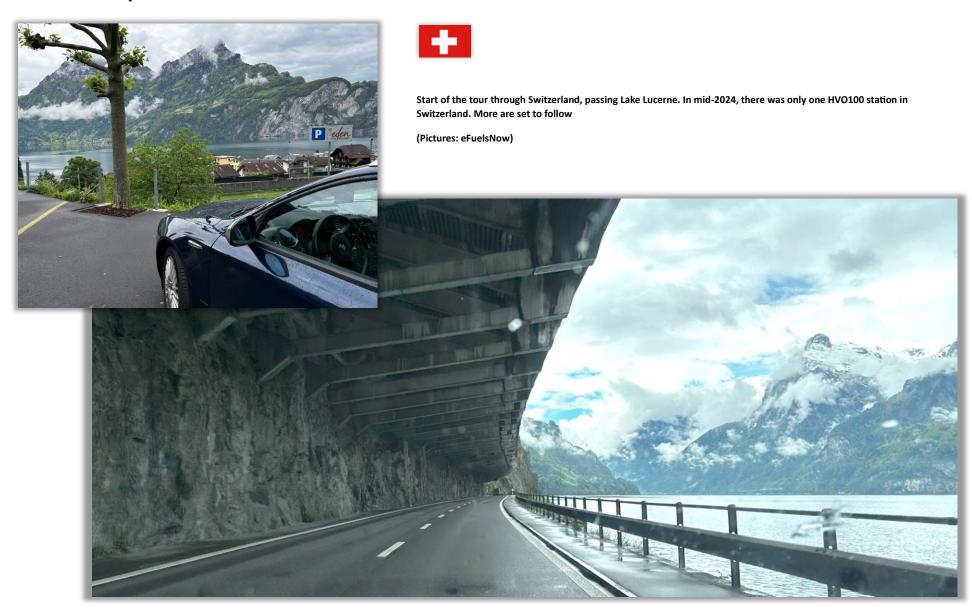
- The tour shows once again that even vehicles without official HVO approval can run on the fuel without any problems. From the technical point of view, this is not surprising, as HVO100 only has a 6% lower density and otherwise exceeds all standard-relevant characteristics. The 10,000 kilometre tour is almost equivalent to an average annual mileage (12,000 km).
- An average diesel car driver doesn't consume that much fuel per year. 10,131km is equivalent to about 740 litres, like a large fish aquarium at a hotel reception.
- The price difference compared to fossil diesel is small or non-existent (see Italy). The saving potential when using fossil diesel fuel was not determined. It is estimated to have been maximum 10 cents (74 euros over the entire trip of 10,131 kilometres). On average, 1.68Eu/L was paid.
- The HVO fuelling network allows long-distance journeys as far as Lisbon and back. You can drive all over Europe with climate-friendly synthetic diesel without paying too much extra.
- There is an interesting waste take-back concept at many Spanish Repsol stations. At 450 stations (6/24) you can drop them off and refuel for about 30 cents less. Picture, see the next chapter.
- In addition to 100% regenerative HVO diesel, you can already fill up with 100% regenerative petrol at the first stations in Spain, for a small extra cost.
- The density of the refuelling network has increased significantly compared to the first tour in November 2023. Back then in Italy, we reached an HVO100 station every 16,5 kilometres. In the meantime, we were able to fill up with HVO100 every 8 km on our route through northern Italy. HVO100 has been available in Italy since February 2023. By October 2024, there were already 1750 stations throughout the country. Strong growth can be observed.
- The use of renewable fuels in cars is more efficient than in aeroplanes, as CO2 emissions increase only insignificantly for each additional passenger. Furthermore, air transport is also dependent on road transport, which boosts the production ramp-up (faster return on investment). Fuels for air and road transport are co-products. Using both reduces the costs for both sectors.
- The advantage of highly concentrated liquid energy was also demonstrated on this journey. Approx. 60 minutes were needed for the 21 fill-ups (filling, walking, paying). However, if the range of the car had been fully used, it would have been possible to refuel for 10,131 kilometres in 35 minutes. The fuel for comes from an 18,000 kilowatt petrol pump. In less than 2 minutes, the car is ready for a range of 1100 kilometres. A ban on this advanced technology would prohibit an elementary physical advantage for saving time. A modern, competitive economy needs mobility with short standstills (just-in-time transport, etc.). And environmental protection needs money from an efficient and productive economy.



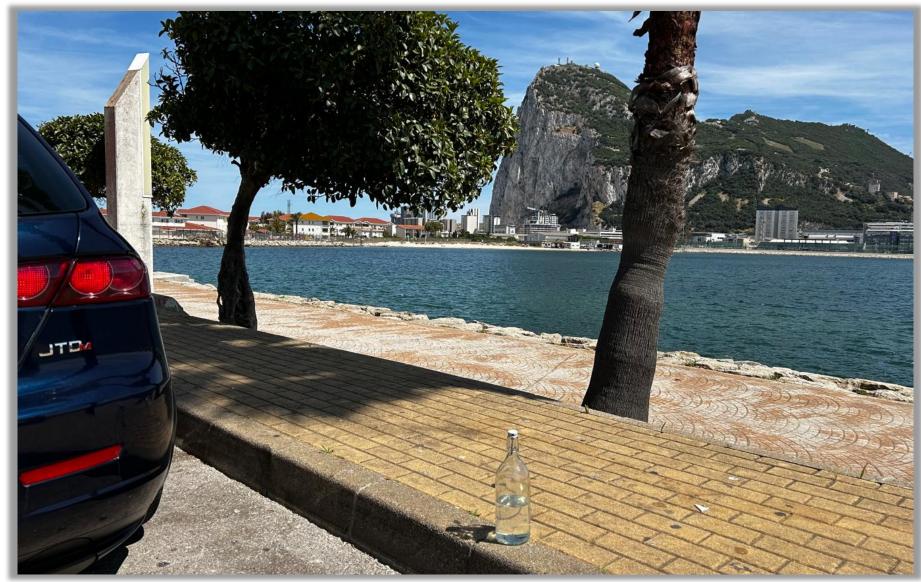
(Pictures: eFuelsNow)



8.0 Travel impressions























Impressions of the Spanish south coast near Almeria. (Pictures: eFuelsNow)





HVO100 refuelling directly on the south coast of Spain, not far from Almeria. You can hear and smell the mediterranean sea next to the petrol pumps. HVO100 is almost odourless. (Image: eFuelsNow)









At Repsol, you can fill up with HVO100 as well as 100% renewable waste-based petrol. Standard petrol and diesel fuels also contain 10% renewable content. Prices in Spain for 100% renewable fuels were €1.91/litre for petrol and between €1.58 and €1.85/litre for diesel (Repsol, Cepsa). Furthermore, Repsol customers can save up to 30 pence/litre if they deliver authorised waste materials to one of the 450 stations (as of summer 2024), which are then used for fuel production. The image below right shows a corresponding collection container. (All images: eFuelsNow)











On the southern coast of Spain, not far from Almeria... (Images: eFuelsNow)

















Left: Cepsa petrol station between Madrid and Valencia; right: refuelling with HVO100 in Vigo (north-west Spain, price tag from Madrid with 100% renewable petrol and diesel; freshly washed, the Alfa is heading towards its 400,000th kilometre (images: eFuelsNow)





Travel impressions from Vigo in north-western Spain (images: eFuelsNow)











Travel impressions from Vigo in north-western Spain (images: eFuelsNow)















Over 10,000 kilometres through southern Europe with HVO100 Diesel fuel







No, this is not southern England. Travel impressions from Asturias (northern Spain) and Santiago de Compostela (top right) (images: eFuelsNow)









Luarca, Asturias, Northern Spain (Image: eFuelsNow)









Rest stop on the motorway between Madrid and Valencia. Petrol stations usually sold ready-made paella from the microwave (nicknamed 'Repsol paella').

(Images: eFuelsNow)















In Portugal, you can currently (as of summer 2024) only refuel with a corresponding customer card (e.g. Repsol Solored, Galp, Prio etc). Above Tejo Bridge in Lisbon and Lisbon city centre (Pictures: eFuelsNow).









Travel impressions from Portugal

Pictures left: Gafanha da Encarnação, Portugal

Picture top right: Orange trees in southern Portugal between Faro and Lisbon

Picture bottom right: Motorway through the Portuguese mountains near Coimbra











Travel impressions from southern Portugal
(All pictures: eFuelsNow)









and diesel fuels made from waste and residual materials at one of the two petrol stations.

Romano Energy supplies not only the Monegasque royal family but also F1 racing teams. (Pictures: eFuelsNow)





With HVO100 on the Autostrada dei Fiori, on the Ligurian Mediterranean coast between Ventimiglia and Genoa. (Picture: eFuelsNow)



















Impressions, Venice on the left, near Florence, top right, tunnel on the Ligurian coast









Pictures right: HVO paradise Italy. You can even fill up in the smallest mountain villages. Nowhere is the density of petrol stations and the supply of HVO fuels greater than in Italy. At ENI, HVO100 (HVOlution) is 5-10 cents cheaper than fossil diesel (B7) in summer 2024.

Optionally, you can also get a 15% HVO blend (Diesel+).

Below: Alfa Romeo 1750 GT from the 60s

Pictures left: Ligurian coast















Ventimiglia, near the border with France (Monton) Pictures: eFuelsNow









Travelling impressions from San Marino with the only HVO station in town (Diesel + / HVO15). The prices are the same as in Italy.











Cote d'Azure, and Menton, At the time of travel, in summer 2024, there was still no HVO100 station in France. In September, however, sales began at the first stations there too. After refuelling in Italy, on the border with France, we reached the first Spanish station with a half-full tank.

Pictures: eFuelsNow







Return journey through Slovenia. After the trip, the first HVO100 stations for lorries were introduced. Currently, the blend is fluctuating (Petrol IQ QMax Diesel). Pictures: eFuelsNow













Stopover with refuelling on the journey back in Salzburg. (Pictures: eFuelsNow)







Over 10,000 kilometres through southern Europe with HVO100 Diesel fuel









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Costa Brava near Lloret de Mar close to Barcelona. (Image: eFuelsNow)