

# Presse Release



Stuttgart, April 2024

## 6300km (3900 miles) across southern Europe, with nearly climate-neutral fuel.

A 13-day tour along its HVO map of over 12,000 filling stations was organised by the German association eFuelsNow e.V, a group of engineers. During the tour, a synthetic, residue-based diesel fuel (HVO100 / XTL) was refuelled. Overall, the CO2 footprint was reduced by up to 87% (27g CO2/km) over the entire route (96-97% HVO content). The tour started near Stuttgart and went via Italy to the Greek capital city of Athens. From there it went to Malta and then back via Rome to southern Germany.

### Tour vehicle with a sensational lifecycle balance and without official HVO manufacturer approval

The tour was driven in a Alfa Romeo 159 2.0 JTDm (built in 2011, without modifications). The car has travelled almost half of its almost 400000 km (=249000 miles) with HVO100 (approx. 200000 km = 124000 miles or 5 times around the equator). Although the manufacturer has not officially approved the engine for HVO/XTL, there have never been any problems. Manufacturers of the fuel, such as Neste, point out that their product is suitable for all diesel engines. The engine also runs much more smoothly and dynamically and achieves lower emission values.



### During the entire tour, only 25 minutes on petrol stations

Many drivers are not aware that petrol and diesel fuels offer unrivalled energy density. A normal car can be refuelled with 35 litres per minute. Therefore, the filling system achieves a capacity of 18000KW. Filling an empty tank takes less than 2 minutes. The car is then ready to go again for another 1100 climate-friendly kilometres. The price of HVO diesel fuel in Italy is sometimes even 5 to 10 cents cheaper than fossil diesel. We paid on average 1.81Eu/L for the entire journey.



### What exactly is HVO?

The fuel is produced from a wide variety of biogenic waste. This does not necessarily have to be made by vegetable-based fats or oils. A wide variety of waste materials are suitable. These can be forestry waste, residues from the fish and paper industry and much more. The list of residues that can be used is very long. The main thing is that the waste does not contain any fossil carbon. The CO2 reduction is based on the principle of the CO2 cycle, as we find it everywhere in nature. Dr Olaf Toedter, project manager for reFuels at Karlsruhe Institute of Technology (KIT), underlines that HVO is not an e-fuel. But both fuels (HVO and e-fuel) are reFuels and, as diesel, they comply with the standard for synthetic diesel fuels (DIN EN 15940). In terms of quality, HVO is superior to its fossil predecessor in almost all areas. It is only approx. 6% lighter. Dr Toedter points out that HVO shouldn't be compared with biodiesel. It is odourless, water-clear and very compatible to the materials. Furthermore, emissions are reduced.

### Outstanding electricity efficiency

Prof Dr Thomas Willner from the University of Hamburg (HAW) is also working in fuel research. He mentions the extremely high electricity efficiency. With HVO you can even drive more efficient than with an electric vehicle. That's because a lot of energy is already stored in the residual material. Therefore, very little electricity is required during the refinery process. HVO diesel fuel is automatically created as a co-product during the production of aviation fuel.

### On average, every 25 kilometres (15 miles) an HVO100 station

The European HVO fuelling station network is very well developed in many countries. During the tour of almost 6300 kilometres (3900 miles), the Alfa reached a station with HVO100 every 25 kilometres (15 miles) on average. HVO blends included, there was a station every 4.4 kilometres (2,7 miles). The fuel is very common in northern and southern Europe in particular, but also in the Benelux countries and California. In Italy alone, almost 1000 fuel stations added HVO100 to their range within around 11 months.

In Spain and Portugal, several providers have announced a total of around 800 stations by the end of 2024. In some Nordic countries and in California, between 20 and 50% of the entire diesel market is already supplied with HVO. In California in particular, it is only possible to fill up with HVO95 at many filling stations. Although most diesel vehicles there are still designed for fossil fuels, there are no problems reported. Millions of diesel vehicles in these countries have been refuelled with HVO every day for around 10 years. There have never been any problems. This step has significantly reduced CO2 emissions in the transport sector. The engineers at eFuelsNow do the same. They use HVO100 in all of their private diesel vehicles, even without XTL certification.

### **HVO is an important part of a climate-friendly future**

Prof Willner and Dr Toedter constantly point out that there is a large amount of unused waste. They underline that there is a global waste problem. The high national HVO shares in some countries and the rapidly growing worldwide supplier network symbolise the potential for further expansion. According to a calculation by Neste, around 1000 megatonnes of these climate-friendly fuels could be produced each year if all waste materials were used at full production capacity. This corresponds to around 40% of global transport requirements (road transport, ships and aircrafts). These figures are also identical to Prof Willner's calculations. Furthermore, according to a study submitted to Prof Willner, there is still a large HVO potential of approx. 200 megatonnes per year based on jatropha. Jatropha grows in desert areas where nothing else grows. The entire fuel requirement of the EU can be covered with this quantity. Such opportunities should be used. During the trip around Southern Europe, it became clear that vehicles with petrol and diesel engines will be an essential part of the future. This has to do with the volatile electricity network, for example in Italian mountain villages, and the physical limits of electrical power distribution. Not forgetting the comparatively simple and cheap repair of diesel and petrol-powered vehicles due to the many small parts. HVO can be used immediately. It is not only the most electricity-efficient, but also the most cost- and time-efficient solution for climate friendly road transport. Especially the time factor plays a major role. According to figures from Swedish environmental authorities, HVO has by far the greatest climate impact.



### **Technical information and education is absolutely essential**

Dr Toedter and Prof Willner emphasise the importance of technical information and education. They are aware that not everyone wants to see defossilised fuels available at filling stations. This is probably why some incorrect arguments are communicated again and again. This leads to delays and non-achievement of climate goals. And this is why the scientists are working together with the engineers of eFuelsNow.

### **Who is eFuelsNow ?**

The members of eFuelsNow are committed to a market-based climate protection. The climate targets can only be achieved with all people. After all, the people ultimately have to implement the climate protection measures in their lives and to pay for it. It is not a question of being for or against any special technology. The aim is to be able to use ALL solutions so that there is a practical solution for EVERY motorist. Last but not least, climate protection requires money from a properly functioning industry with flexible and efficient passenger and cargo transport. This is the only way to finance modern GreenTec Innovations. It's the energy that counts, not the type of the engine. The Engineers of eFuelsNow are therefore demanding a higher blending share in national fuel markets. Otherwise, cars will continue to run on fossil fuels.

### **Travel report and sources**

A detailed tour analysis, including social studies on the subject of mobility, can be found at this link. It also contains sources for the information mentioned here:

[https://efuelsnow.de/hvo-tours/italy\\_and\\_southern\\_europe](https://efuelsnow.de/hvo-tours/italy_and_southern_europe)

Film about the HVO road trip :

<https://www.youtube.com/watch?v=naftmQMxr4>

The current map of HVO filling stations can be found under this link:

<https://efuelsnow.de/tankstellen-karte>



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### **Contact and note:**

Important: Please include the specified links in online-publications! Further press photos are available on the website.

If you have any questions, don't hesitate to contact us: [info@efuelsnow.de](mailto:info@efuelsnow.de)

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