

E-fuels are necessary to meet EU's transport sector climate goals

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New study by the German Energy Agency (dena) and Ludwig-Bölkow-Systemtechnik (LBST) on behalf of the German Association of the Automotive Industry (VDA) – E-fuels massively reduce CO₂ across entire transport sector – policymakers should draw up a strategic agenda

We need renewably sourced synthetic fuels to meet the EU's climate goals for the transport sector. Even in a heavily battery-powered transport scenario, e-fuels will still account for more than 70 percent of the EU's final energy consumption across all modes of transport in 2050. Although currently very expensive, e-fuels are set to become more affordable. These are the core statements of a study by dena and LBST presented for the first time today in VDA.

The study, *'E-fuels – The potential of electricity-based fuels for low emission transport in the EU'* investigated the future energy requirements of Europe's transport sector and thus the extent to which capacity for generating renewable energy needs to be expanded as a result. This then provided a basis for analysing the level of investment required to achieve a 95-percent reduction in transport-induced greenhouse gas emissions.

'Our study shows that we have to significantly broaden and intensify our environmental and transport policy efforts if we are to meet the EU's climate goals. And e-fuels will play a key role here, essentially as a low emission fuel for air, maritime and road freight transport. Looking ahead however, private passenger vehicles will also require carbon-neutral

liquid and gaseous fuels made from renewable electricity, if we are serious about the climate goals for 2030 and beyond,' says Andreas Kehlmann, dena's Chief Executive.

According to the study, Europe's technological potential for renewable electricity production is currently sufficient to satisfy long-term demand for transport energy and e-fuels. However, this presupposes a massive expansion of electricity production from renewable sources.

'The projected demand for renewable electricity for the entire EU transport sector in the year 2050 is about seven to ten times higher than the EU's current annual renewable energy production volume. And e-fuel production would account for a good 80 percent of this,' explained Uwe Albrecht, Managing Director of Ludwig-Bölkow-Systemtechnik. Mr Albrecht also stated that an e-fuels roadmap is urgently required at the national, EU and international level to ensure capacity is available in good time and on a requisite scale.

E-fuels do not contradict the ramp-up of electric mobility. 'Wherever technically possible and ecologically meaningful, transport should be electrified or partially electrified. E-fuels will however be essential for decarbonising transport in those cases that, from our present vantage point, will not be able to use an electric powertrain. Future mobility will therefore require a mix of different technologies. Germany as the cradle of the automotive industry should not shy away from any of these technologies or go so far as to actually prohibit any of them. Policymakers should set goals but not prescribe how we get there,' said Matthias Wissmann, President of the German Association of the Automotive Industry (VDA). He then went on to say that, 'Synthetic fuels mean we can continue to use existing petrol stations and engines. E-fuels thus impact the EU's entire vehicle stock, and not just newly registered vehicles. This makes it an effective lever for CO₂ reduction and also opens up new options for the combustion engine.'

The study points out that e-fuels are currently in the development and pre-market phase and therefore substantially more expensive than their fossil counterparts. At present, e-fuels cost up to 4.5 euros per litre diesel equivalent. According to the experts however, imports from regions with substantial sun and wind capacity mean that costs of around 1 euro per litre diesel equivalent would appear feasible from today's perspective. Policymakers and industry should therefore draw up a strategic agenda for technology and market development and e-fuel regulation. A cross-industry e-fuel platform would help to initiate and coordinate this process in good time.

Download the study at:

<https://www.vda.de/de/services/Publikationen/the-potential-of-electricity-based-fuels-for-low-emission-transport-in-the-eu.html>

Contact:

Eckehart Rotter

VDA – Press Department

Tel: +49 30 897 842 – 120

Email: rotter@vda.de

Stella Matsoukas

Deutsche Energie-Agentur (dena)

Deputy Communications Manager

Tel: +49 (0)30 66 777 - 610

Email: matsoukas@dena.de

Dr. Uwe Albrecht

Ludwig-Bölkow-Systemtechnik GmbH (LBST)

Managing Director

Tel: +49 89 608110-0

Email: info@lbst.de

German Association of the Automotive Industry (VDA), Behrenstraße 35, 10117 Berlin

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