Danish Agro

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Open-minded and forward-thinking: CLAAS is exploring alternatives to diesel

Agricultural machines are among the most challenging cases when it comes to decarbonisation. CLAAS is actively engaged in research and development to identify the most sustainable, practical and cost-effective solutions for various on-farm applications. The main focus is battery-powered systems for applications in and around the farmyard, as well as alternative fuels for heavier machine classes.

Alternatives to fossil diesel such as hydrogen and biofuels enable farms to reduce their carbon footprint. CLAAS has adopted an open-minded approach to technology and is considering all climate-friendly drive options. As part of

a broad-based consortium comprising reputable partners from industry and research, including MAHLE, DEUTZ, KIT, the German Aerospace Center (DLR), Purem, the Technical University of Braunschweig, Liebherr, Nagel, Umicore, NGK and Castrol, CLAAS is now studying the use of hydrogen engines in agricultural scenarios for a research project funded by the Federal Ministry for Economic Affairs and Climate Action. The overall project has received funding worth 5.1 million euros and is supported by TÜV Rheinland.

Due to their inherent efficiency, robustness and low emissions, hydrogen engines offer many advantages which make them particularly well-suited to applications in construction and agricultural machinery. As part of this project, CLAAS will be demonstrating and analysing off-road applications based on vehicle concept studies and fleet and infrastructure systems. In addition, exhaust gas aftertreatment concepts will be devised and extensively tested. By investigating how hydrogen affects materials, studying frictional and wear characteristics and certifying these characteristics in engine trials, CLAAS will ensure that all the fundamentals needed for achieving the exceptional levels of robustness are addressed, including future emissions standards for NRMM (Non-Road Mobile Machinery).

In addition to researching hydrogen, CLAAS approved its current product portfolio to run on HVO diesel as early as 2023. Furthermore, a battery-driven concept for the SCORPION telehandler was unveiled at Agritechnica 2023. *"The key to successful decarbonisation is to match the technology to the application. Battery electric drives will have their place in low-power applications in and around the farmyard, while combustion engines with sustainable liquid fuels will play a leading role in higher-power applications. Of course, our research is also focussing on other alternatives such as hydrogen drives.“* says Dr. Martin von Hoyningen-Huene, Chief Technology Officer on the CLAAS Group Executive Board.

In the medium and upper power range, agricultural machinery can also leave a significantly reduced CO2 footprint when using combustion engines – currently with biofuels like HVO, and potentially in the future with hydrogen as an energy carrier

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About CLAAS

CLAAS (www.claas.com) is a family business founded in 1913 and is one of the world's leading manufacturers of agricultural machinery. The company, with Head Office in Harsewinkel, Westphalia, is the European market leader for forage harvesters. CLAAS dominates the European market in another core segment as well – combine harvesters. CLAAS also holds the top spots in global agricultural technology with its tractors as well as its agricultural balers and grassland harvesting machines. Cutting-edge agricultural information technology also forms part of its product range. CLAAS employs more than 12,000 staff worldwide and generated a turnover of 6.1 billion euros in 2023.

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