

WinGD to introduce first ethanol-fuelled marine two-stroke engine in 2026

Swiss marine power company WinGD will offer the first ethanol-fuelled two-stroke marine engine next year, with deliveries for newbuild and retrofit applications starting in 2027. The announcement follows a decade of investigation into ethanol fuel—including full-scale engine tests in 2018—and the successful launch of a methanol-fuelled engine that uses the same combustion concept and is subject to the same safety regulations as the new ethanol engine.

The new engine will be adapted from the X-DF-M methanol-fuelled engine, which has received strong feedback from first users and class societies approving the design. The diesel-cycle concept—available across the full range of bore sizes currently offered by WinGD—will feature an adapted control system and fuel injector nozzle arrangement to account for the higher energy density of ethanol and the consequently lower fuel volumes required.

WinGD has been studying ethanol fuel, which has a similar combustion and emissions profile to methanol, since 2014 beginning with a project financed by the Swiss Federal Office of Energy. WinGD later led work to develop a flexible injector for alcohol fuels as part of the EU-funded HERCULES 2 project starting in 2016. Ethanol can be produced renewably from biomass and is prevalent at a competitive price in some national markets, driving interest in the new fuel.

WinGD VP R&D Sebastian Hensel said: “This announcement is further evidence of the strength of our research programme. Our early ethanol explorations were crucial to the successful development of our X-DF-M methanol engine, and now both are enabling the rapid commercialisation of the first ethanol-fuelled two-stroke engine. As global emission regulations are set to be passed, we’re pleased to be able to offer a further lower carbon alternative to ship owners and operators”

WinGD is in discussions with several ship owners, ethanol fuel suppliers and class societies about the first commercial applications of its ethanol engine—and will confirm at a later date whether the engine will be optimised for ethanol or optimised for methanol with secondary ethanol capability. WinGD also recently became a founding member of the Global Ethanol Association in an effort to connect key enablers in the ethanol value chain.

Hensel concluded: “With our long experience of and deep commitment to developing ethanol as a marine fuel, ship owners can be confident that we will deliver an engine design with similar robust performance, efficiency and reliability as WinGD’s existing dual-fuel engine portfolio.”

Further details will be made available in WinGD’s Low-Speed Engines Booklet in early 2026.

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WinGD in brief

WinGD advances the decarbonisation of marine transportation through sustainable energy systems using the most advanced technologies in emissions reduction, fuel efficiency, hybridisation and digital optimisation. With their two-stroke low-speed engines at the heart of the power equation, WinGD sets the industry standard for reliability, safety, efficiency, and environmental design - supported by Global Service by WinGD, which delivers tailored 24X7 lifecycle engine support through Swiss engineering excellence, dependable maintenance, rapid global response, and genuine parts to keep engines performing at their best.

Headquartered in Winterthur, Switzerland since its origin as the Sulzer Diesel Engine business in 1893, today it is powering the transformation to a sustainable future.

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