
Press release

Copenhagen, 28.01.2022

MAN Energy Solutions SE
Tegholmegade 41,
2450 Copenhagen SV,
Denmarkwww.man-es.com

Group Communications
Nils Søholt
P +45 33 85 26 69
Nils.Soholt@man-es.com

Dual-Fuel Retrofits of Low-Speed Engines Key in Push towards Decarbonisation

Dual-fuel retrofits already proven on MAN B&W low-speed engines; potential emission savings of more than 80 million tons CO₂ annually when fueled by carbon-neutral fuels.

In light of the emerging trend for decarbonisation within the marine sector, MAN Energy Solutions notes that the modular design of the conventionally fuelled, low-speed ME-C engine portfolio lends itself to extensive retrofit options in regard to alternative green fuels, and that such retrofits already have a proven track record.

Thomas S. Hansen, Head of Promotion and Customer Support, MAN Energy Solutions, said: "At MAN Energy Solutions, we design and service many of the global fleet's low-speed engines, in effect contributing to worldwide CO₂ emissions. As a result, we feel a great responsibility in pursuing decarbonisation and thus we are pleased that many sources predict that more than half of all newbuildings will specify dual-fuel engines after 2025. Since ships have an average lifetime of around 25 years, the retrofit of vessels will be necessary in order for the industry to decarbonise."

Indeed, as the demand for engines and ships designated 'future-fuel ready' increases, MAN Energy Solutions – through its after-sales division, MAN PrimeServ – has a proven, unique track-record with such conversions and has already completed 16 such projects with the first dating back to 2015.

Customers can benefit from the fact that all of MAN Energy Solutions' conventionally-fueled ME-C low-speed engines ordered today can be converted to alternative fuels at a later time when the future-fuel landscape is more clear.

MAN Energy Solutions presently offers multiple options for the retrofit conversion of ME-C engines – including their -GI (LNG), -GIE (ethane), -LGIP (LPG) and -LGIM (methanol) variants – and is steadily working towards being able to offer a retrofit option using ammonia as fuel, preferably meeting vessels' five-year docking schedules after Q1 2025.

Conversion potential

Klaus Rasmussen, Head of Projects and PVU Sales, MAN PrimeServ, said: "A massive number of vessels in the current, ocean-going fleet have the potential for conversion, and our broad and continuously expanding portfolio of dual-fuel engines offers extensive options when it comes to retrofitting. The huge market potential within, for example, S/G50-, G95- and G80-bores for conversion to methanol running as ME-LGIM units is especially notable."

MAN Energy Solutions' engine designs currently drive some 22,000 vessels globally, of which 3,500 are fully electronically controlled and with the potential for

conversion to operate on alternative, green fuels. It has further evaluated that approximately 2,300 or so of these vessels are appropriate candidates for retrofitting, resulting in savings as much as 86 million tons CO₂ emissions annually when fueled by carbon-neutral fuels.

Hansen added: “Today, ship owners trust us when ordering our proven, dual-fuel technology. However, they also trust our conventionally fueled engines, safe in the knowledge that we can convert them to operation on whatever future-fuel might be relevant in 5-10 years from now. A recent, prominent example of this is our successful retrofit work for the BW LPG fleet.”

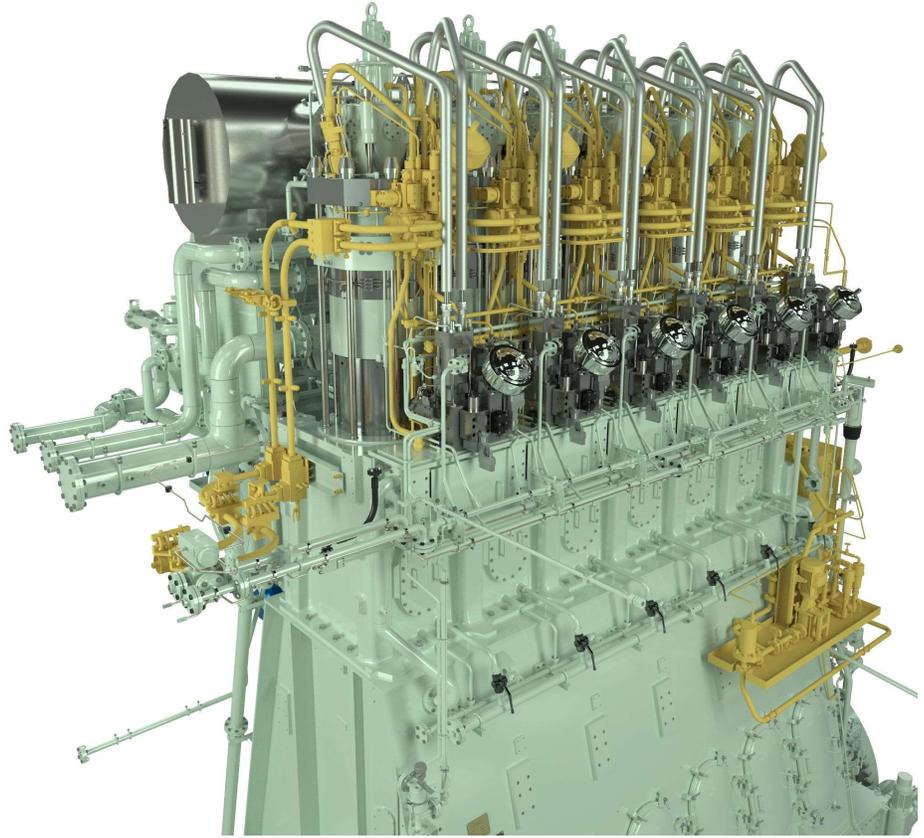
BW LPG conversions

In December 2020, Oslo-listed BW LPG – the world's leading owner and operator of LPG vessels – announced that it would retrofit a further three MAN B&W 6G60ME-C9.2 type engines to MAN B&W 6G60ME-C9.5-LGIP dual-fuel types, capable of operating on fuel oil and LPG. This brought the number of such conversions announced by the company to 15 with all to be carried out by MAN PrimeServ.

BW LPG previously commented on its choice of retrofits over newbuildings where Pontus Berg, Executive Vice President, Technical and Operations, LPG, said: “Retrofitting allows us to minimise our carbon footprint – the process emits up to 97% less carbon dioxide compared to a newbuilding construction. Retrofitting also means that we do not add additional tonnage that the world does not need. In addition, BW LPG’s fleet is already widely recognised amongst charterers for its efficiency, and so retrofitting its vessels to dual-fuel LPG would help to further reinforce the company’s strong reputation in this area.”

Fuel types	MC	ME-B	ME-C	ME-GI	ME-GA	ME-GIE	ME-LGIM	ME-LGIP
0-0.50% S VLSFO	Design	Design	Design	Design	Design	Design	Design	Design
HFO	Design	Design	Design	Design	Design	Design	Design	Design
Biofuels	Design	Design	Design	Design	Design	Design	Design	Design
LNG	-	-	Retrofit	Design	Design	Retrofit	Retrofit	Retrofit
LEG (Ethane)	-	-	Retrofit	Retrofit	-	Design	Retrofit	Retrofit
Methanol	-	-	Retrofit	Retrofit	-	Retrofit	Design	Retrofit
LPG	-	-	Retrofit	Retrofit	-	Retrofit	Retrofit	Design
Ammonia	-	-	Retrofit	Retrofit	-	Retrofit	Retrofit	Retrofit

The modular design of MAN B&W-branded low-speed engines enables extensive retrofit options



Rendering of an MAN B&W 6G50ME-LGIM dual-fuel engine capable of burning methanol

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.