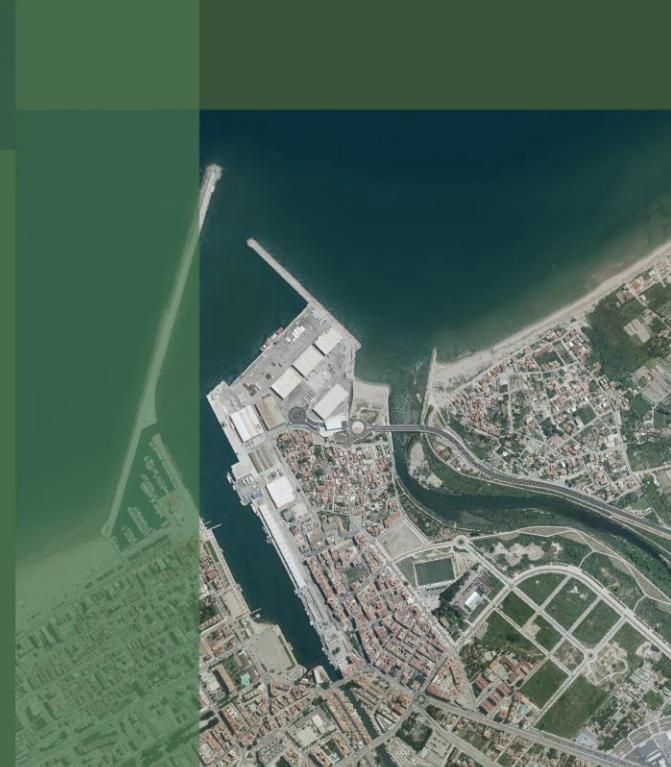


# JORNADA 5 DE JUNIO 2025

## NUEVOS COMBUSTIBLES

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# Disclaimer

All data provided in this document is non-binding.  
This data serves informational purposes only and is especially not  
guaranteed in any way. Depending on the subsequent specific  
individual projects, the relevant data may be subject to changes and  
will be assessed and determined individually for each project.  
  
This will depend on the particular characteristics of each individual  
project, especially specific site and operational conditions.

# Everllence - Motores duales de dos tiempos

# 1750+

RETROFITS

Metano ME-GI & ME-GA	Diesel 971	Otto 270
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Metanol ME-LGIM	Diesel 218	HVO, FAME, Blends
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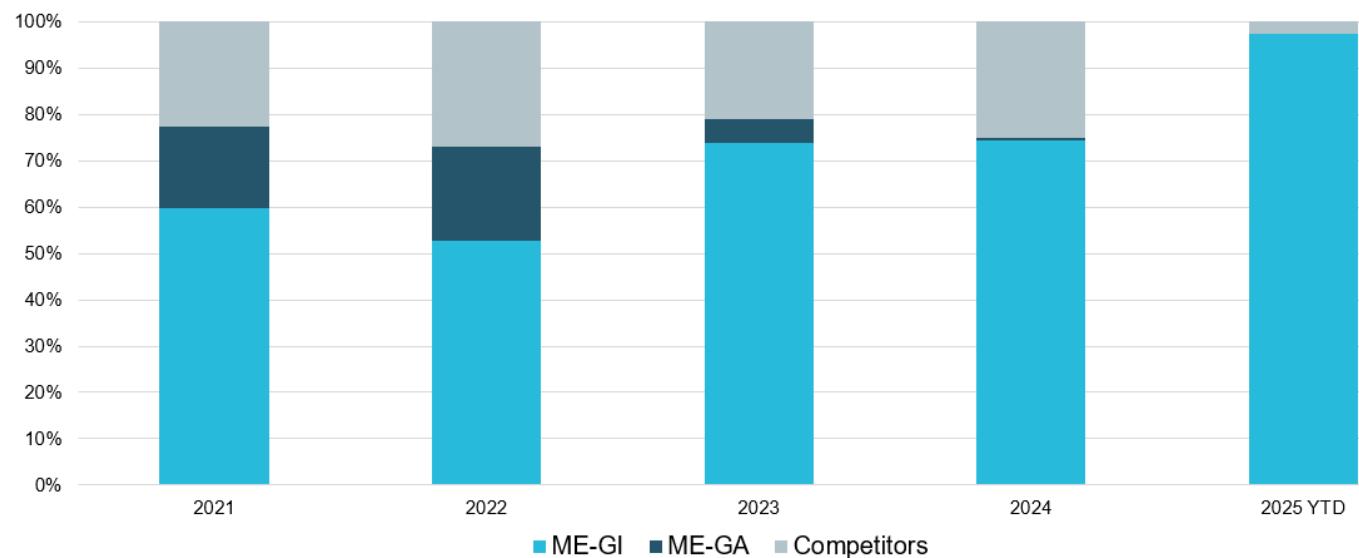
LPG ME-LGIP	Diesel 270
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Etano ME-GIE	Diesel 89
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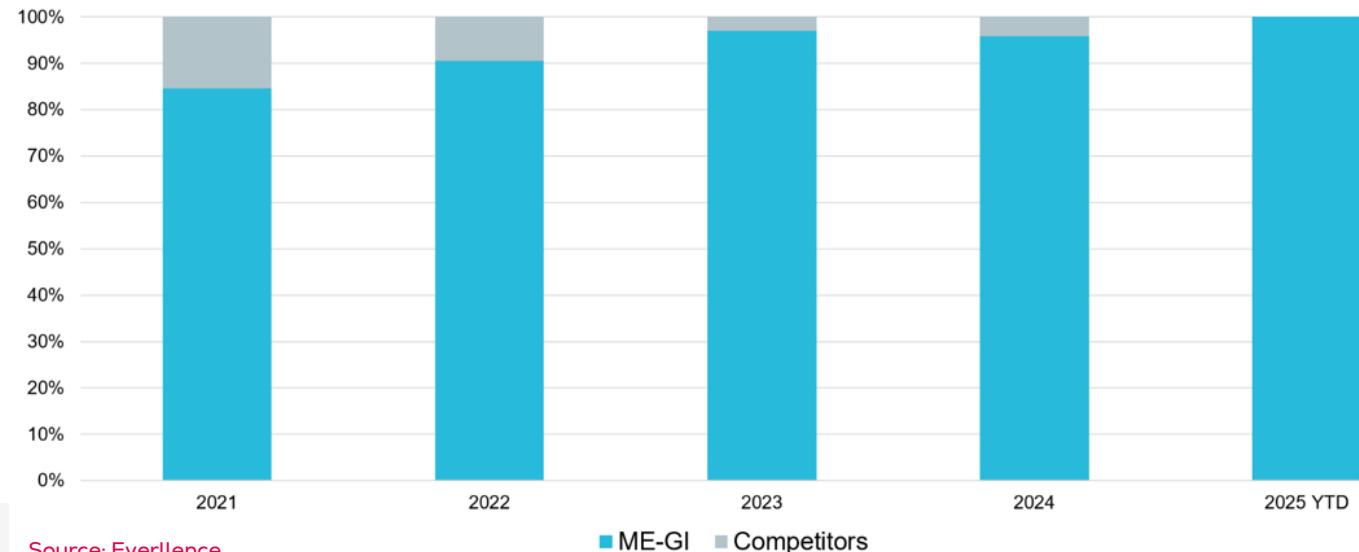
Amoniaco  
→

# Motores de dos tiempos duales fuel-metano. Nuevas construcciones. Tecnología Diesel (alta presión) vs Otto (baja presión). En base a potencia

Contratación nuevas  
construcciones  
2021-2025  
En base a potencia  
Todo tipo de buque  
Incluidos metaneros



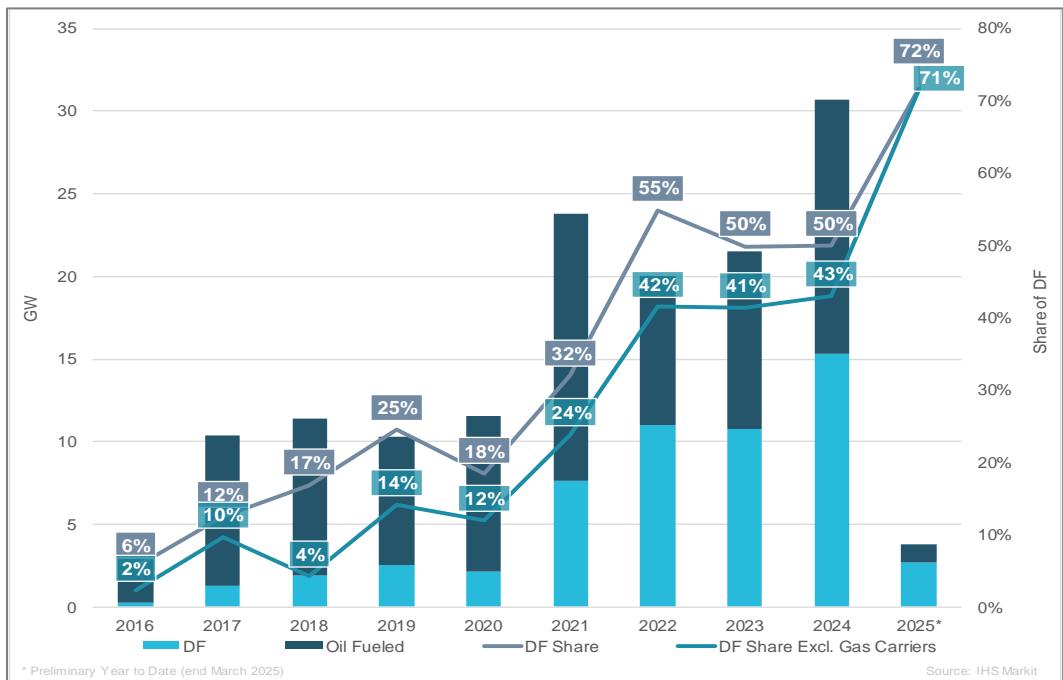
Contratación nuevas  
construcciones  
2021-2025  
En base a potencia  
Todo tipo de buque



# Contratación de motores duales de dos tiempos

## Contratación motores 2-Tiempos. Todas las marcas

En base a potencia (marzo 2025)

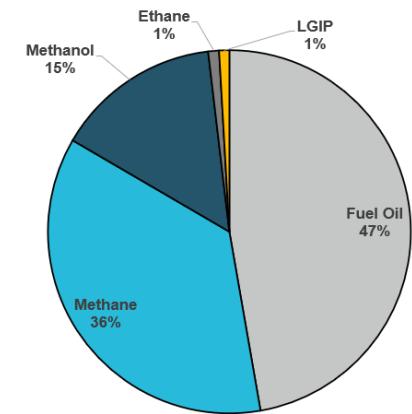
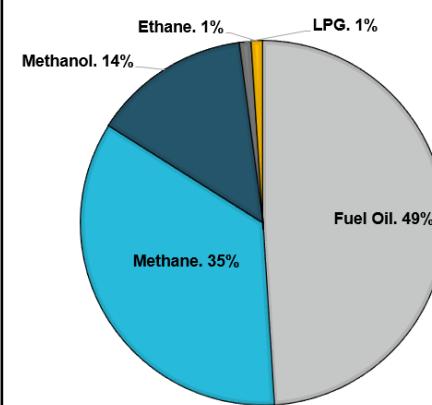
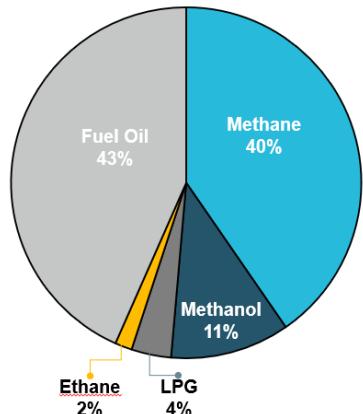


2024  
1700 pedidos  
Todas las marcas  
En base a potencia

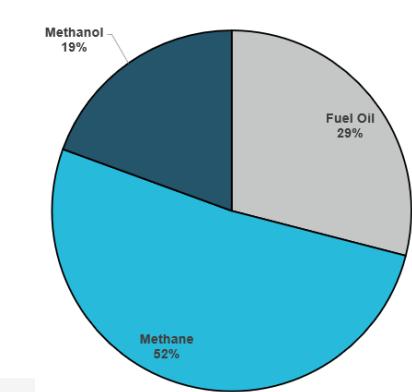
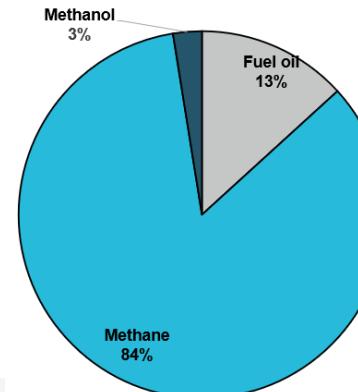
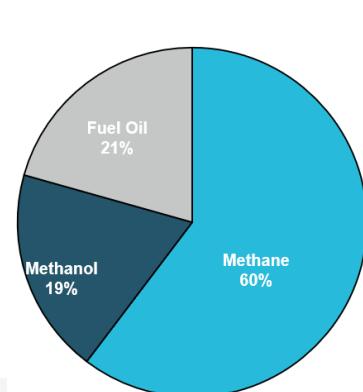
Marzo 2025  
Pedidos Everllence  
En base a potencia

Marzo 2025  
700 proyectos  
En base a potencia

## Todo tipo de buque



## Portacontenedores



# Estado del desarrollo del motor dual fuel-amoníaco MAN ME-LGIA

**En 2019:** se inicia el desarrollo

**Julio 2023 a julio 2024:** Prueba exitosa en un cilindro en motor de R&D en Copenhague, incluyendo carga al 100%.

**Noviembre 2024 hasta la fecha:** Pruebas en todos los cilindros en motor de R&D en Copenhague

**Enero 2025:** Motor a 100% de carga en operación con amoníaco.

**Febrero 2025:** Puesta en marcha del primer motor comercial de amoníaco en Mitsui, Tamano, Japón.

Varios proyectos piloto con motores ME-LGIA de diferentes tamaños G50, S60, G60, G70 y G80. Su lanzamiento comercial completo al mercado se realizará tan pronto como el/los primer(os) buque(s) demuestren una experiencia operativa positiva en navegación utilizando amoníaco.

El calendario real dependerá del cronograma de entrega del astillero. Una estimación tentativa para el lanzamiento comercial de estos motores es finales de 2026.

El grupo de buques objetivo incluye principalmente VLACs (Very Large Ammonia Carriers), grandes graneleros y PCTCs (Pure Car and Truck Carriers).



**MAN Energy Solutions**

**Press release**  
Copenhagen, 30.12.2023  
[Mitsui E&S High Pressure SCR](#)

**Full-Scale Ammonia Engine Opens New Chapter**

Two-stroke engine testing in Copenhagen marks important milestone on path to dual-fuel ME-LGIA development

Mitsui E&S has announced the beginning of the last phase for the world's first commercial two-stroke dual-fuel ammonia engine. The MAN B&W TS60ME-C10.5 LGIA (Liquid Gas Injection Ammonia) Mk 10.5 prototype engine began its ammonia fuel-run at MITSU E&S' Tamano Factory in Japan.

Ole Pyndt Hansen, Head of Two-Stroke R&D, MAN Energy Solutions, said: "The use of ammonia as fuel can achieve carbon-neutral combustion when bio-fuel is used as pilot oil. In a similar manner to the use of bio-fuels for the reduction of de-carbonisation, especially in the maritime industry where reducing greenhouse gas emissions is a major concern, ammonia is a key element in the future of shipping. This is why we are so excited about the potential of ammonia in this pioneering project and have noted keen interest in the progress from external parties. To date, MAN Energy Solutions has secured several ammonia engine orders, including the world's first ammonia-fueled ship, the first ammonia-fueled vessel of the three major alternative fuels on the market – alongside methanol and methane."

Bjørne Frøslieger, Head of Two-Stroke Business, MAN Energy Solutions, said: "The market is hungry for any news related to our ME-LGIA development and this, the beginning of testing on the world's first two-stroke, full-scale ammonia engine, is a major milestone. We are currently in the process of finalising the design work for the segment of ammonia engines but it is equally as important for us to show the world that we are moving forward cautiously in a reliable and safety-first way. Now is the time to develop the technology and we look forward to revealing our progress at the appropriate time."

The test phase also includes verification of the safety and performance of MITSU E&S' independently-developed ammonia fuel-supply system, as well as other, peripheral systems.

Ole Pyndt Hansen, Head of Two-Stroke R&D, MAN Energy Solutions, said: "MITSU E&S has conducted a series of ammonia fuel tests on the ME-LGIA engine. These ammonia-fuel tests conducted at our Research Centre Copenhagen and it is essential to understand the unique characteristics of ammonia as a fuel. The engine's particular characteristics demand a careful approach and we have taken every precaution in reaching this point where we are comfortable handling it. Operational experience with ammonia-fuelled engines is still limited and there is a learning curve, and thus its market introduction will be subject to a positive service experience. We expect to have the first ammonia-fueled ship (of size 90-, 60-, 70- and 80-GW ME-LGIA engines) by the end of 2026, but the exact timing will be subject to the respective shipbuilding schedules."

Page 1 of 2

3.12.2024

**MAN Energy Solutions**

**Press release**  
Copenhagen, 17.02.2025  
[Mitsui E&S Tamano](#)

**MITSUI E&S Commences Full-Scale Ammonia Testing**

First commercial ammonia two-stroke engine takes next step towards market entry

MITSU E&S has announced the beginning of the last phase for the world's first commercial two-stroke dual-fuel ammonia engine. The MAN B&W TS60ME-C10.5 LGIA (Liquid Gas Injection Ammonia) Mk 10.5 prototype engine began its ammonia fuel-run at MITSU E&S' Tamano Factory in Japan.

The 6000-hp engine will eventually be installed aboard a 20,000-dwt bulk carrier under construction at the company's shipyard in Nagasaki, Japan, owned by ITOCHU Corp. It also features MAN Energy Solutions' proprietary HPSCR (High Pressure Selective Catalytic Reduction) system for IMO Tier III compliance.

Bjørne Frøslieger – Head of Two-Stroke Business – MAN Energy Solutions, said: "The use of ammonia as fuel can achieve carbon-neutral combustion when bio-fuel is used as pilot oil. In a similar manner to the use of bio-fuels for the reduction of de-carbonisation, especially in the maritime industry where reducing greenhouse gas emissions is a major concern, ammonia is a key element in the future of shipping. This is why we are so excited about the potential of ammonia in this pioneering project and have noted keen interest in the progress from external parties. To date, MAN Energy Solutions has secured several ammonia engine orders, including the world's first ammonia-fueled ship, the first ammonia-fueled vessel of the three major alternative fuels on the market – alongside methanol and methane."

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Page 1 of 2

17.02.2025

**MAN Energy Solutions**

**Press release**  
Copenhagen, 30.01.2025  
[Mitsui E&S Tamano](#)

**Full-Scale Ammonia Engine Runs at 100% Load**

Two-stroke ME-LGIA engine testing in Copenhagen passes further milestone on path to commercial market entry

MAN Energy Solutions has reported that its ME-LGIA Liquid Gas Injection Ammonia (ME-LGIA) engine, currently undergoing testing at its Research Centre Copenhagen (RCC) facility, has run at 100% engine load for the first time.

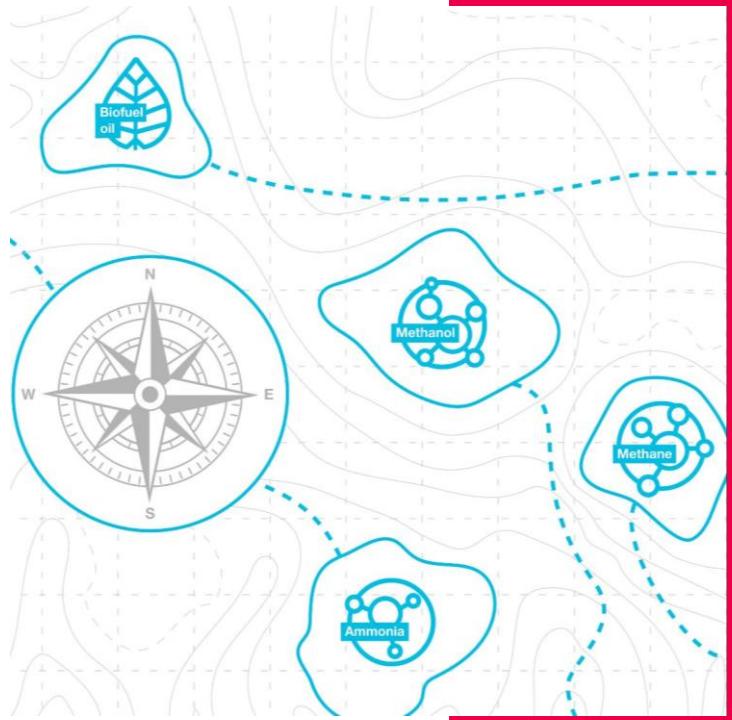
Ole Pyndt Hansen, Head of Two-Stroke Research & Development, MAN Energy Solutions, said: "We began full-scale testing in November 2024 and have since proved the engine's reliability and performance across a range of operating conditions, including ammonia fuel runs from 25–100% load, marking yet another important step forward in the maritime energy transition. As such, we have now validated the ammonia fuel-specific performance characteristics of the ME-LGIA engine, which is critical according to our targets. Furthermore, the positive emission and performance characteristics from previous, single-cylinder tests have now also been validated in full-scale testing."

MAN Energy Solutions states that its proprietary SCR (Selective Catalytic Reduction) was operational at all test loads to treat exhaust gases, and that all supply and safety systems worked as intended. It also says that the next phase of testing will involve further performance optimisation, including injection and SCR systems as well as control strategies.

Christian Lüdtke, Head of Global Sales & Promotion, Two-Stroke Business, MAN Energy Solutions, highlighted the ME-LGIA PTO (Power Take-Off) capability and said: "The ME-LGIA PTO is a significant milestone for the ME-LGIA engine, which makes it extremely suitable for PTO. Prior to this round of testing, we anticipated that the ME-LGIA would be very competitive in this regard. We are happy to see this replicated in real life. We intend to support PTO on the ME-LGIA to the same degree as with the other Diesel-cylinder engines in our low-speed portfolio."

Page 1 of 2

30.01.2025



# Muchas gracias

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