WÄRTSILÄ

SHAPING THE DECARBONISATION OF MARINE AND ENERGY

PRE-SILENT CALL

ARJEN BERENDS, CFO

JUNE 2022

STH – towards a more sustainable future

- Smart Technology Hub is the next step in **shaping the decarbonisation of Marine and Energy**
  - **Innovation for new products and solutions**
  - **Future fuels development**
  - **ROPAX Aurora Botnia as our floating test lab**
  - Region of Vaasa as a **key location for many industrial companies and talent**
  - Proximity to the harbour with great possibilities in **green shipping and smart port development**

STH will deliver the worlds first ammonia and hydrogen 4 stroke medium speed engines

The first W32 methanol engines will be delivered in early 2023

Several milestones on low/zero carbon technologies and products are planned for the upcoming years

Methanol

- 2015: First engine conversion ZA40S
- 2023: Delivery of first W32 methanol engines. Sales release of additional new build engines and engine conversion packages

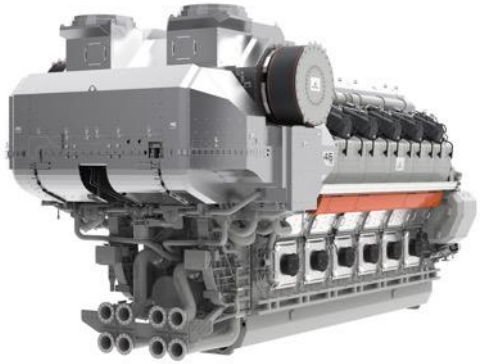
Ammonia

- 2022: Combustion and performance testing, optimization with different engine concepts and different engines platforms
- 2023: Ammonia concept ready

Hydrogen

- 2022-2023: Combustion testing on different % blends and up to 100% hydrogen
- 2025: Hydrogen concept ready

Newly launched engines are a stepping stone in our strategic path to shape decarbonisation of the maritime industry



W46TS-DF

- Best-in-class fuel efficiency and emissions performance
- First order booked for Royal Caribbeans' Utopia of the Seas

W32 Methanol

- Multifuel engine based on Wärtsilä's proven 32 engine technology
- Fuel tanks and fuel handling system
- First order booked for Van Oords' offshore wind construction vessel

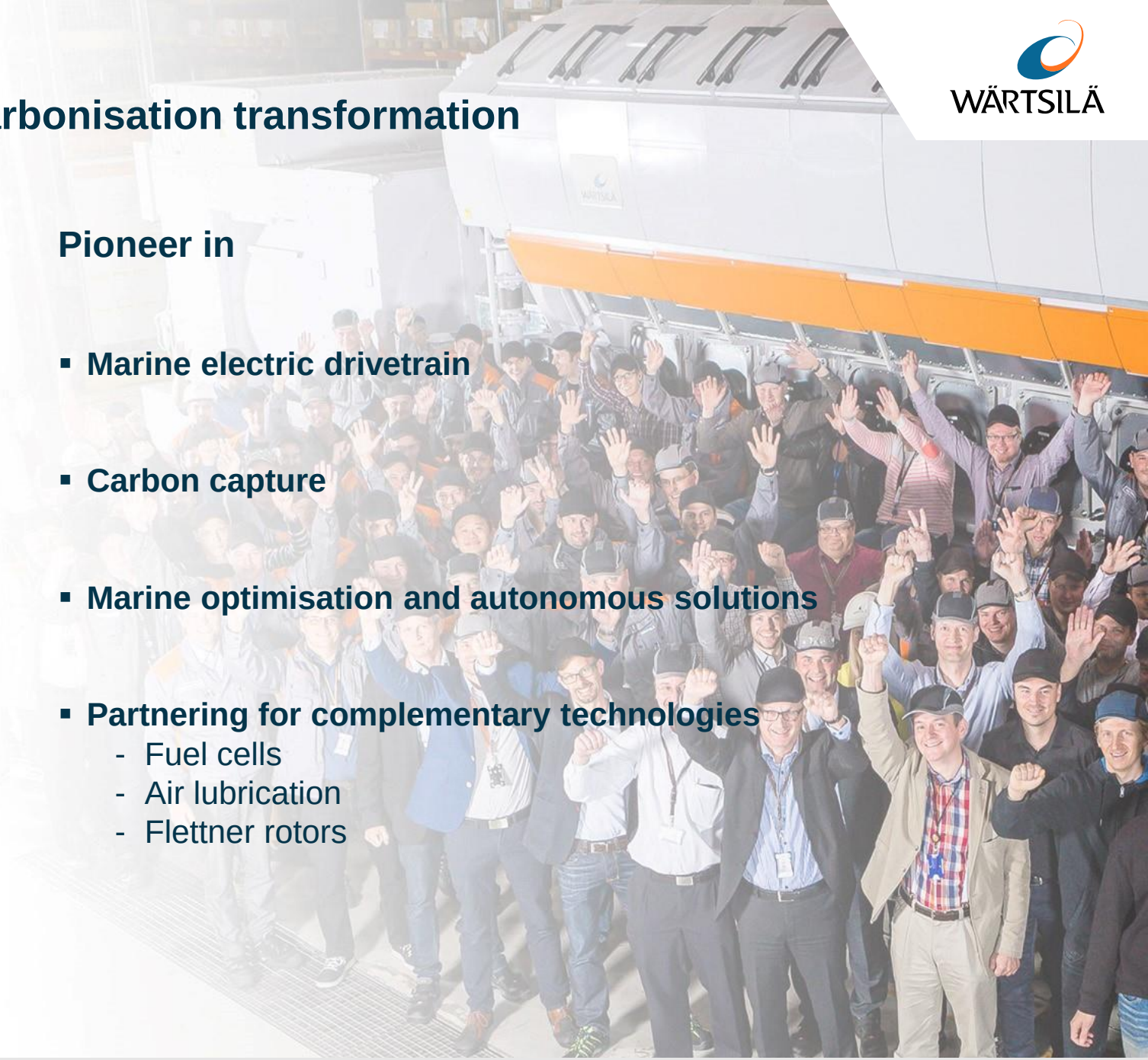
Wärtsilä is well-positioned for the decarbonisation transformation

Leader in

- **Carbon neutral & zero carbon fuels**
  - Available today: biofuels, methanol, up to 25% hydrogen blends
  - 2023: ammonia concept
  - 2025: 100% hydrogen concept
- **Energy efficient fuels**
- **#1 in marine hybrid power systems**
- **Power system optimisation**
  - Energy storage
  - Grid balancing power

Pioneer in

- **Marine electric drivetrain**
- **Carbon capture**
- **Marine optimisation and autonomous solutions**
- **Partnering for complementary technologies**
  - Fuel cells
  - Air lubrication
  - Flettner rotors

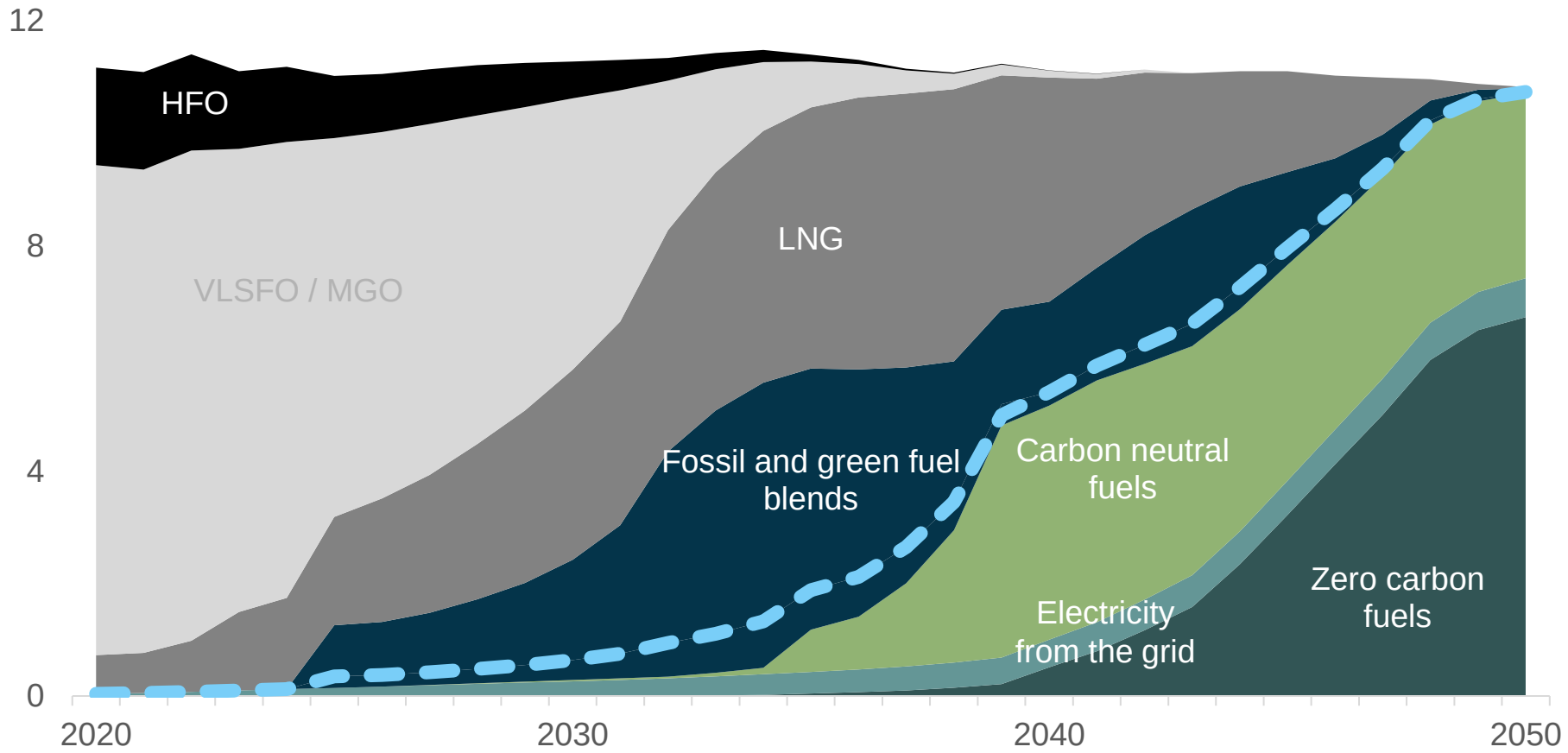


Adoption of new fuels is the key to decarbonising the maritime industry

High energy prices accelerate decarbonisation

Move from a single-fuel industry to a multi-fuel one

Distribution of fuel types for Decarbonisation 2050 (1.5ºC scenario), EJ



2050 is a single vessel's lifespan away - customers need to invest in fuel flexibility to avoid risk of stranded assets:

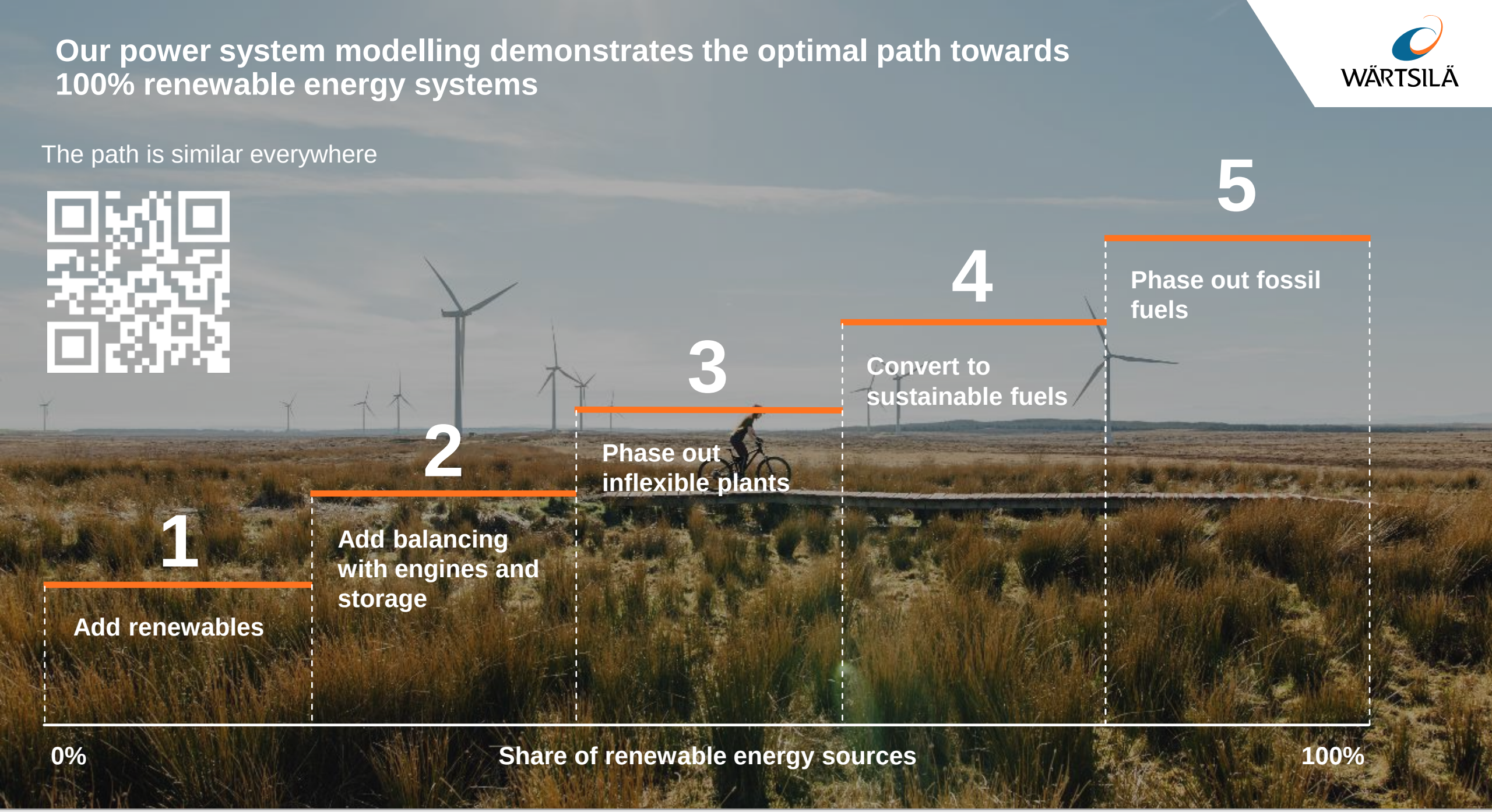
- Vessel life is 25-30 years
- Critical decision criteria:
  i) Multifuel capabilities for blending with green fuels
  ii) Conversion capabilities for future fuels

Carbon neutral and zero carbon fuels in maritime

Source: DNV Maritime Forecast 2050 model, Wärtsilä internal estimates

Our power system modelling demonstrates the optimal path towards 100% renewable energy systems

The path is similar everywhere



Significant value creation potential in Services

700+ vessels globally supported with lifecycle agreements: 90% of cases are solved remotely

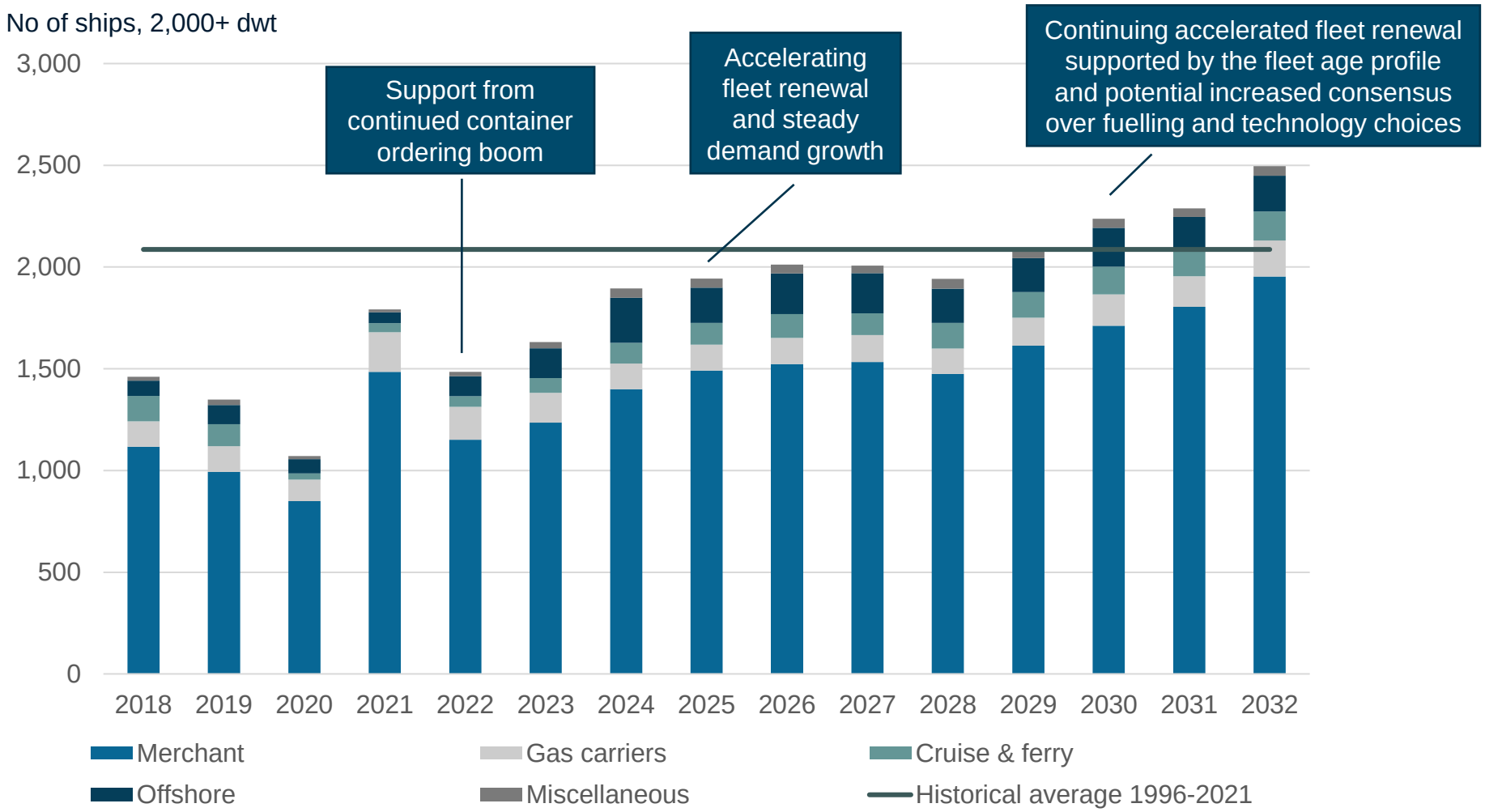
STH is the home of one of our advanced remote control centers

Wärtsilä signed an agreement renewal with Maran Gas

- Wärtsilä supports Maran Gas with an optimised maintenance agreement for a fleet of 21 LNG carrier vessels powered by Wärtsilä's 50DF engines
- The maintenance agreement has been recently renewed for 5 years
- The scope of the agreement includes:
  - Scheduled parts and maintenance work for the engines and turbochargers
  - Workshop services
  - Remote operational support
  - Dynamic maintenance planning
  - Wärtsilä's Expert Insight digital predictive maintenance solution

Our digital solutions will help our customers accelerate their journey to maritime decarbonisation

Vessel contracting expected to decline in 2022



Source: Clarksons Research, March 2022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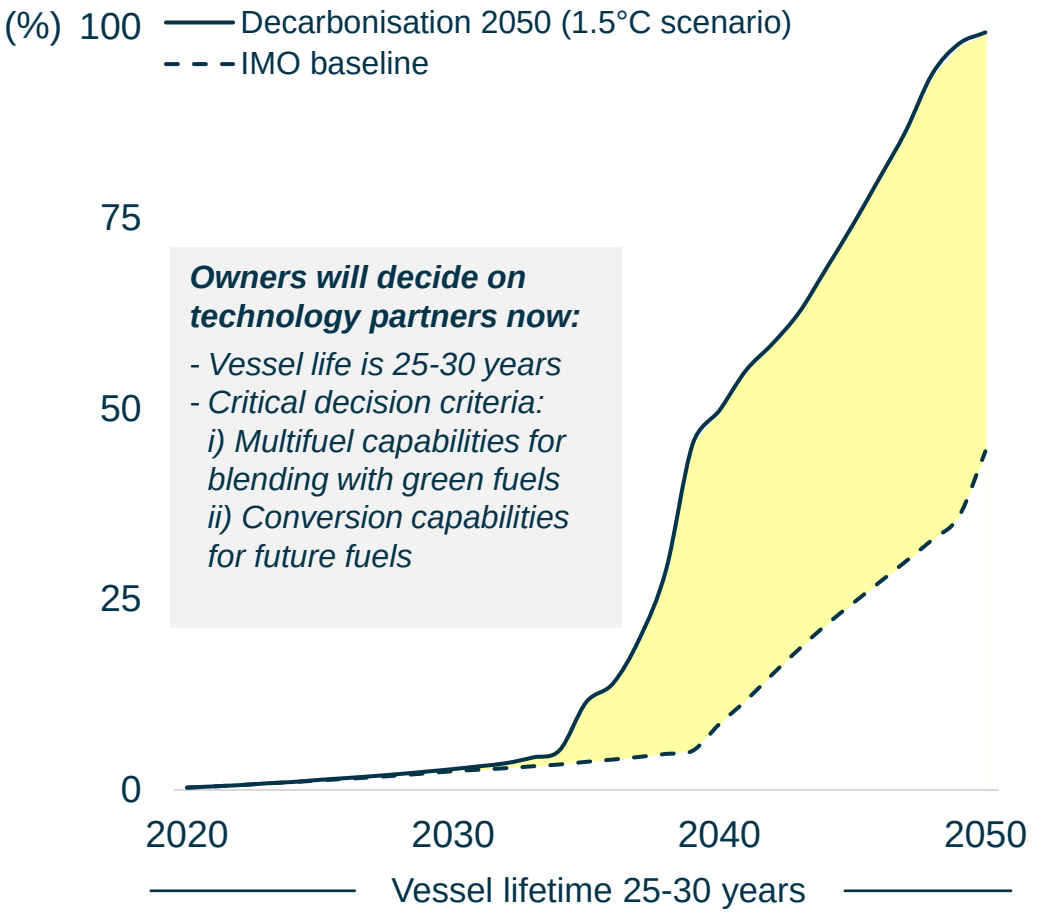
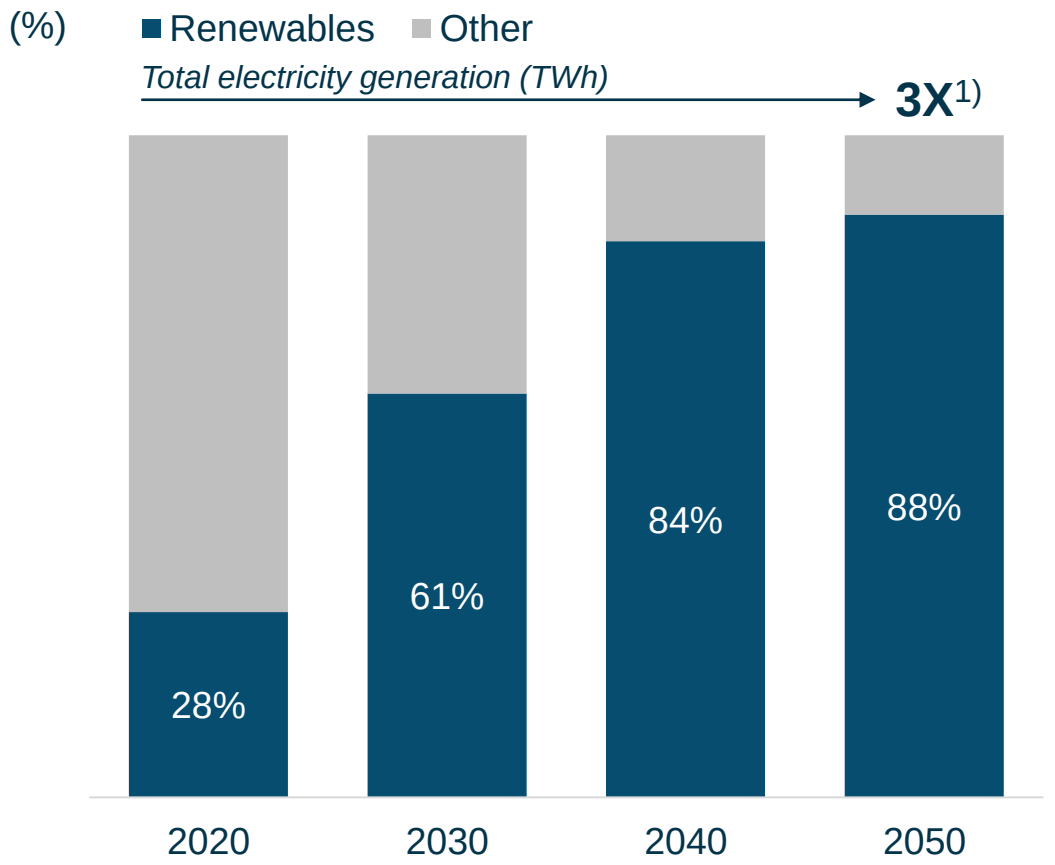
Decarbonisation of Marine and Energy is accelerating

Share of carbon neutral and zero carbon fuels in maritime

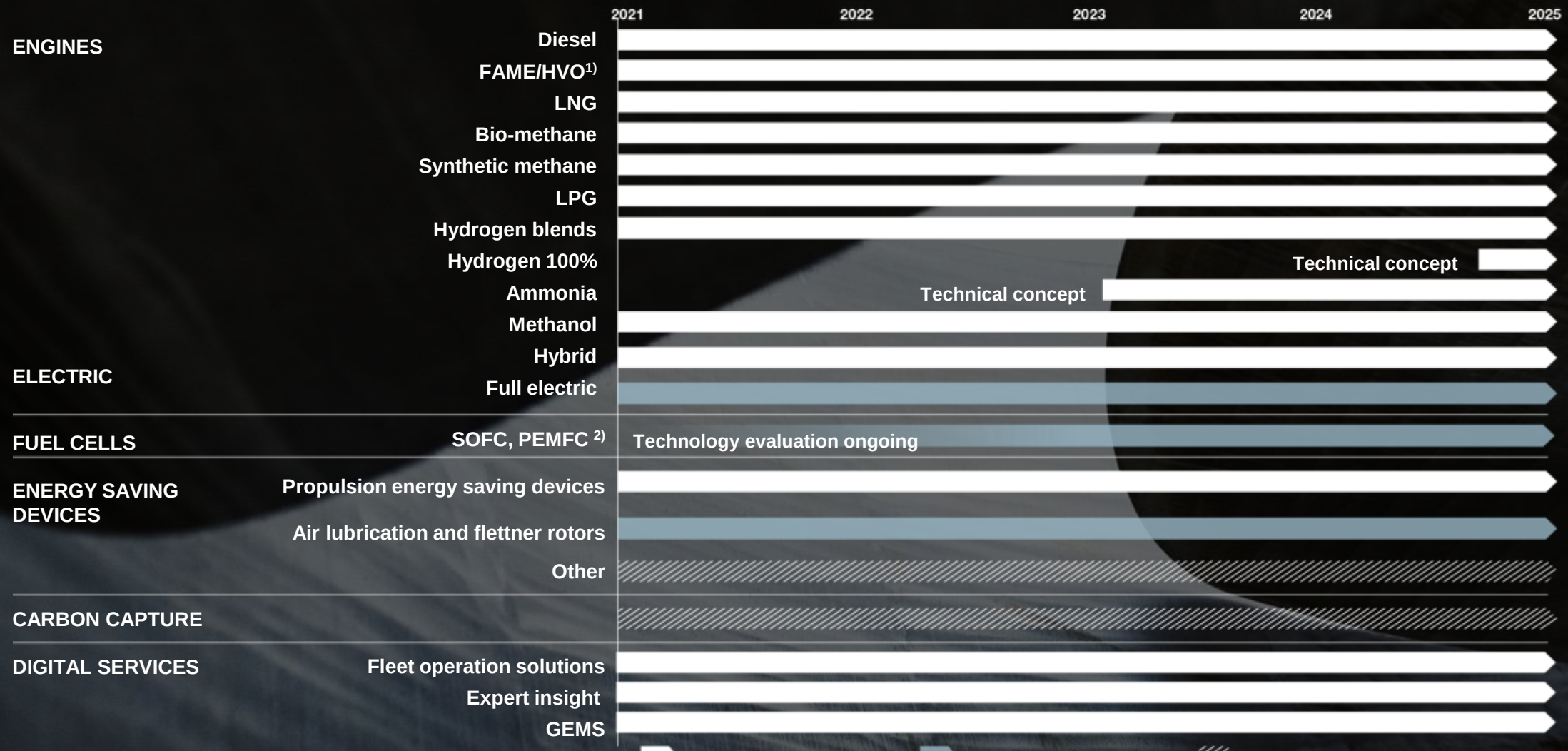


Share of renewables in global electricity generation



Source: DNV Maritime Forecast 2050 model, Wärtsilä Internal estimates 1) Total electricity generation (TWh) from 2020 to 2050, IEA World Energy Outlook 2021 (Net Zero Emissions Scenario)

Broad solution offering to support our customers in decarbonisation



1) FAME, HVO: biodiesel
2) SOFC: solid oxide fuel cell, PEMFC: proton exchange membrane fuel cell