



PowerCell Group

Kundprojekt i vida världen

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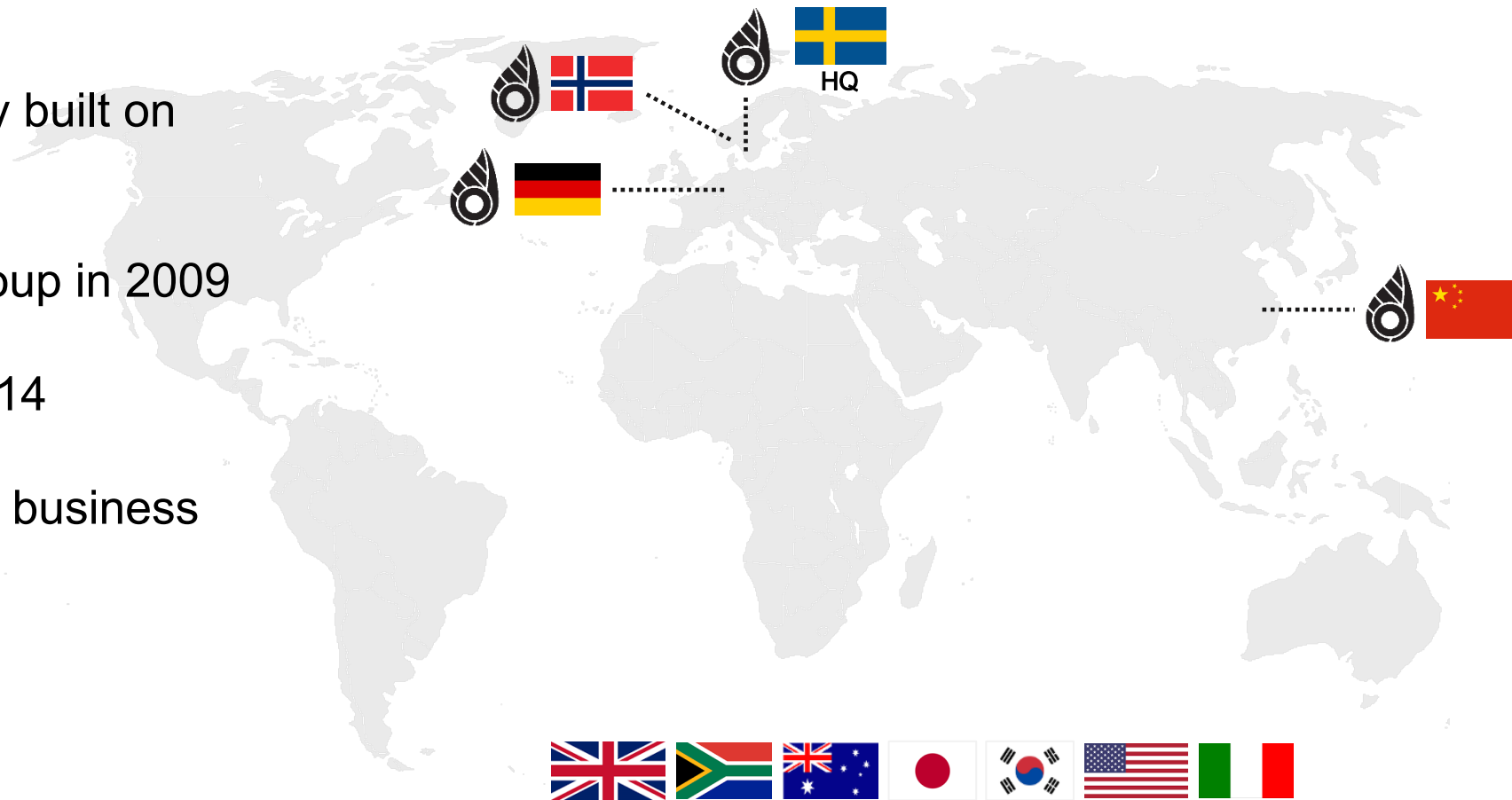
PowerCell Group

Leading Fuel Cell technology built on 25 years of R&D & IP

Spin - out from the Volvo Group in 2009

Listed on NASDAQ since 2014

Strategic partners to drive business



Fuel Cell Stacks

Industrialized Products

25 years of experience with metal bi-polar plate stacks

Powerful - Reliable - Compact



V Stack



P Stack



ASI Stack



NEWBORN



Fuel Cell Systems

Scalable Product Portfolio



VS-5



VS-30



PS-100



PS-200



Marine



Passenger Vessels



Fast Ferries



Cargo Vessels



Large Yachts

Stationary



Prime Power



Back - up Power



Peak Shaving



Shore Power

Off-Road



Material Handling



Mining Equipment



Agricultural Machinery



Construction Equipment

Aviation



Passenger planes

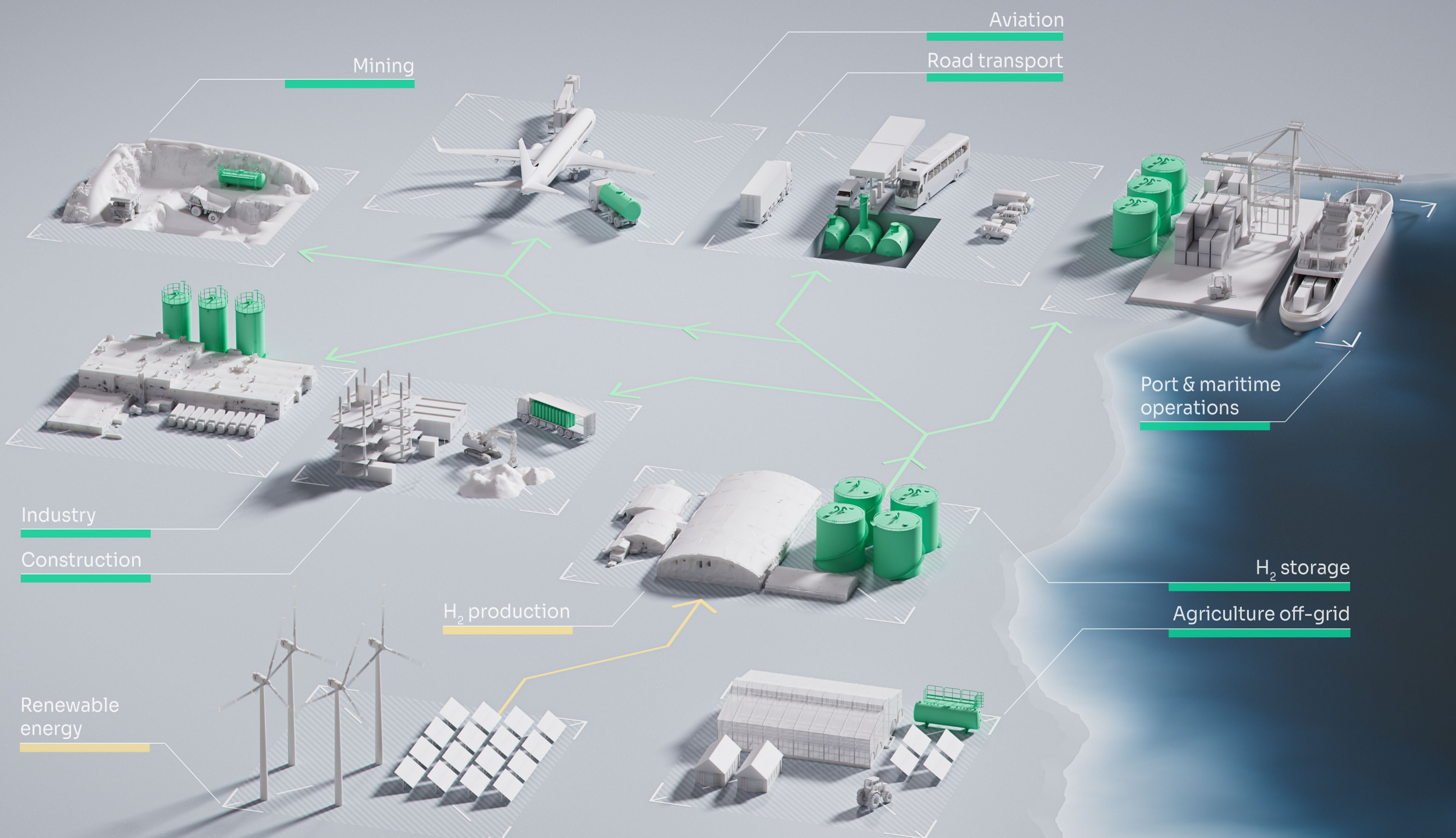


Drones



eVTOL





Mining

Aviation

Road transport

Port & maritime operations

Industry

Construction

H₂ storage

Agriculture off-grid

H₂ production

Renewable energy

Power Generation

Mobile Marketing Events



5/20 kW

Off - Grid Power



100 kW

EV Charging



200 kW



Off - Road

Refuse Truck



100 kW

Articulated Hauler



100 kW

Forklift



60 kW



Off - Road

World's First Zero Emission Hauler

Sweden 2022

Volvo CE + RISE

100 kW

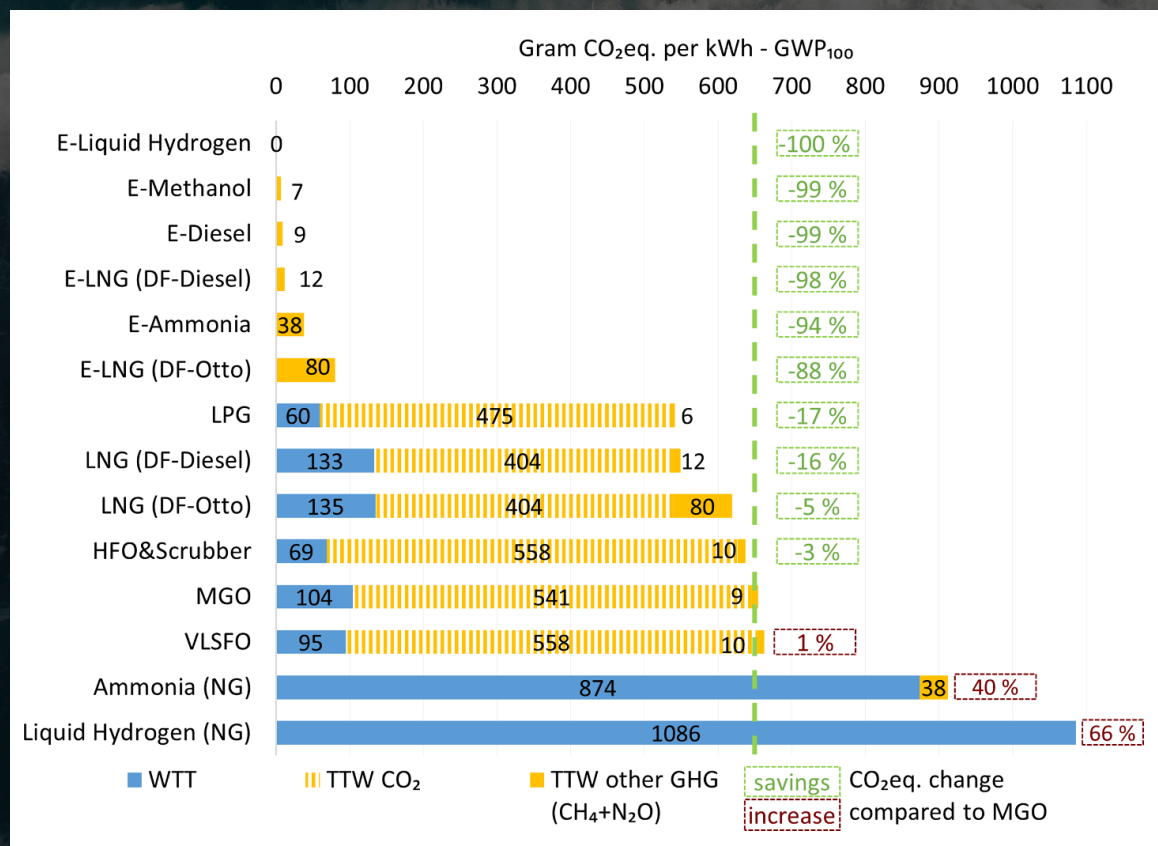
Same energy density
- Zero emissions





Marine Emissions Well-to-wake

(WTW = WTT + TTW)

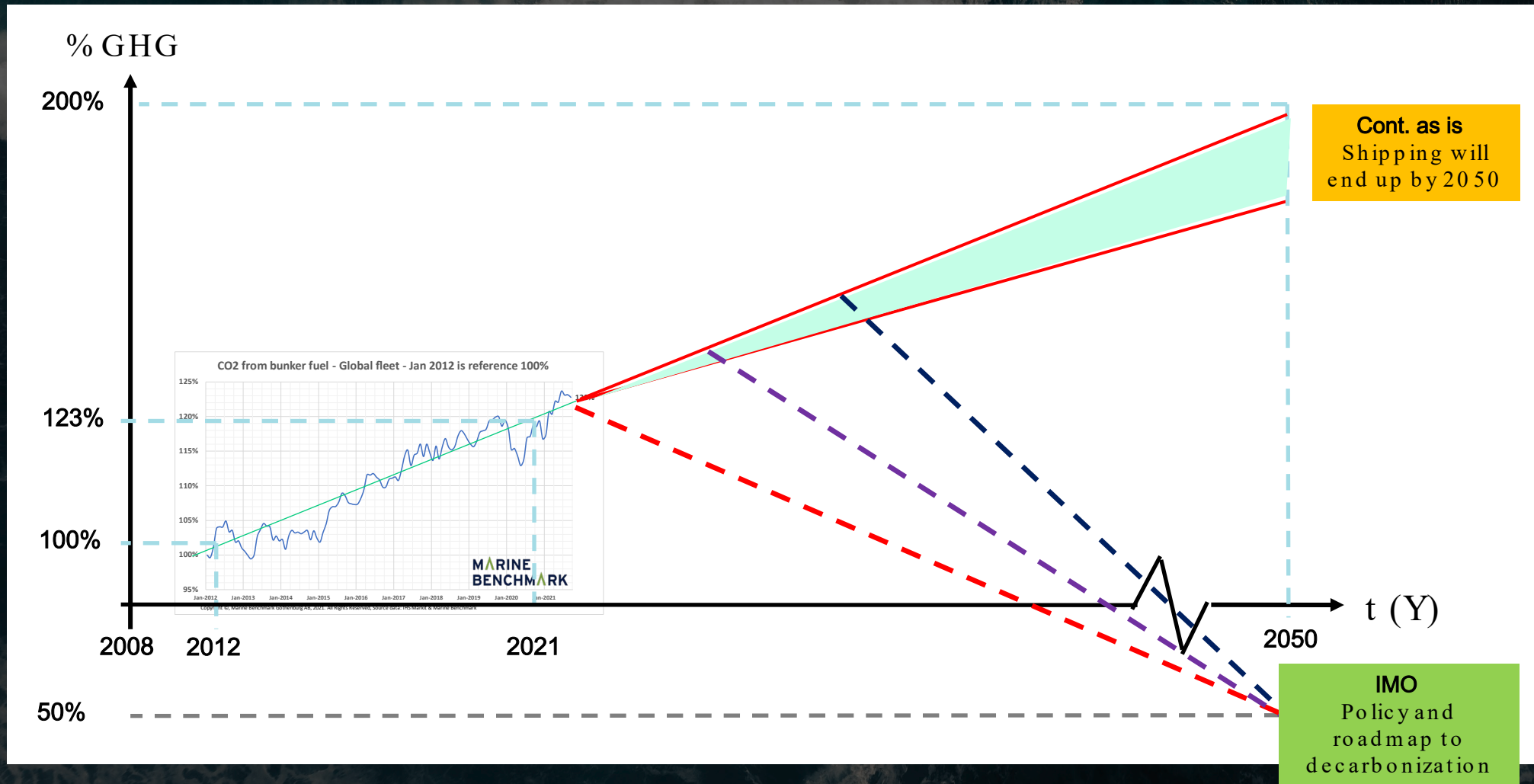


Source: Elizabeth Lindstad et al.

While we know that the type of engine (Diesel or Otto) affect the GHG from LNG, we do not know exactly how the type of engine or fuel cell will impact the emissions with H₂ and NH₃. Blue colour indicate fuels which depend on renewable electricity to deliver the GHG reductions indicated. Green indicate biofuels. Grey indicate fossil fuels.



Marine CO₂ emissions



Marine



3.2 MW LH₂



1.8 MW MeOH



2 x 6.4 MW comp H₂



Marine

World's largest marine fuel cell installation

Norway 2025

2 ferries - Lofoten and Bodø

2 x 6.4 MW

15 years of service







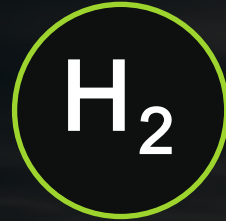
Aviation Green Hydrogen vs SAF



Electrolysis
Liquefaction



218 MJ



=

\$2.24 / Kg



Direct Air Capture
Electrolysis
Syngas
Fischer - Tropsch

788 MJ



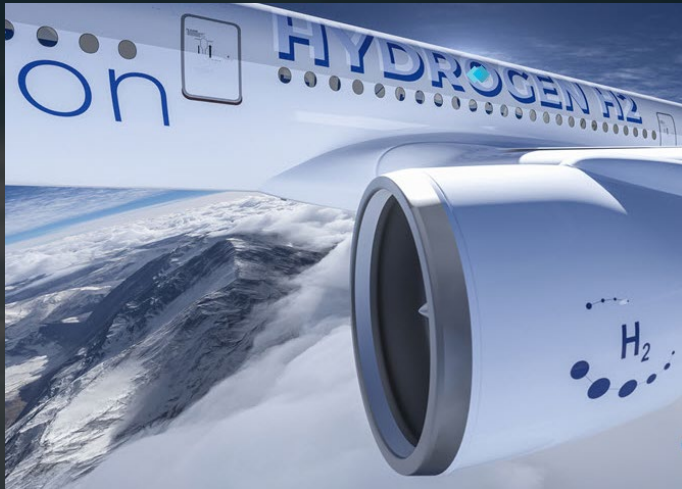
=

\$8.10 / Gal

142 MJ of energy



Aviation



1,2 MW



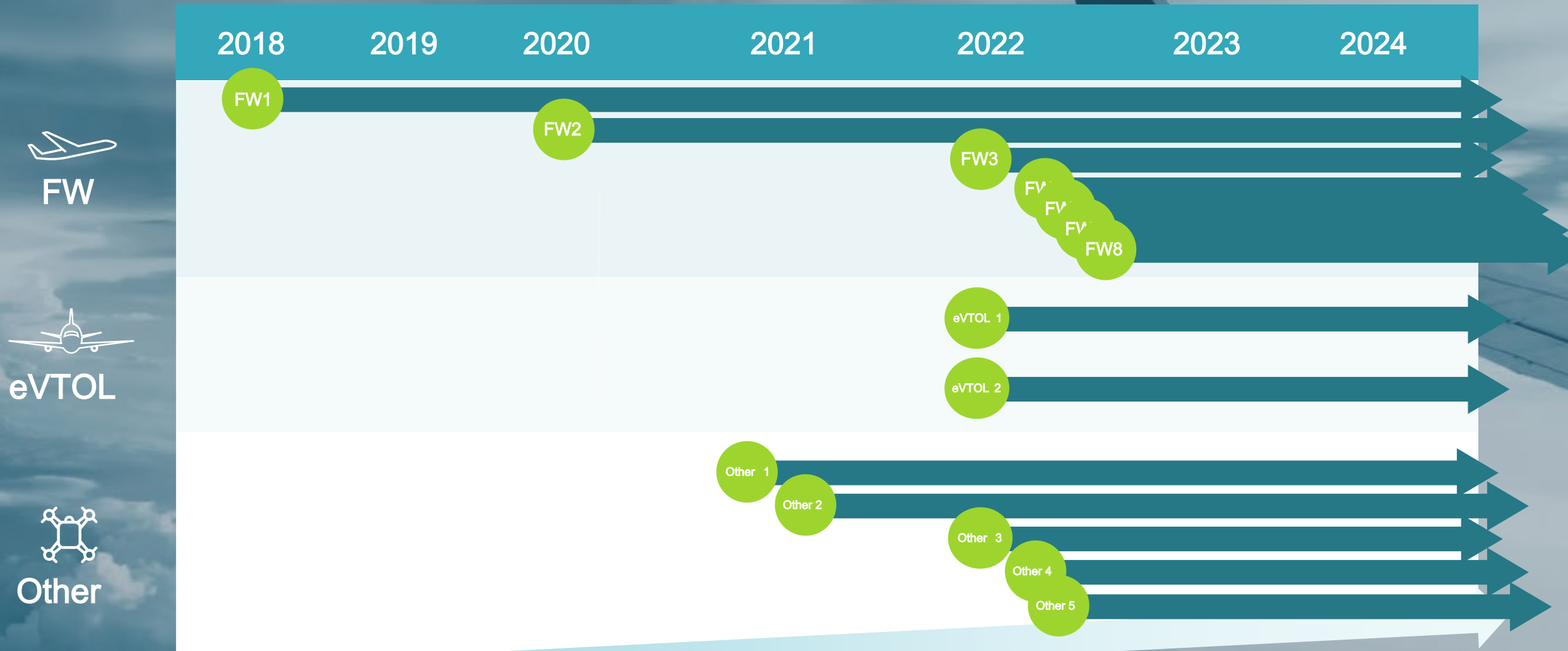
400 kW



200 kW



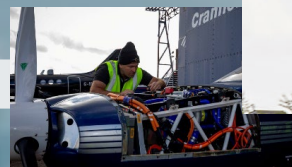
Aviation Projects



Aviation journey towards a serial production

- Transformative 2022
- Zero - emission aircrafts
- Established manufacturers
New innovative companies
- ZeroAvia – World's first
- AviCell
- Newborn project (Clean Aviation)

1-6 MW
120 tC
6 kW/kg





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