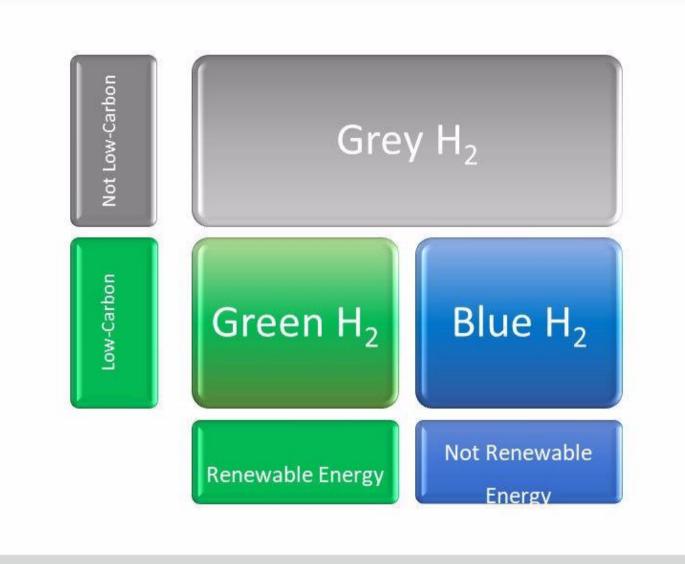
# COMPAGNIE MARITIME MONEGASQUE ZERO EMISSION



### The Green Hydrogen Deficit Problem



40% of global greenhouse gas emissions come from "hard-to-abate" industry sectors like industrial processing and transport. Electrification won't be enough. They also need hydrogen, argue Patrick Molloy and Leeann Baronett at Rocky Mountain Institute.

The demand for hydrogen (H2) is growing in excess of 8% CAGR and majority of countries are adopting and funding incentives for renewable Green Hydrogen projects.

As a consequence, production of gray hydrogen is responsible for CO<sub>2</sub> emissions of around 830 million tons of carbon dioxide per year, equivalent to the CO<sub>2</sub> emissions of the United Kingdom and Indonesia combined.

Only through renewable sourced green hydrogen can the CO<sub>2</sub> balance be positive and regulatory mandates met.

The network infrastructure and the current design of the energy mix did not allow green hydrogen to be produced from purely renewable energies until NOW with the CMM ZE advantage.



#### Hydrogen Global Market

# Outstanding and Accelerating Growth Underway CAGR 8% Expected to be \$199 Billion in 2023

The hydrogen generation market is expected to grow from USD 135.5 billion in 2018 to USD 199.1 billion by 2023, at a Compound Annual Growth Rate (CAGR) of 8.0% from 2018 to 2023.

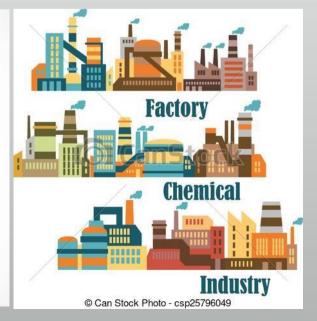
Over 600 billion cubic meters (m3) of hydrogen are produced worldwide. This corresponds to a share of 1.5% of the energy requirement, both nationally and internationally. Only 5% of the total volume produced is traded on the free market. The need for hydrogen is also increasing rapidly as a result of climate, mobility change and global energy mandates.

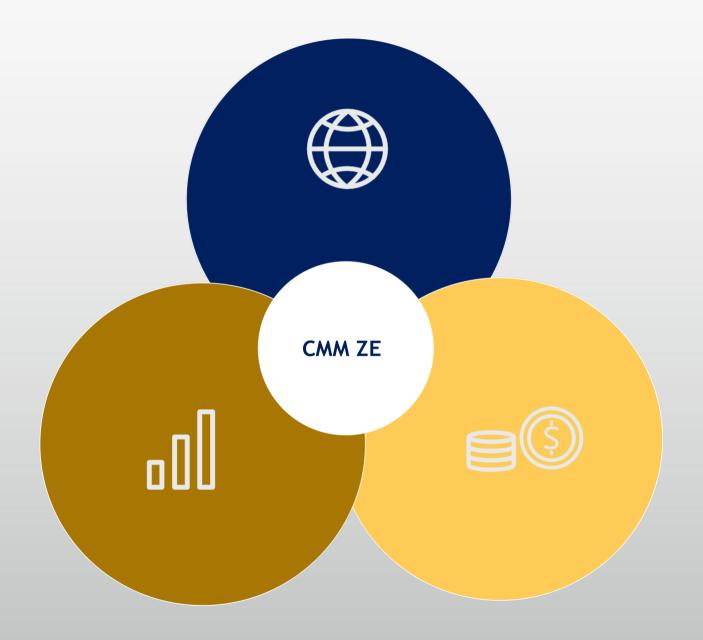
Experts from the consulting firm Boston Consulting Group (BCG) attest a market potential of up to one trillion dollars in 2050.







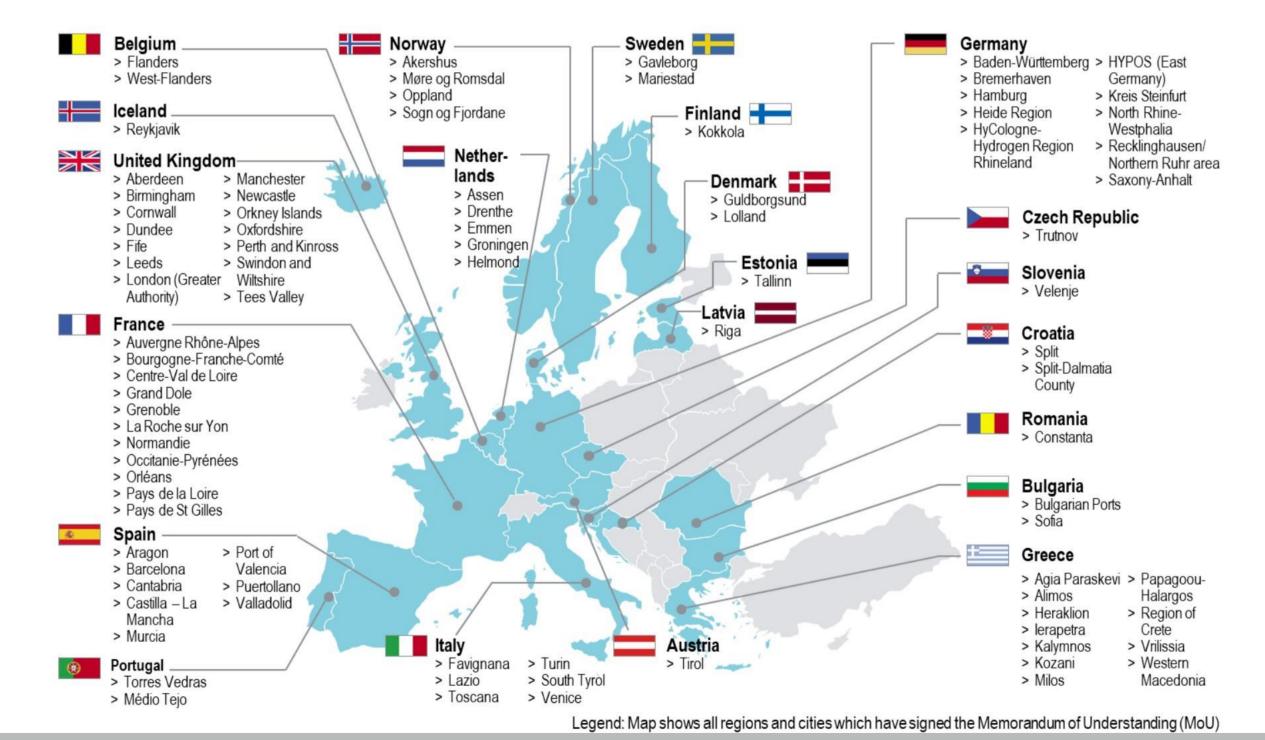






Programs with incentives well underway:
Over 22 Countries in Europe Committed to Hydrogen & Hydrogen Fuel Cells

As of today, 89 European regions and cities from 22 countries are taking part in the initiative. Together, they represent approximately one quarter of Europe's population, surface area and GDP. All participating regions and cities are actively working to shape their green energy transitions with hydrogen and fuel cells. Regions and cities can play an important role in creating a future FCH market in Europe by channelling public investments into the sector and supporting the build-up of a European FCH value chain with the potential for local economic growth and job creation.





#### Markets



CMM ZE has developed a system concept Green Island "Sector System" enabling the production of 100% sustainable green and CO<sup>2</sup> neutralhydrogen to industrial standards in addition to energy and heat supply and grid stability by way of its integrated sectors.

The business model of the CMM ZE LLC covers number 1,2,3,4 and 5 above. Each will be served by the unique sector system. The main business segment is the production and sale of green hydrogen. In addition, fuelling options are offered for E- & H<sup>2</sup> vehicles. The battery storage and the power produced from wind, photovoltaics and hydroelectric power station will enable the company to participate in the intra-day power trading. In addition, the battery storage will enable regional grid stability.

#### The CMM ZE - "Green Island"



Universal Sector System Solution

Own generation plants (proof of 100% sustainable green electricity) prevent electricity bottlenecks.

- No investments in the own grid necessary (municipal and regional).
- Oxygen and hydrogen production for the global and regional market.
- Between 1to. and 2000 to./day on H2.
- Supply via our hotspots and pipelines, LNG/Container vessels

An additional sector (production of 100% green hydrogen/oxygen), based on a (largely) greenhouse gas neutral energy and industrial system of the future, will mainly contribute to covering the final energy demand in the industrial and transport sectors and will also be used as feedstock for the chemical industry.

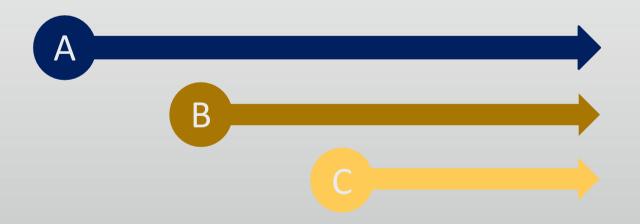


Adaptable and fully scalable H2 production output: From 100MW to support mobility locally and up to an industrial scale of 1000 MW and beyond.



## Proprietary Technology

CMM ZE combines its own proprietary software and knowhow with the most advanced and reliable industrial components. This creates a self-sufficient and sustainable system that uses self-produced green electricity for hydrogen, oxygen and electricity



- Reduction of energy costs (own production no EEG)
- Local Storage for excess capacity and electricity
- Storage-use for nighttime network stability
- Relief of the local electricity network system runs independently
- Patented and patent pending processes
- 100% sustainable, oxygen is an additional revenue product
- Production costs for H2 compete in wholesale market effectively
- Scalable and Market-oriented charging costs for e-mobility



#### Proven Solution

The technology is solid and proven. Due to the high level of media and political attention, the further development of existing components is becoming increasingly important. CMM ZE has strategic alliances with market leaders in their advanced technology sectors, thereby guaranteeing

state-of-the-art production with a high degree of innovation and critical component reliability.



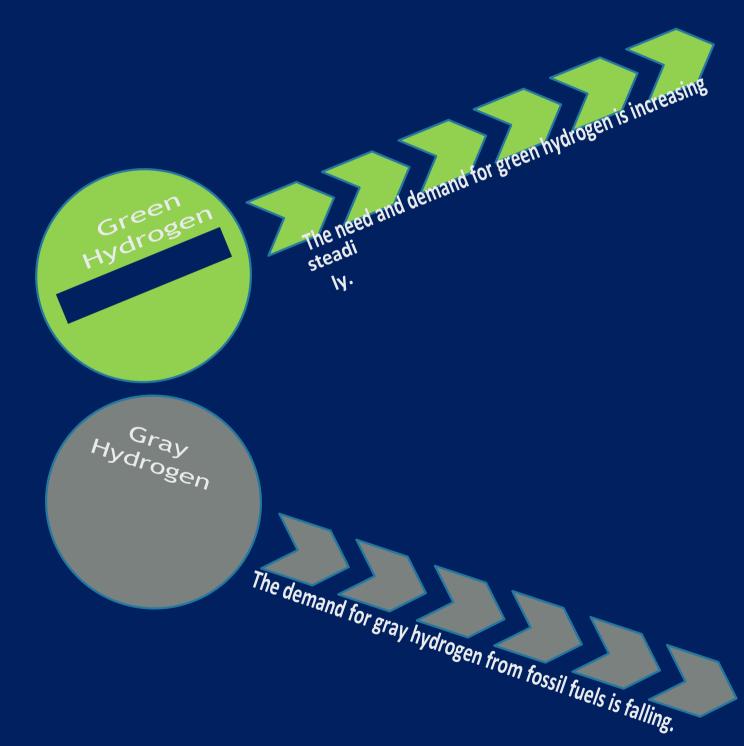


#### Competition - Only CMM ZE Delivers the TotalSolution

The majority of globally produced hydrogen is a by-product of coal processes or is obtained from natural gas (reform process). Both types do not meet current needs, and the hydrogen produced is high in CO2.

Our competitors each work with individual components of our five-stage sector system, e.g.:

Electricity from the public grid (called gray electricity) - and H2 production or electricity production and storage. There is currently no one who also offers the five-tier system of our Green Island sector system.







- EU Focus on Jordan.
- Increase of investments for future projects
- Jordan becomes the first producer of 100% green (CO2 neutral) hydrogen
- Hotspot of 100% green (CO2 neutral) hydrogen
- Sustainable jobs
- Increase of the hydrogen production from now 100MW to 1GW in the next 5 years
- Sustainable technology, conservation of national resources through the use of desalination plants to use water for production.
- A model for neighboring countries
- Value chain in Jordan.



Strategic Partner Transportation and Logistics

# Compagnie Maritime Monégasque (CMM)

- CMM is an established shipping company that focuses on the transport of cars and trucks and also in the transport and assistance of offshore oil units. In 2015 CMM Zero Emissions was created specializing in the transport of green renewable energy.
- CMM provides logistic services on a worldwide scale, with a modern fleet with many special purpose vessels. It will operate owned vessels for the shipment of hydrogen and oxygen.

