



Hybrid Greentech  
Energy Storage Consultants



Your catalyst for the energy storage uptake

HYBRID MARINE

# ENERGY STORAGE IN HYBRID MARINE

## BETTER ECONOMY

- Lowering O&M costs
- Less expenses on conventional fuels for gensets
- Effective energy management

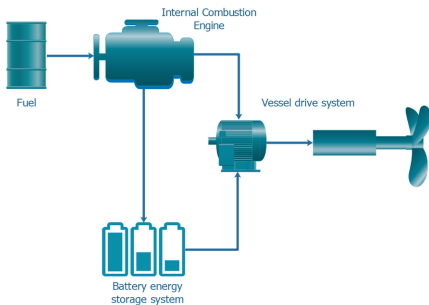
## BENEFITS

- Less CO2 emissions
- Silent & clean operation at low speeds or when anchored
- Less noise pollution
- Flexible positioning of the power plant

**Market Insider** estimates Marine Hybrid Propulsion Market's size over **\$5.25 million** by 2024

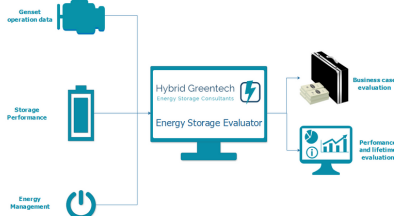
## OPTIMIZING PERFORMANCE

Conventional diesel engines in vessels operate at variable engine capacities. When the vessel is cruising at lower speeds or it is idling in the harbor, it operates at an engine capacity of around 40% and 10% respectively. However, the optimal operational point for such engines is at around around 80% of their maximum engine capacity. This under-performance results to significantly higher proportional fuel consumption leading to higher emissions, higher deterioration of the gensets and more maintenance requirements. Using Battery Energy Storage Systems (BESS) provides the necessary flexibility to keep the genset to the optimal operation point and reduces fuel consumption significantly. This system combination allows for the supply of the required power in an optimized, efficient and cleaner way than conventional diesel propulsion systems.



## BUSINESS CASE EVALUATION

Hybrid Greentech inspires people to implement energy storage so that together we can achieve 100% renewable energy. By using the latest research and industry knowledge we are making it simple to take an investment decision on energy storage. We develop a world leading decision tool for energy storage, a sizing and optimization platform that helps you decrease cost and increase performance.



## EVALUATION TO IMPLEMENTATION

Hybrid Greentech takes the customer through complete process from evaluation and implementation of energy storage systems in Hybrid Power Plants. Making sure that:

- The customer gets the right energy storage technology for the specific application and vessel size.
- Conducts the tender process for customers
- Product suppliers fulfill the recommended system and safety requirements

Hybrid Greentech also:

- Performs optimisation of energy storage system in the field through operation data

**Batteries in vessels** can reduce up to **60% CO2 emissions** and achieve up to **50% fuel savings**

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Hybrid Greentech ApS  
Frederiksborgvej 399  
Building 108  
4000 Roskilde  
Denmark

info@hybridgreentech.com  
Tel: +45 31 270 300

## ABOUT HYBRID GREENTECH APS

Hybrid Greentech promote energy storage to reach 100% renewables in the utility and transport sector. We are an energy storage consulting company with more than 25 years accumulated experience in energy storage focusing on battery and hydrogen technologies.