

# Hvordan kan dagens batteri- teknologi bidra til å løse utfordringene vi har med utslipp fra store skip?

**Halvard Hauso**  
CCO Corvus Energy

Corvus  Energy



### Supplier of ESS

- Founded in 2009
- HQ in Norway
- 170+ employees
- Privately held ownership



### The Team

- Superior battery knowledge
- Strong maritime DNA
- Extensive global network in the maritime industry



### Quality and Risk

- ISO 9001 certified
- ISO 14001 certified
- Extensive project risk mitigation



260  
Projects

>2 000 000  
operating hours

230  
MWh



76

Car and  
Passenger  
ferries



18

Cruise and  
Yachts



48

Offshore  
and  
Subsea



26

Tugs/  
Workboat/  
Fishing



14

Merchant  
vessels



85+

Port  
equipment  
and Shore  
stations

### Designed for specific use cases



Spinning Reserve



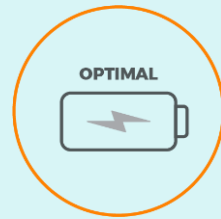
Peak Shaving



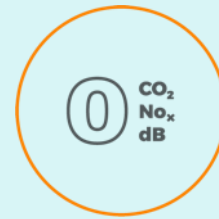
Enhanced Dynamic Performance



Enhanced Ride Through



Strategic Loading



Zero Emission Operations

### Safety standards

Exceeds all class and national requirements:

1. Single Cell passive thermal insulation
2. Separate gas venting system

# Emissions from shipping

Shipping emits around **1000 million Tons CO2 Annually** –

Equals almost 3% of the global greenhouse gas emission

Are **predicted to increase between 50 and 250%** - depending on future economic and energy developments

In addition comes

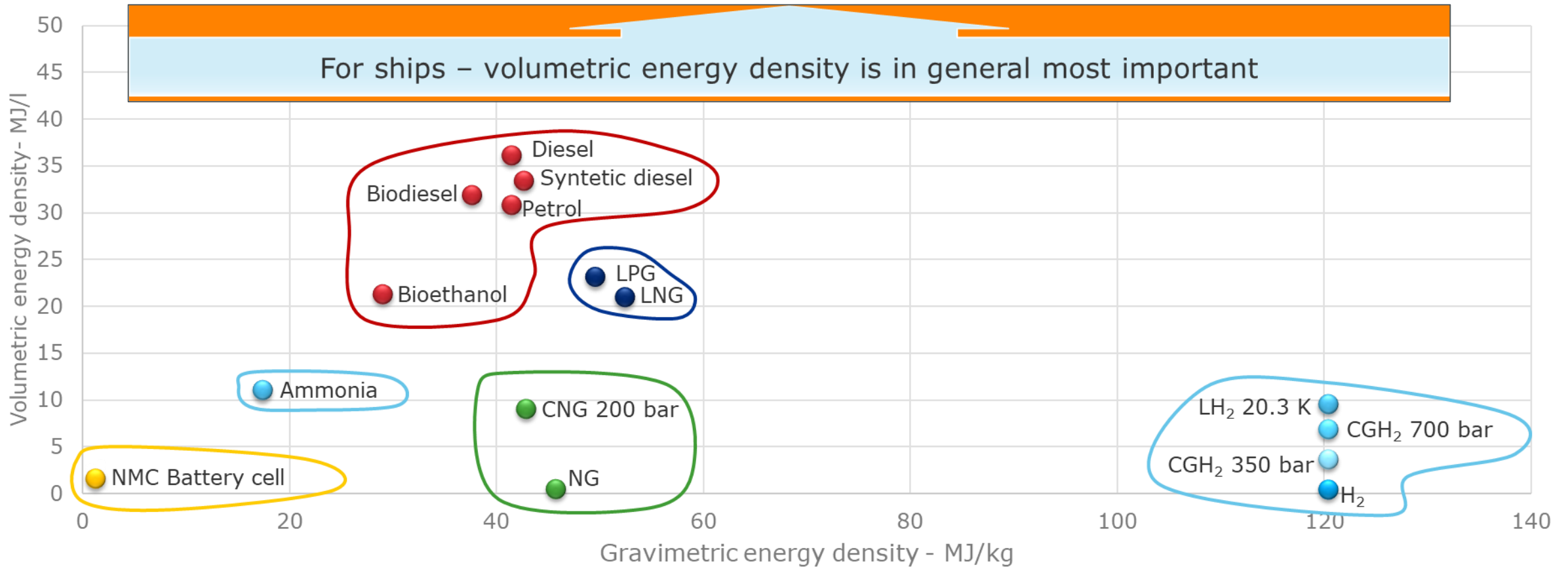
**Ballast water** discharges impact on marine environment

**Sound Pollution** potential threat to wild life.

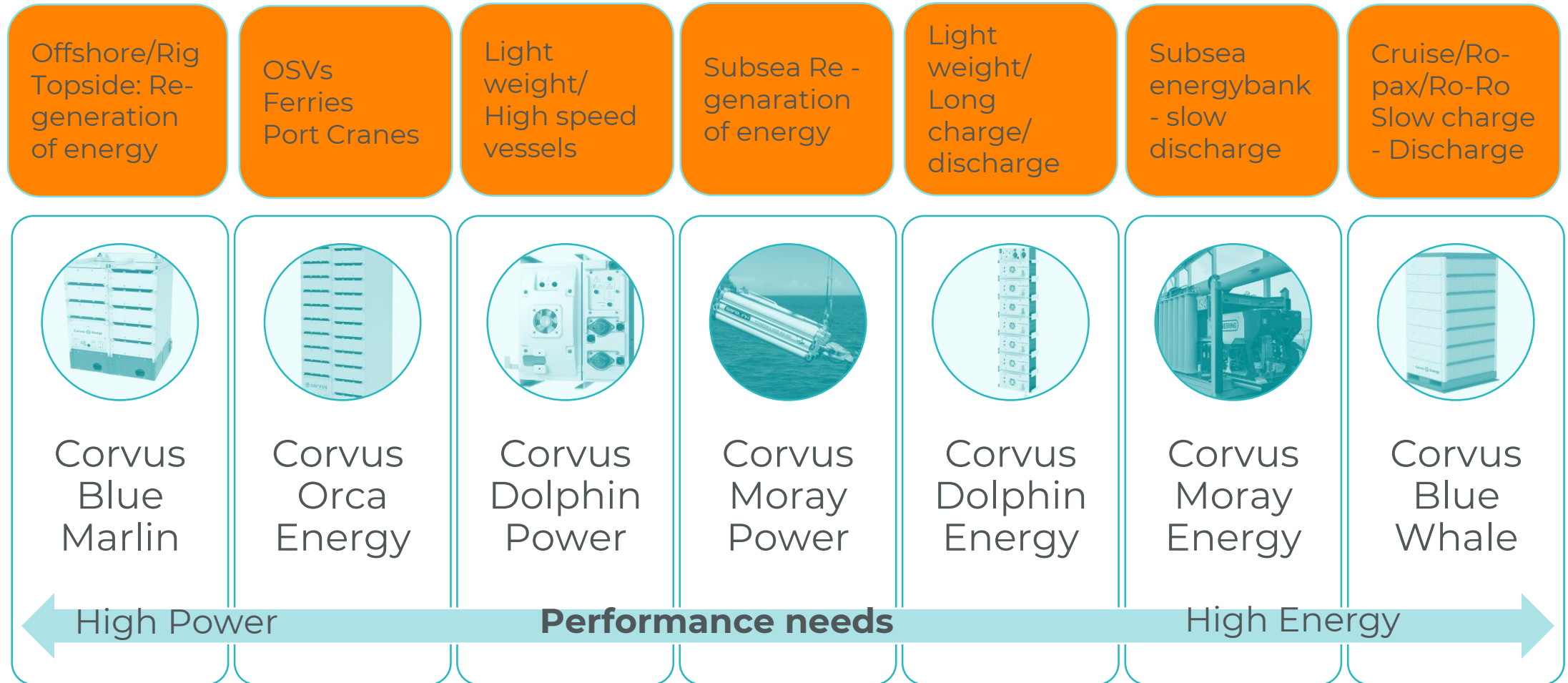
# How can Energy Storage help reduce CO2 emissions?

Ships **energy consumption and CO2 emissions can be reduced by up to 75%** by applying operational measures and implementing existing technologies (source IMO) – Energy storage is an important part of this





Usage/Applications adapted to vessel type





# New battery for Cruise, Ro-Ro and Ro-Pax

- Large capacity ESS – 10-50MWh+
- Slow charge and discharge rate
- Suitable for newbuilds and retrofit projects



Corvus AT 6500

2016



Corvus Orca Energy

2019



Corvus Blue Whale



Footprint ↓ 50 %  
Volume ↓ 50 %  
Weight ↓ 30 %



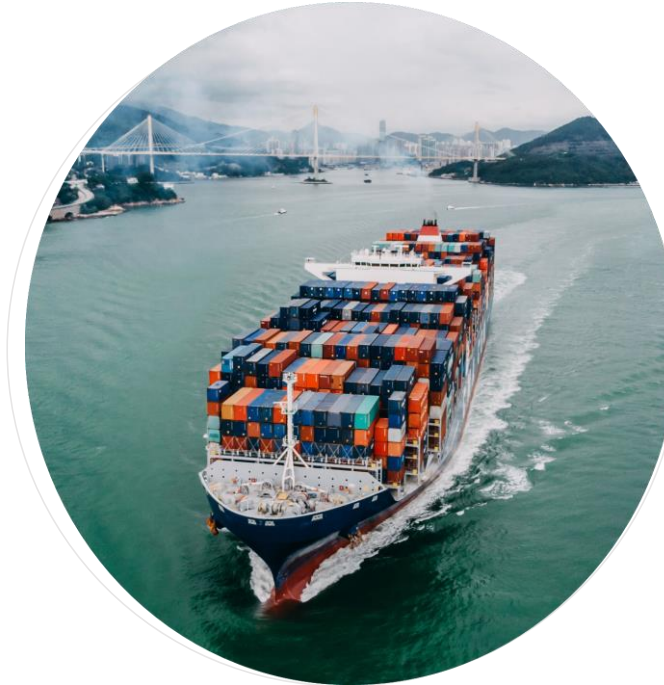
Footprint ↓ 50 %  
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Cruise Vessels



Container Vessels



Car and Truck  
Carriers

# Tusen takk!

Corvus  Energy