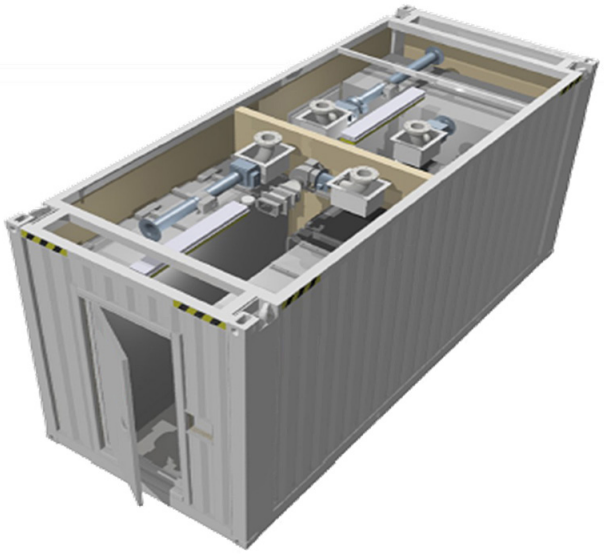
SAVE ENERGY 20' ESS
DECKHOUSE



KONGSBERG

KONGSBERG ENERGY STORAGE SYSTEM

20'SAVe Energy
ESS deckhouse

KONGSBERG has several energy storage containerized solutions to meet the requirements our customers have towards charters and regulators for reduced emissions and safe operation. All solutions are prepared for shore connection according to the new IEC recommendations.

Our unique and patented energy control system for hybrid power systems extracts from and shares information between all components in the digital power layer. Tight synchronized integration delivers unique features at the cutting edge of DP technology.

Core components of the novel Dynamic Hybrid Control system includes Dynamic Load Prediction and Dynamic Inertia Control combined with an automatic start/stop strategy. Predictions of future thruster demand controls the energy production for generators and battery charge / discharge. Load dynamics shared between the batteries and generators ensures optimisation for both generator limitations and battery lifetime.

BENEFITS

- Up-to 760 kWh/1500 kW in a single container
- 3 safety barriers for protecting against internal and external events
- Unique and patented energy control system for hybrid power systems

	WITH KONGSBERG ESS		WITHOUT KONGSBERG ESS	
Functions	K-Pos Stand Alone	K-Pos and PMS	K-Pos Stand Alone	K-Pos and PMS
Battery Notation	✓	✓	✓	✓
Island Mode	✓[2]	✓[2]		✓[2]
ESS Droop	✓	✓		✓
Droop/Power Combi Mode	✓[1]	✓		
DLP (ESS)	✓	✓		
DLP (Gen)	✓[4]	✓		
DIC (Full)	✓[3]	✓		
Hybrid Sync Assist	✓[1]	✓		
Genset Start/Stop	✓[1]	✓		✓

Increased redundancy, performance and responsiveness, efficient operations and reduced maintenance are some of the other benefits. Our mission is to help our customers lower the lifetime cost and maximizing their investment in hybrid power.

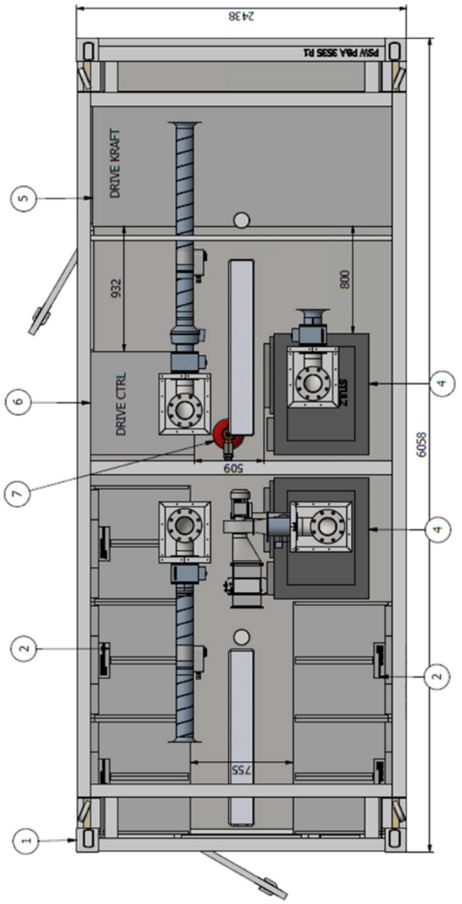
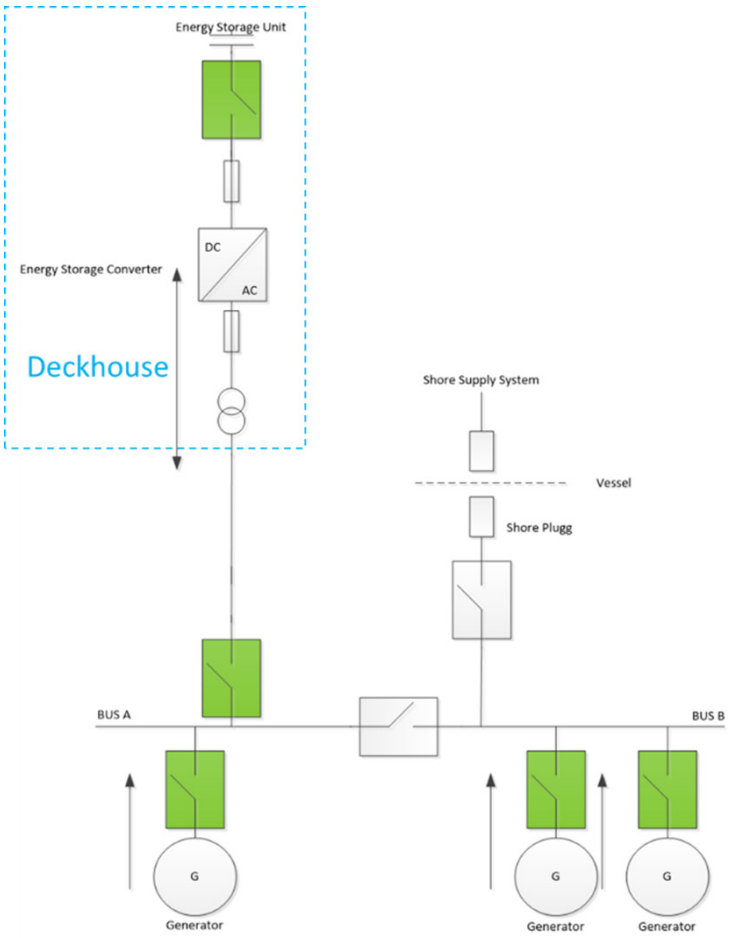


Figure 1 – Deckhouse Topology Example

ESS DECKHOUSE INTEGRATION EXAMPLE



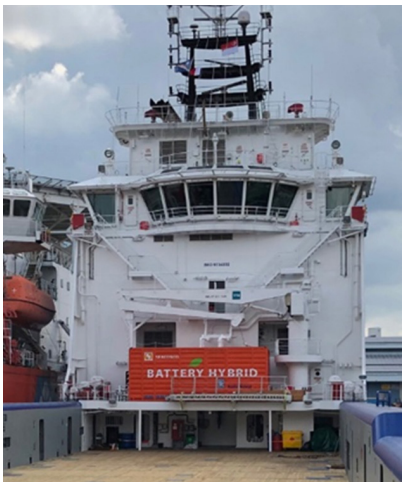


Figure 2 - Example of Deckhouse installed on vessel

DECKHOUSE CONFIGURATION OPTIONS

Battery energy options:

- 532kWh*
- 565kWh
- 608kWh
- 678kWh
- 684kWh
- 760kWh*

*Available Q2 2020

Drive power options:

- 1500kW (2x750kW) Air Cooled

Transformer power options:

- Transformer Outside Container (several dimensions available)

DECKHOUSE CONFIGURATION OPTIONS

- Dimensions (LxWxH): 6058x2438x2896 mm
- AC Main Supply: 440/690/6,6/11 kV
- Weight: 25-35 t

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