

ROBUST
The Future to Trust

Who ROBUST is

Robust is a pioneer in delivering clean and reliable energy solutions. Our expert team, a diverse blend of multi-disciplinary engineers and experienced industry professionals, specializes in sustainable and efficient energy storage systems. Operating from our state-of-the-art facility in the innovative hub of Dubai's Jebel Ali Freezone, we are committed to excellence and environmental sustainability, setting new benchmarks in the energy sector.

The beginning of The never ending story

Why ROBUST is Here

Robust is here to pioneer a future we can all trust – a world where clean, reliable energy isn't just a distant ideal but an everyday reality, effortlessly flowing and accessible to everyone, everywhere. Robust work tirelessly to turn this vision into today's reality, fostering a sustainable and efficient energy ecosystem, revolutionizing energy utilization and redefining energy management.

The ladder to go beyond

What ROBUST Does

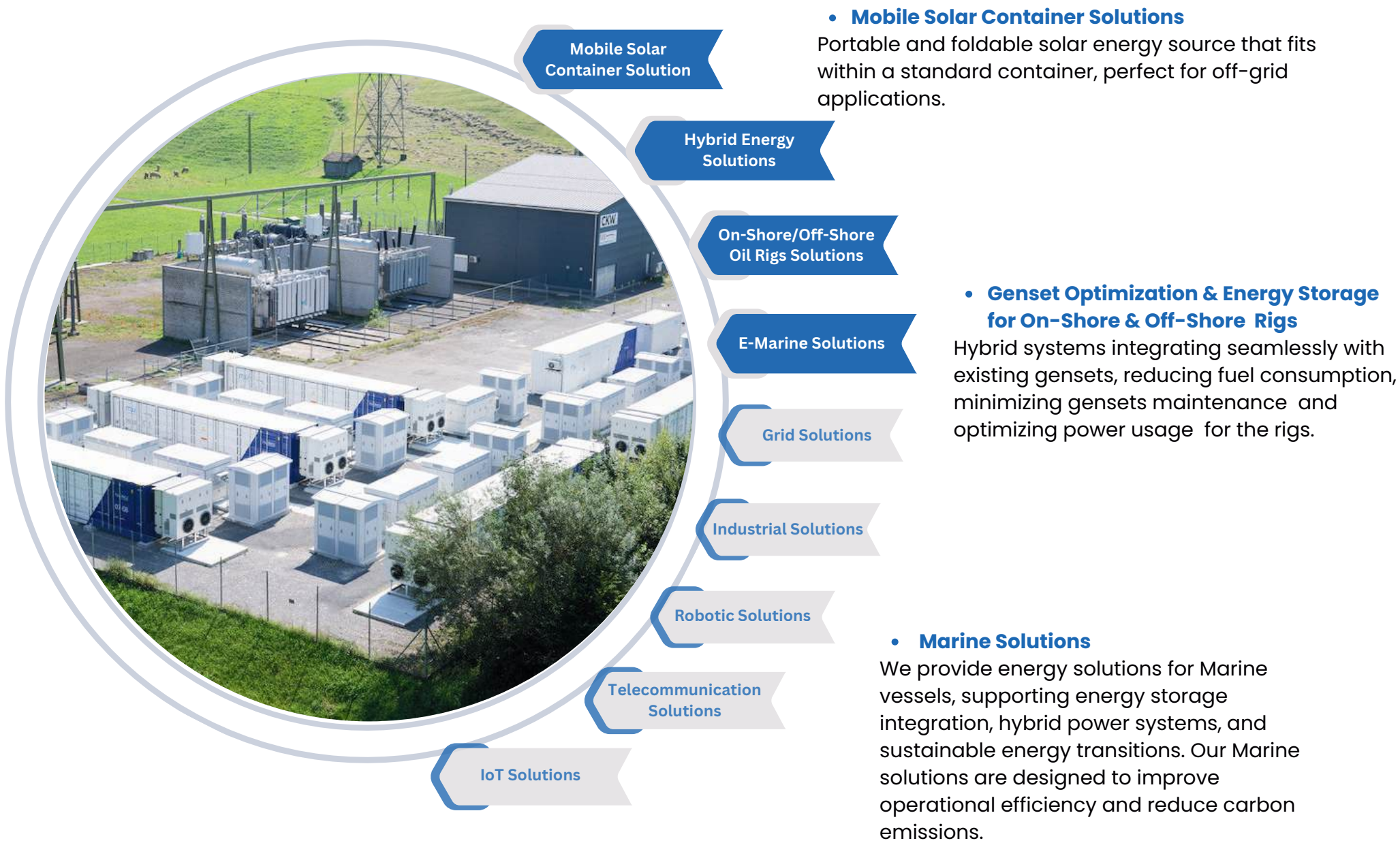
Robust is dedicated to addressing the critical global energy challenges of our time. Our mission centers on reducing carbon emissions, meeting the rising demand for power, and navigating the volatility of energy markets. Our efforts are geared towards enhancing grid stability and reliability through the integration of advanced storage systems and diverse renewable energy sources. We specialize in seamlessly integrating renewable sources into the electricity network, delivering a consistent supply of clean, reliable power. Embracing pioneering energy technologies and smart management solutions, we efficiently balance supply and demand, optimizing energy usage, and reducing costs.

The flight which never lands

Tailored Hybrid Energy Storage Solutions

Specifically dedicated to On-Shore/Off-Shore Rigs

We offer advanced, tailored energy systems specifically designed for the unique challenges of Drilling operations. Our solutions enhance power efficiency, reduce emissions, and provide reliable backup energy through state-of-the-art battery and hybrid systems.



Tailored Mobile Solar Container Solution

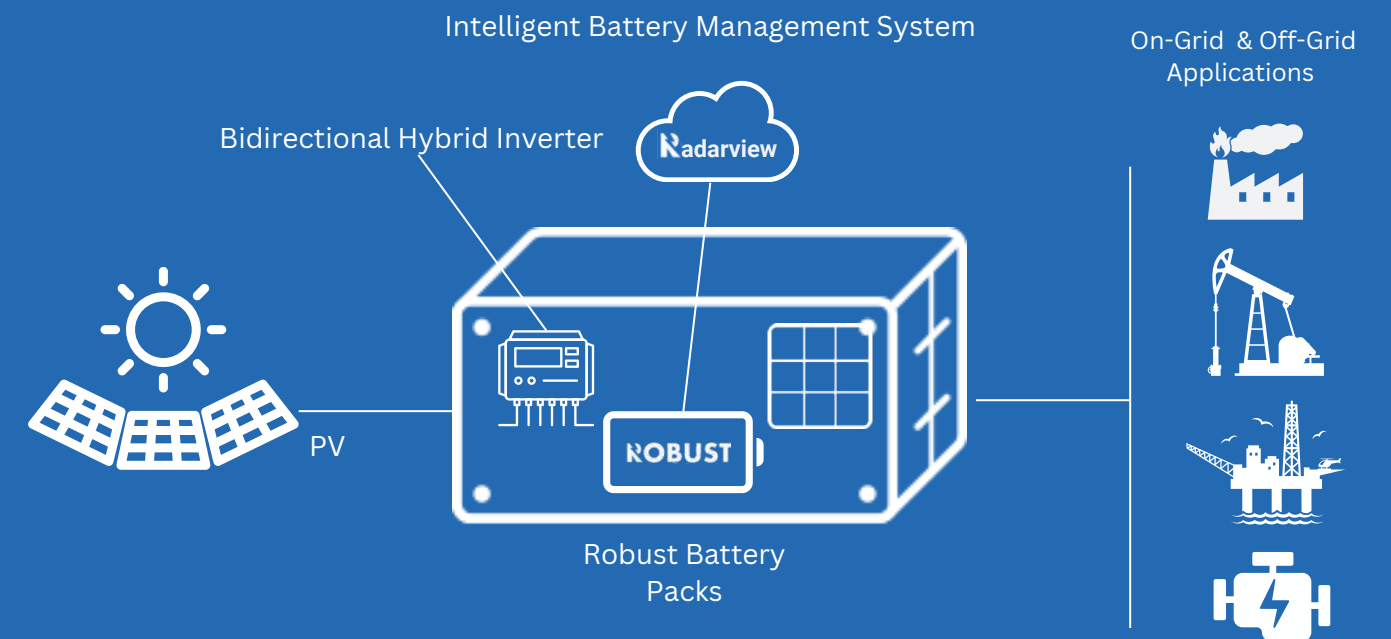
Robust's innovative portable and foldable solar energy solution is designed to provide clean and efficient energy in even the most remote locations. This system is ideal for applications where rapid deployment and mobility are crucial, such as land rigs and construction sites. The system fits into a standard container, making it easy to transport and set up.

Quick and Efficient Deployment: The foldable design allows for rapid setup without heavy equipment or extensive groundwork, providing up to 130kWp of solar power.

Durable and Easy to Use: Built with a lightweight aluminium structure and plug-and-play functionality, ensuring smooth operation even in harsh environments.

Power Supply: Can be integrated with Energy Storage Systems, offering reliable power for both on-grid and off-grid applications.

Sustainable Solution: Reduces carbon footprints and dependency on traditional diesel generators, promoting a more eco-friendly energy solution



*Battery Storage capacity, as well as charging and discharging power, can be customized to meet the specific needs of each customer, market, and availability requirements.



Hybrid Solutions

Genset Optimization & Energy Storage for **On-Shore & Off-Shore Rigs**

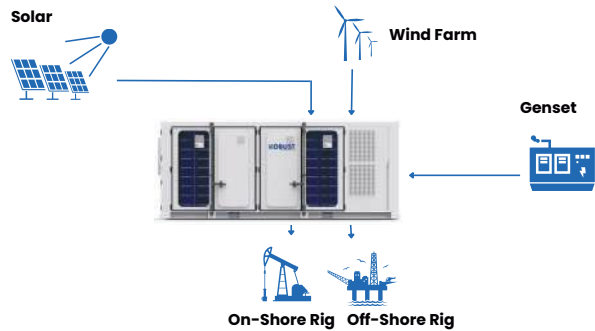
On-Shore rigs and off-Shore platforms relying on diesel gensets facing low fuel efficiency, noise and maintenance challenges. Robust tailored Battery Energy Storage System (BESS) solves this by seamlessly integrating with gensets, boosting efficiency and sustainability.

-  Reduces Fuel Costs by Up to 40%
-  Zero Downtime
-  Quieter and Cleaner Operations
-  Enhanced Energy Quality and Stability
-  Intelligent Load Management
-  Renewable Sources Integration



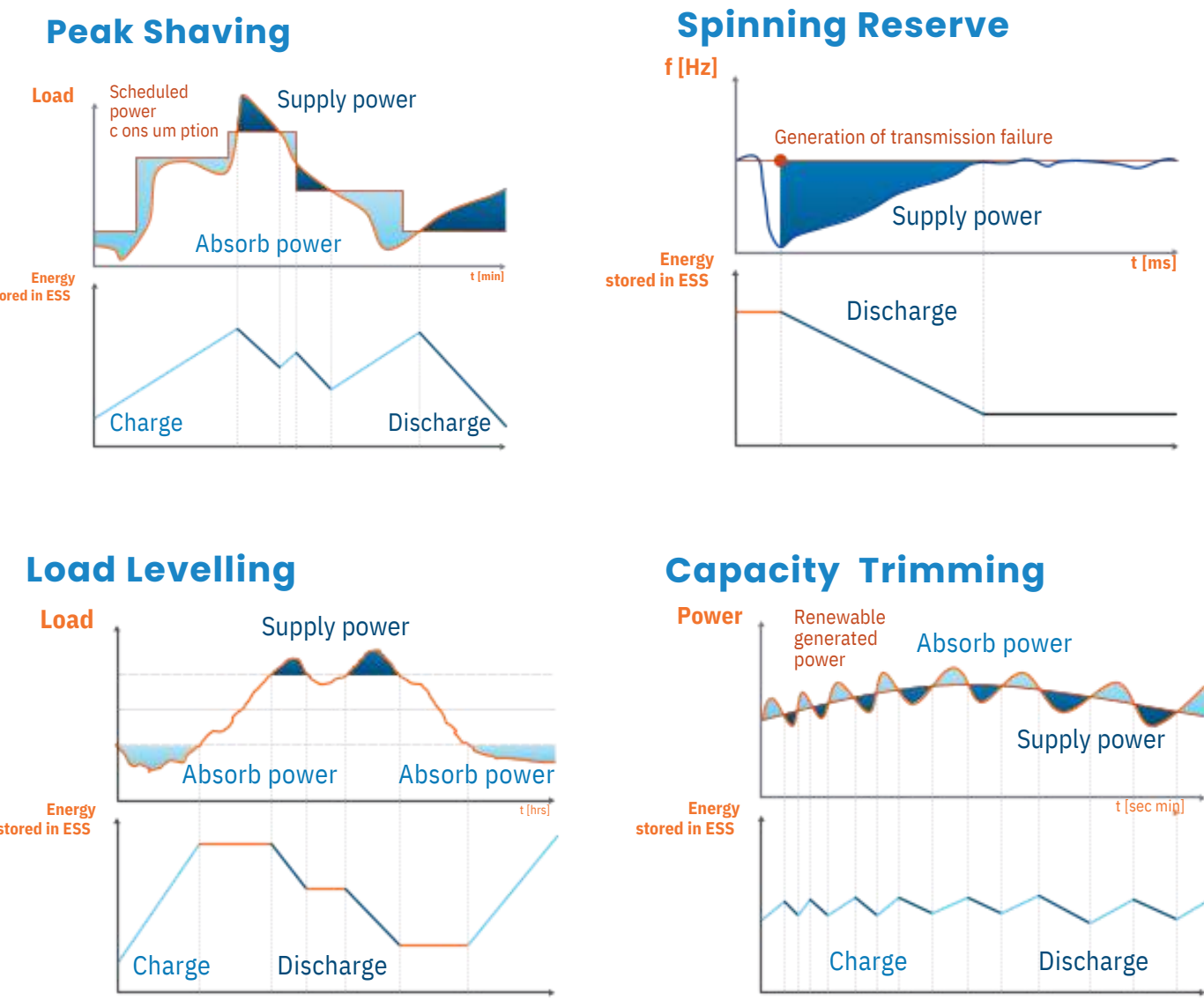
Why Energy Storage is the Game-Changer for Rigs?

- The BESS balances load sharing between generators, supplying up to 4.4 MWh.
- As drilling deepens, the BESS activates extra generators, ensuring continuous power.
- Enhances operational efficiency by minimizing genset runtime and utilizing stored battery power to maintain optimal load levels.
- Compatible with renewable energy sources, supporting the transition to sustainable practices for On-Shore and Off-Shore operations.
- Generator performance data is available on demand, ensuring an efficient and sustainable power solution.



Operational Benefits of BESS with Diesel Gensets

- **Peak Shaving:** Reduces genset load during peak demand, lowering fuel use and wear.
- **Spinning Reserve:** Instant backup power without running idle gensets, cutting fuel waste.
- **Load Levelling:** Keeps gensets at optimal efficiency by smoothing demand fluctuations.
- **Reduced Cycling:** Minimizes start-stop cycles, extending genset lifespan and reducing maintenance.
- **Seamless Transition:** Ensures uninterrupted power during genset or grid transitions.



System Design

4 MWh Energy Storage System



The Robust BESS is made up of three key components: battery racks integrated with a battery management system, a bi-directional inverter, and a system controller. Each component is engineered to handle shock and vibration during transport to the site, and the skid is specifically designed for crane loading and unloading.

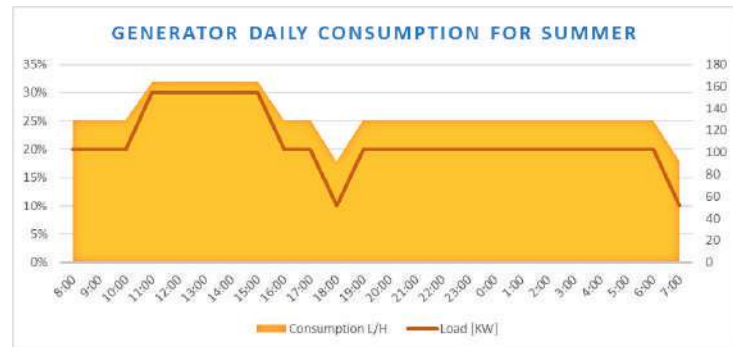


Case Study

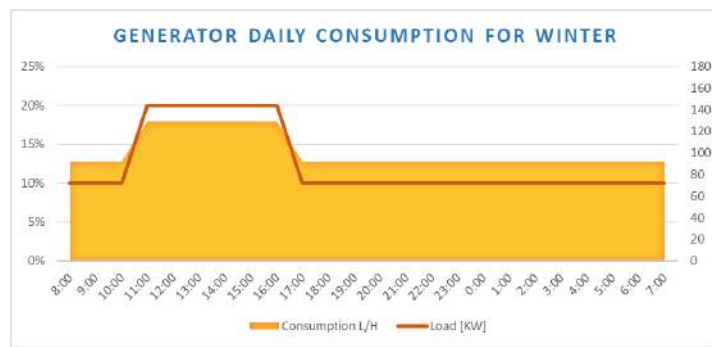
Off-Shore Jack Up Barge

Analyzing the Carbon Emission

Daily Fuel/Power Consumption before integrating Robust BESS



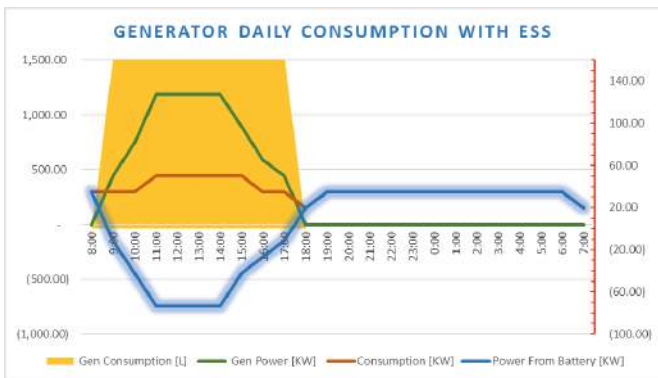
- Summer Season Daily Consumptions:**
- Fuel consumption: **~3200 Liters**
 - Electricity consumption: **~7.5MWh**
 - Average fuel consumption for each KWh: **~0.42L/KWh**
 - The generator adds 24-hour working hours to the maintenance calendar.



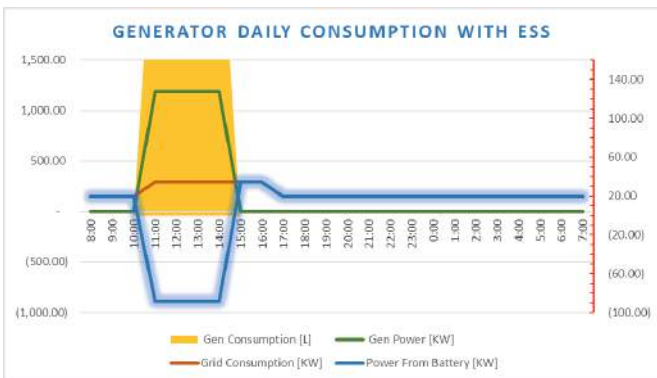
- Winter Season Daily Consumptions:**
- Fuel consumption: **~2500 Liters**
 - Electricity consumption: **~4.5MWh**
 - Average fuel consumption for each KWh: **~0.53L/KWh**
 - The generator adds 24-hour working hours to the maintenance calendar.

After adding 4.4MWh ESS

Daily Fuel/Power Consumption



- Summer Season Daily Consumptions:**
- Fuel consumption: **~1900 Liters**
 - Electricity consumption: **~7.5MWh**
 - Average fuel consumption for each KWh: **~0.25L/KWh**
 - The generator adds 10-hour working hours to the maintenance calendar.

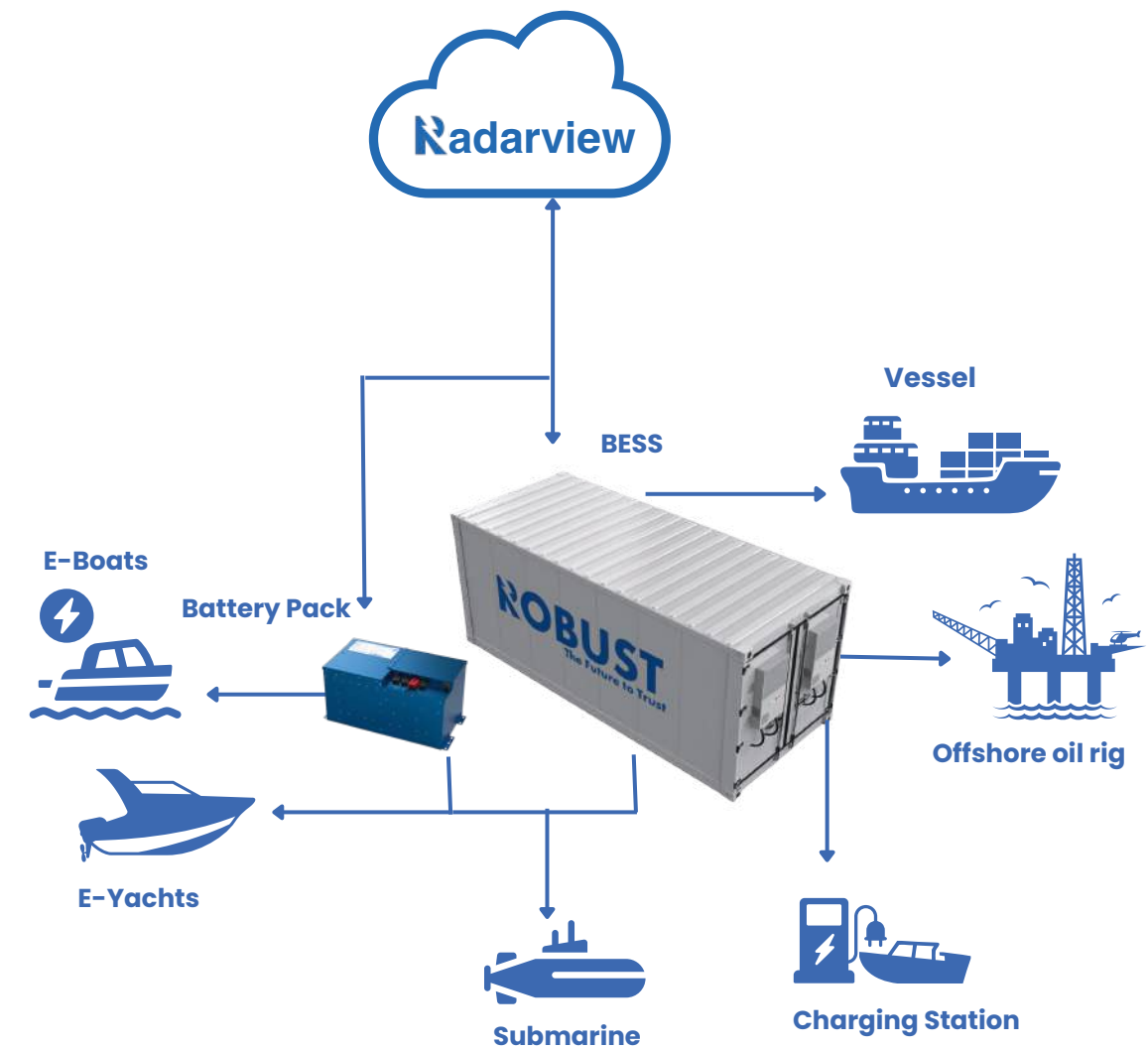


- Winter Season Daily Consumptions:**
- Fuel consumption: **~1400 Liters**
 - Electricity consumption: **~4.5MWh**
 - Average fuel consumption for each KWh: **~0.31L/KWh**
 - The generator adds 4-hour working hours to the maintenance calendar.

- Fuel consumption reduces ~3200 Liters to ~1900 Liters up to **40%** fuel and carbon footprint saving.
- Provides 15 hours noise and smoke-free environment.
- Shaves peak powers to prevent the generator from running maximum loads.
- Balances fluctuations on the generator power and increase electrical equipment's life time.

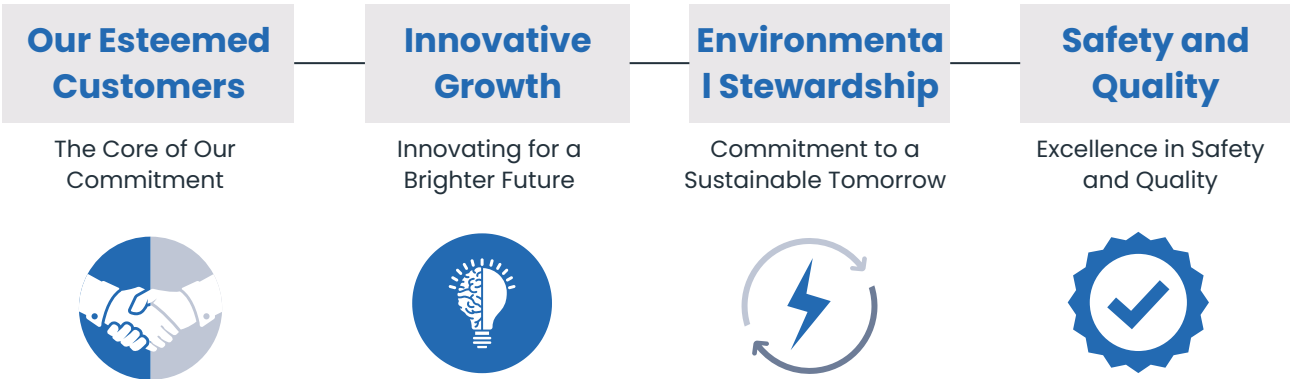
Tailor Made Battery Packs for Marine Industry

At Robust, we oversee every aspect of the battery pack creation process for marine vessels, including e-boats, e-yachts, and other electric-powered boats as well as the charging infrastructure needed to power them. From initial design to final production, each battery pack is custom-built to meet the specific power needs. This integrated approach ensures consistency and reliability at every stage, delivering comprehensive energy solutions designed for long-term use in marine environments.



Safety and Certifications

Given the critical nature of offshore environments, our BESS is developed to meet the highest international safety and certification standards. Our system includes fire suppression mechanisms, anti-corrosion enclosures, and advanced monitoring systems to ensure safe and reliable operation in harsh marine conditions.



www.robustess.com
info@robustess.com
+971 48 329 101
+971 56 669 2386

Factory: B34BH 531 St, Mina Jebel
Ali, Jebel Ali Freezone, Dubai, UAE

Istanbul Office: 2/4, Zorlu Centre
Beşiktaş İstanbul, Türkiye, PO Box:
34340