

Press release

Munich, February 11, 2021

Siemens Energy delivers energy storage solution for Maersk Drilling's first hybrid, low-emission jack-up drilling rig

- Two jack-up rigs were retrofitted with Siemens Energy's BlueVault™ lithium-ion energy storage system.
- Initial data show that the low-emission upgrades in batteries, data monitoring, and other efficiency measures can deliver reductions in CO₂ by up to 25 percent and NO_x emissions by up to 95 percent.

Siemens Energy signed an agreement with Maersk Drilling to upgrade two ultra-harsh environment CJ70 jack-up drilling rigs in the North Sea with hybrid power plants using lithium-ion energy storage. The rigs – the Maersk Intrepid and Maersk Integrator – were retrofitted with BlueVault™ batteries from Siemens Energy. They are the first jack-ups to employ a combination of hybrid, low-emission solutions on the Norwegian Continental Shelf.

The batteries have enabled Maersk Drilling to reduce the runtime of onboard combustion engines and maintain an operational setpoint where energy efficiency is maximized. The initial data point shows that Maersk Intrepid in the first month of operations with the full set of upgrades installed was able to reduce CO₂ emissions by 25 percent and NO_x emissions by 95 percent compared to the baseline average for the rig.

"We're thrilled to receive a promising first data set on emission reductions," said Caroline Alting, Head of Integrity & Projects for Maersk Drilling. "It's still too early to make any definitive conclusions on average emission reductions over time, but the preliminary results are promising with reductions around 25 percent compared to the rig's baseline, driven by both energy-saving technology and behavioral changes supported by the low-emission package."

The advanced BlueVault battery system is suited for both all-electric and hybrid power applications and is specifically designed to minimize emissions and ensure continuity of power on offshore vessels. The solution has been installed on various marine vessels worldwide, including the West

Mira ultra-deep semi-submersible, the world's first low-emissions drilling rig to use lithium-ion energy storage.

Offshore rigs are ideally suited for hybrid power plants, as they have highly variable power consumption for drilling, dynamic positioning, and station keeping. The diesel-electric solution with BlueVault energy storage will reduce the transient load on generator sets, meaning that basic requirements can be met by fewer engines operating at a higher load, thus decreasing carbon emissions.

The batteries' temperature is regulated with a water-cooling system, which works as a passive safety layer to prevent thermal runaway. Another differentiating feature is the system's digitalized condition monitoring system, which provides state of health (SOH) and state of charge (SOC) transparency for individual cells to maximize the batteries' performance and lifespan.

Siemens Energy also supplied BlueDrive power electronics and advanced monitoring software.

"We are proud to contribute to Maersk Drilling's strategy to set a new industry standard for low-emission offshore drilling and look forward to bringing this highly sustainable solution to additional rigs in the future," said Jennifer Hooper, Senior Vice President, Industrial Applications Solutions for Siemens Energy.

Norwegian fund dedicated to reducing NOx emissions

Maersk Drilling applied for project funding through the NOx Fund – a Norwegian fund dedicated to reducing NOx emissions. The fund is contributing a grant of up to 80 percent of project costs (subject to verification of the emission-reducing upgrades). It has high hopes that the ultra-harsh jack-ups will be a benchmark for the offshore industry as it drives toward emissions reductions.

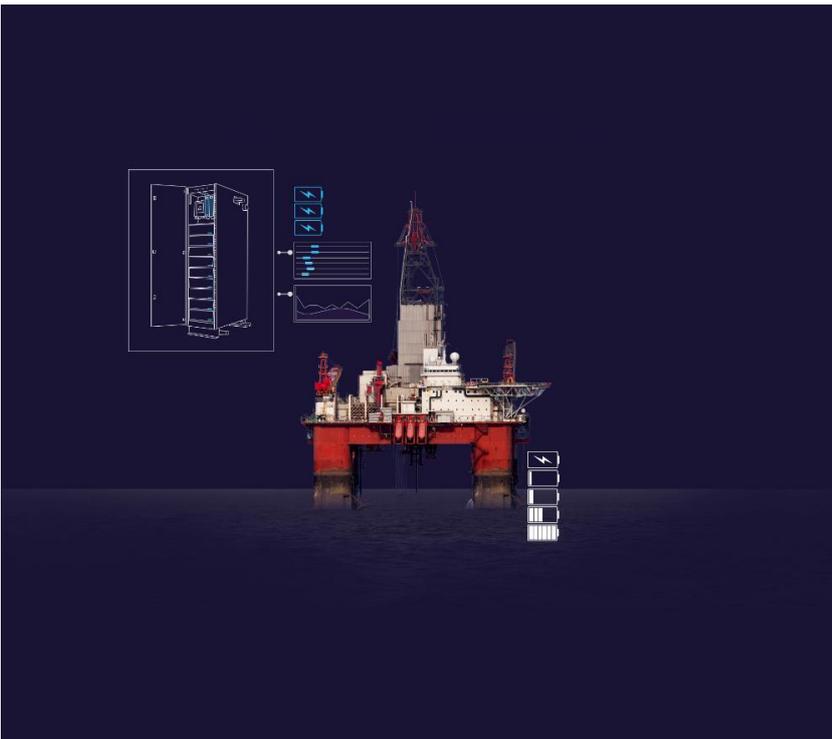
The global fleet of Jack-ups is nearly 500 units. Siemens Energy believes that approximately 300 of these may be eligible candidates for similar upgrades with BlueVault batteries. Upgrading all of these drilling rigs with batteries would potentially reduce emissions by more than 1 million tons of CO₂ per year*, equivalent to annual emissions from 725,000 automobiles**.

**) Estimate may differ due to different designs and sizes of rigs, with different consumptions and emissions. The CJ70s are among the biggest units; therefore, the savings are likely to be bigger than those applicable for smaller rigs.*

****) with an average of 15.000 km/year and an average of 120 Co2/km.*



Above: The Maersk Intrepid is being retrofitted with BlueVault batteries from Siemens Energy.



Above: Siemens Energy's advanced BlueVault battery system is suited for both all-electric and hybrid power applications and is specifically designed to minimize emissions and ensure continuity of power on offshore vessels.

Contact for journalists

Janet Ofano

Phone: +1 803-389-6753

E-mail: janet.ofano@siemens-energy.com

This press release and press pictures are available at www.siemens-energy.com/press

For further information on **Energy Storage Solutions**, please see <http://bit.ly/393UNCD>

Follow us on Twitter at: www.twitter.com/siemens_energy

Siemens Energy is one of the world's leading energy technology companies. The company works with its customers and partners on energy systems for the future, thus supporting the transition to a more sustainable world. With its portfolio of products, solutions and services, Siemens Energy covers almost the entire energy value chain – from power generation and transmission to storage. The portfolio includes conventional and renewable energy technology, such as gas and steam turbines, hybrid power plants operated with hydrogen, and power generators and transformers. More than 50 percent of the portfolio has already been decarbonized. A majority stake in the listed company Siemens Gamesa Renewable Energy (SGRE) makes Siemens Energy a global market leader for renewable energies. An estimated one-sixth of the electricity generated worldwide is based on technologies from Siemens Energy. Siemens Energy employs more than 90,000 people worldwide in more than 90 countries and generated revenue of around €27.5 billion in fiscal year 2020. www.siemens-energy.com.