

## Siemens supplies world's first lithium-ion battery solution for offshore drilling rig

- **World's first drilling rig to operate a low-emission hybrid power plant using Siemens' lithium-ion energy storage solution**
- **Integration of BlueVault™ will reduce fuel consumption by 12 percent and CO<sub>2</sub> emissions by 15 percent**

The long-term sustainability of the offshore oil and gas sector is predicated on reducing costs and minimizing projects' environmental impacts. Drawing off its extensive experience in the electrification of marine assets, Siemens has taken a significant step on the way to helping the industry achieve those goals by supplying the world's first energy storage solution (ESS) to an offshore drilling rig.

BlueVault™, Siemens advanced lithium-ion battery-based solution, will be installed on Northern Drilling Ltd.'s West Mira offshore drilling rig that will operate in the North Sea's Nova Field, approximately 120 km northwest of Bergen. West Mira is a sixth-generation, ultra-deepwater semi-submersible designed by Moss Maritime and will be the world's first modern drilling rig to operate a low-emission hybrid (diesel-electric) power plant using lithium-ion energy storage. The solution consists of four converter-battery systems for a total maximum power of six megawatts.

"The integration of energy storage with the power supply and distribution system of a drilling rig represents an important step towards improving the environmental sustainability of the offshore oil and gas industry," said Bjørn

Einar Brath, Head of Offshore Solutions in Siemens. “Offshore rigs have highly variable power consumption for drilling and dynamic positioning. By incorporating energy storage, it is possible to reduce the runtime of diesel engines and also keep them operating on an optimized combustion level. This ultimately leads to lower emissions.”

The installation of BlueVault on West Mira will result in an estimated 42% reduction in the runtime of on-platform diesel engines, reducing CO<sub>2</sub> emissions by 15 percent and NOx emissions by 12 percent, which is equivalent to annual emissions from approximately 10,000 automobiles.

The batteries will be charged from the rig’s diesel-electric generators and used for supplying power during peak load times. In addition, they will serve as backup to prevent blackout situations and provide power to the thrusters in the unlikely event of loss of all running machinery.

Seadrill Norway Operations Ltd. will operate the West Mira rig on behalf of Northern Drilling. Wintershall has contracted the facility for six wells in their Nova field. The contract includes options for early commencement starting in Q3 of 2019, as well as follow-on options. Should all options be exercised, West Mira is expected to be contracted to Wintershall until Q1 2022. In the coming months, Siemens will continue to work closely with Seadrill to ensure that the groundbreaking hybrid power solution meets the performance and reliability requirements of the facility.

The energy storage solution that will be supplied to West Mira is based on field-proven technology, which has been installed in more than 60 marine vessels worldwide, including the world’s first electric car ferry, MF Ampere, in Norway. As part of a strategy to continue providing low-emissions solutions for harsh offshore operating environments, Siemens opened a fully robotized and digitalized plant in Norway that will develop and manufacture energy storage technologies for both marine and offshore oil and gas applications.

“We expect this market to grow significantly, and consequently have invested heavily in the development of safe and reliable ESS solutions by establishing a production facility for battery modules in Trondheim, Norway,” added Brath. “The facility will play an important role in helping Siemens meet the global demand for more efficient drilling operations, with the ultimate goal of reducing the offshore industry’s carbon footprint.”



**West Mira will be the world’s first drilling rig to operate a low-emission hybrid power plant using Siemens’ lithium-ion energy storage solution**

This press release is available at [www.siemens.com/press/PR2018120101PDEN](http://www.siemens.com/press/PR2018120101PDEN)

#### **Contact for journalists**

Janet Ofano

Phone: +1 803-389-6753 / Email: [janet.ofano@siemens.com](mailto:janet.ofano@siemens.com)

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