

CASE STUDY: STRONG WINDS, RELIABLE POWER

CUSTOMER

Edda Wind

APPLICATION

Offshore
Wind Vessels

LOCATION

Haugesund,
Norway

SCOPE OF ENGINE

3512E

DEALER

Pon Power Norway

EDDA WIND'S CAT POWERED FLEET SERVES THE GROWING OFFSHORE MARKET

If you've done any traveling in northern Europe, you've likely seen them: big groupings of giant wind turbines that seem to float in the sea. The first offshore wind farm was installed in Denmark in 1991. Today, global installations have the capacity to generate more than 50 gigawatts of renewable energy — enough to power 37.5 million homes.

And the market just keeps growing, with a record 17,000-plus megawatts of new projects commissioned in 2021. That's good news for companies like Norway's Edda Wind, the offshore wind company jointly owned by Østensjø, Wilhelmsen, Seatankers and Quantum Pacific has been providing purpose-built Service Operation Vessels (SOVs) and Commissioning Service Operation Vessels (CSOVs) to the global offshore wind market since 2015.

"Offshore wind is in extreme expansion, and there is huge demand for our type of vessels," says Kenneth Walland, Edda Wind's CEO. "We want to be a leading company, so we are being quite aggressive in increasing the size of our fleet."

MOVING FARTHER OUT TO SEA

That's an understatement: Edda Wind currently owns and operates two vessels, with another two entering service Q1 2023. But by 2025, the company will have quadrupled its fleet. Eight new SOVs and CSOVs are under construction in Spain — each is powered by three Cat 3512E marine engines provided by Cat dealer Pon Power in Norway.

Reliable power is essential, especially given the way the industry is trending. Earlier, most offshore wind farms were located near to the coast, so they could be commissioned and serviced by a small crew that travels to and from the installation each day. But now, installations are moving farther offshore where the environment is more harsh but the winds are stronger.

That means the technicians responsible for commissioning, operating, and maintaining these wind farms may need to stay aboard the CSOVs and SOVs for up to four weeks at a time.

"There's a requirement to take care of all the logistical needs for that length of time without replenishing the vessel," Walland says. "We need to provide all the facilities the wind turbine technicians onboard need: hotel, meals, offices, workshops and the ability to transfer personnel and equipment in tough conditions."



ON A PATH TO ZERO EMISSIONS

Another requirement is sustainable operation. Edda Wind only serves renewable offshore wind farms, so its customers have a strong focus on reducing emissions and achieving carbon neutrality. That's motivating the company to operate as efficiently as possible.

"We're preparing our vessels for a hydrogen solution that will materialize down the road," Walland says. "Doing so requires additional cost and investment, but our customers seem to be willing to join us in that. We feel that zero emissions are very realistic within a four- to five-year time span for Edda Wind."

In the interim, Edda Wind has worked with suppliers like Pon Power on strategies to reduce fuel consumption and emissions, including investigating the use of alternative fuels like methanol.

Caterpillar has designed a special configuration of 3500E engines to optimize for variable speed generator sets. Variable speed generator sets will reduce emissions and fuel consumption up to 30% within the vessel operation profile. The variable speed gensets feature reduced structural and airborne noise, improved generator lifetime and increased maintenance intervals to reduce overall operational cost.



"We would not have a problem recommending Caterpillar to others based on our experience with the product itself and also the good support from Pon Power," Walland says. "The uptime and reliability of our vessels gives us a strong name in the marketplace."

-KENNETH WALLAND,
CEO OF EDDA WIND

"Pon Power took on that challenge with us and being able to operate from variable speed has given us very fuel-efficient vessels," Walland says. "Today more than ever fuel is a high cost, and our customers are usually paying for the fuel, so it directly impacts them. And of course, less fuel equals fewer emissions."

RELATIONSHIPS MATTER

This close working relationship with Pon Power — which dates back to the 1990s with the Østensjø Group — is a key reason Edda Wind powers its vessels with Cat marine engines. The company performs whatever maintenance and repairs it can onboard but relies on the Cat dealer to provide replacement parts as well as services like top-end and major engine overhauls.

"Whenever we have any challenges, Pon Power has always been responsive and supportive," Walland says. "They have been there when we needed them, and that is important when choosing engines."

Plus, as the offshore wind market continues its expansion, Edda Wind sees Caterpillar's global presence as a significant advantage — with a dealer network capable of servicing engines anywhere in the world.

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