



Scandlines' ambition is zero emission - our journey continues: Conventional ferry operation was yesterday, hybrid operation is today and emission free ferries are the future. (Photo: Maskinmesteren)

THE JOURNEY TOWARDS ZERO EMISSION FERRIES CONTINUES

Scandlines is ready to take the next step towards a greener future

Based on the experiences from the successful hybrid propulsion system, Scandlines is now preparing the next step towards emission free ferries - plug-in hybrid ferries. The zero emission goal is becoming ever more achievable. In three to four years' time, Scandlines expects the ferries on the Puttgarden-Rødby crossing to be purely battery-operated.

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In 2013, Scandlines demonstrated great innovation skills with the launch of its ground-breaking hybrid system on Puttgarden-Rødby. Scandlines was the first ferry operator in the world to make large-scale use of an on-board hybrid propulsion system, which stores excess energy in batteries. This enables Scandlines to reduce CO₂ emissions by up to 15 percent.

With 34,000 departures and an operating time of the ships' engines of up to 30,000 hours every year, any kind of efficiency improvement will lead to great results. Scandlines is constantly on the lookout for new ways to optimise the operation and expects to introduce 100 percent battery propulsion on the Beeline in 2018+.

100 percent battery propulsion in 2018+

Scandlines' ambition is emission free ferries. We take one nautical mile at a time

and invest responsibly in tomorrow's technology, leading towards a greener future. Learning from our hybrid propulsion system now enables us to continue the journey towards our zero emission goal. The way is paved by our accumulated experience with the use of a 2.7 MWh battery bank which equals the capacity of 364 cars.

We have a clear roadmap on how to achieve purely battery-operated ferry services on Puttgarden-Rødby, and during the next couple of years, we will introduce plug-in hybrid ferries that will be charged in the port.

Near coast zero emission through plug-in hybrid ferries

When the ferry is in the port, it will be charging and electricity will be stored on board the ferry in the so-called ESS (Energy Storage System). When leaving the port, the ferry will then operate purely on

battery propulsion. At sea, the ferry will be run by diesel electric propulsion with emission funnel cleaning (closed loop scrubbers). When approaching the port, the ferry will once again be purely driven by battery propulsion.

Three potential roadblocks

The project has at least three potential roadblocks:

- 1: Scandlines needs to build competence in large-scale shore side charging - the batteries of the ferries need to be charged by 4 MWh in only 15 minutes.
- 2: Sufficient electrical infrastructure to the ports needs to be secured - the current electrical grid must be investigated and is most likely not sufficient to support large-scale charging.
- 3: Investment payback needs to be secured. The system requires an investment of approx. 50-60 MEUR.



Scandlines proudly presents: The world's biggest hybrid ferry (Photo: Michael Dietz/Scandlines)