E-ferry pressemeddelelse – 4. juni 2020

The E-ferry Ellen crosses the finish line, and shows that electric propulsion is the best solution

The E-ferry Ellen is a Horizon 2020 supported fully electric, record breaking regional ferry which sails in the Danish part of the Baltic. The partners behind the E-ferry project have met the criteria set by the EU, and now the important data on Ellen's performance and finances has been published. The economic calculations show that pure electric power is the best solution for a ferry operator, and the best solution in terms of reducing greenhouse gas emissions and harmful particles.

85% energy efficiency
The energy efficiency of the total electrical system is as high as 85%, which is more than twice that of the propulsion system of a classic diesel ferry. Thus, the 100% electric ferry utilizes the energy supplied exceptionally well, which results in direct savings to the operator.

Ellen spends around 1600 kWh on the 22 nautical mile return trip. Combined with the high-performance charger in the port of Søby, it makes Ellen a serious competitor for current diesel ferries. Ellen is able to draw the necessary power very quickly before the next trip starts, thus maintaining the high frequency that passengers demand. The charging station charges with up to 4MW, depending on the charging status of the batteries when the ferry arrives in port in Søby.

Electric propulsion is the cheapest solution right now
Perhaps most important of all for the dissemination of e-technology, pure electricity is simply the cheapest solution now. Investment costs are still somewhat higher for an electric ferry, but the savings in operation offsets investment costs after 4-8 years, depending on the conditions, technical and regulatory, that apply to the route. As the lifespan of a ferry is typically around 30 years, an operator can therefore look forward to significant savings after a few years of operation. Contributing to the startling figures are the declining prices of e-technology, not least the battery prices, which have been declining rapidly in recent years, while the energy density of the batteries has increased steadily.

Passenger satisfaction is very high
Combating climate change as a result of greenhouse gas emissions is a priority to many, and Ellen's passengers mention again and again in E-ferry's passenger surveys, that they are extremely pleased with the emissions-free Ellen. Lkewise, they highlight the quiet sailing without noise and smog on the sun deck. In general, passengers consider that they are either 'extremely' satisfied (45%) or 'very' satisfied (41.3%) with the electric ferry. It is also noteworthy that no passenger feels unsafe by sailing with the 100% electric ferry.

Noticeable reduction in greenhouse gas emissions and particulates
Ellen is emission-free in operation, but whether emissions are emitted in connection with the operation, or not, naturally depends on from where the used electricity originates. If Ellen is charged with electricity from green energy sources, such as wind and sun, she will operate completely emission-free, saving the environment of around 2,520 tonnes of CO2 per year. If she is charged with electricity from the ordinary Danish electricity grid, she will reduce CO2 emissions by around 2,010 tonnes of CO2 per year. CO2 emissions from battery production are compensated for by the emission savings over the first three months of the life of the electric ferry.

E-ferry has released an evaluation report
The E-ferry project has now officially ended and in connection with the completion, the partners have prepared an evaluation report. Excerpts from the evaluation report, and materials on the electric ferry and the demonstration period (in 5 parts), can be viewed on E-ferry's Danish website:
https://www.el-færgeprojekt.dk/nyheder/e-ferry-ellen-crosses-the-finish-line-and-delivers-great-results

Facts about the E-ferry project
The E-ferry project is an EU Horizon 2020 supported development project, which aims to design, build and demonstrate a 100% electrically powered passenger and car ferry with a significantly increased range compared to previous electric ferries. The project was officially completed on May 27, 2020.

EU Horizon 2020: https://ec.europa.eu/programmes/horizon2020/en

Ærøfærgerne (operator), booking and schedules: www.aeroe-ferry.dk

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Leclanché
Jens Kristensen Consulting Naval Architects
Søby Værft (Søby Shipyard)
Søfartsstyrelsen (Danish Maritime Authority)
Tuco Marine Group