

## Case Study

# Fischer Panda UK Supports the UK's First Electric Fishing Vessel

Scotland's West coast has become the setting for a groundbreaking project: the conversion of the UK's first fishing boat to solar and electric power. The vessel, named 'Lorna Jane', represents a significant stride towards sustainable fishing practices, reflecting the dedication and innovative spirit of a local lobster and crab fisherman and boatbuilder, Hans Unkles.

'Lorna Jane' is now a fully electric Cigma 21, originally built in 1979. The vessel had already covered up to 1500 miles and now boasts an average working time of 7 hours per day, covering roughly 24 miles daily, with an overall steaming range of 60 miles, which may reduce to 45 miles in adverse conditions.

Fischer Panda's 20kw Pod Motor was selected for this project. The Fischer Panda Aziprop 'Pod' motors are built with high-grade steel and can be fitted to an existing rudder or steering system. They feature a 3-stage sealing ring which provides a high degree of reliability and minimal maintenance.



### The System

**Motor and Battery System Setup:** The electric motor is powered by a 48-volt battery bank with a total capacity of 45 kWh. This system is supplemented by four solar panels and five batteries, ensuring a sustainable and reliable energy source.

**Control Systems:** The motor is connected to various control boxes, which manage the distribution of power from the solar panels and batteries to the motor. These systems also power other onboard electronics and can accept shore power input.

**Integration with Existing Systems:** The boat's existing hydraulic systems, such as the Spencer Carter hydraulic hauler, were adapted to work with the electric motor, ensuring seamless operation and maintaining familiar functionalities for the skipper.



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Fischer Panda generators and e-propulsion; Parker watermakers; Dometic air-conditioning; Mastervolt power electronics; CZone digital switching; Autoclima vehicle air-conditioning; Autoterm diesel heaters; Clayton power.

## Efficiency

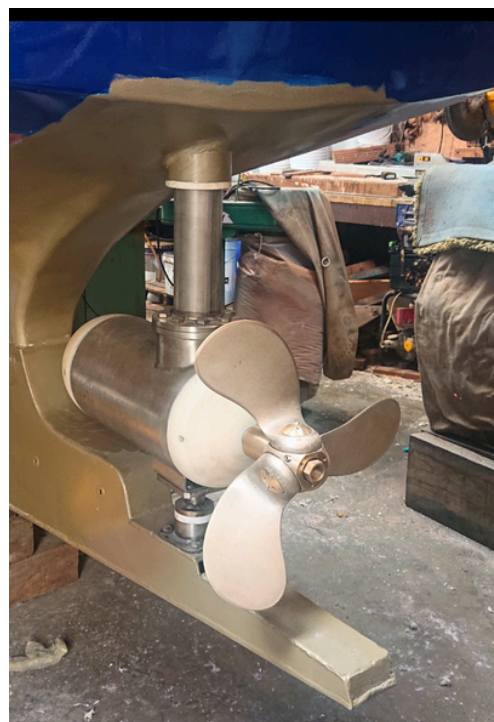
The transition to electric power has significantly enhanced Lorna Jane's operational efficiency. Key aspects of the improvements include:

**Reduced Noise and Pollution** - The electric motor operates quietly and emits no pollutants, providing a cleaner and more pleasant working environment.

**Lower Maintenance Requirements** - Unlike diesel engines, the electric motor has fewer moving parts, resulting in less wear and tear and considerably less maintenance. Electric propulsion is not only convenient but also practical.

**Lower Running Costs** - Fuel bills are significantly reduced, this is particularly apparent when comparing with diesel winter fuel bills. Even with the reduced speed of this particular 5 knot vessel, the savings created offset the reduced performance deficit.

**Enhanced Safety and Monitoring** - The system includes advanced monitoring features, such as temperature and humidity sensors in the wheelhouse and battery compartments. These sensors meet the Maritime and Coastguard Agency (MCA) requirements, ensuring safety through constant monitoring and alarms for any abnormal conditions.



## Film

A powerful and inspirational film documenting this pioneering project, directed by Joe Osborn, captures the essence of this transformation and the support of a community in the relentless pursuit toward a sustainable future for fishing;

<https://itllneverwork.boats>

Even traditional industries such as fishing, can adapt to and thrive in a carbon-free future.

Hans Unkles: "I feel if you're not embracing these changes, you're going to get left behind. The fishing industry is guilty of that, sticking feet in and keeping to old methods, but this is real, there are changes coming and if you're not set up for them, you're going to be left behind."



## Conclusion

Integrating new technology with existing systems required innovative solutions and a deep understanding of both electric and traditional fishing vessel operations.

Hans as the skipper and builder and supported by suppliers such as Fischer Panda, persevered through the challenges, demonstrating the commercial feasibility and benefits of a carbon-free future for fishing.

'Lorna Jane' stands as a testament to innovation and sustainability in the fishing industry. The installation of the 20 kW motor from Fischer Panda UK has not only made the vessel more efficient but also set a precedent for future fishing vessel projects and proved the commercial viability of electric conversion. The Marine Management Organisation's Seafood Fund can provide funding to cover up to 90% of fishing vessels conversion to electric.



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17 Blackmoor Road, Ebblake Industrial Estate, Verwood, Dorset, BH31 6AX  
Tel: +44 (0)1202 820840 Email: [info@fischerpanda.co.uk](mailto:info@fischerpanda.co.uk) Web: [www.fischerpanda.co.uk](http://www.fischerpanda.co.uk)

