

Trial of greener trains to take place on Transpennine route

November 10, 2021



A deal has been signed to trial retrofitting greener technology to trains for TransPennine Express (TPE).

Hitachi Rail, Angel Trains and TPE have agreed in principle to retrofit intercity battery hybrid trains. This will lead to a test of this clean technology along the Transpennine route in 2022.

The trial will see a diesel engine replaced by batteries to help power a five-carriage train, along with the two remaining engines. The power provided by the batteries will help to reduce the amount of fuel required to operate the train.

The technology benefits passengers by operating solely on battery power when travelling in and out of station areas, cutting noise pollution and helping to improve air quality.

While parts of the TPE route are electrified, trains are currently required to use their diesel engines for the majority of the time. Ahead of the completion of full electrification, adding a battery and creating an electric-diesel-battery hybrid, offers a fast and effective means of reducing carbon emissions.

The new battery technology, fitted to the Hitachi intercity trains, will help cut fuel usage and reduce

carbon emissions by at least 20%. Should the trial be successful, Hitachi says this will unlock the potential for further emission and fuel savings to support industry decarbonisation targets.

The TPE 'Nova 1' fleet is made up of 19 trains that connect major towns and cities across northern England and Scotland. The trial will complement a major, multi-billion-pound Transpennine route upgrade currently helping to improve connectivity across the North.

On successful completion, the way will be paved for Hitachi Rail, the train builder and maintainer, and Angel Trains, the train's owner, to develop plans to retrofit batteries to the wider fleet.

Hitachi is a Principal Sponsor of COP26. The company last month celebrated five years since the inaugural run of the DENCHA train, the world's first battery-powered passenger train. Hitachi is also able to draw on the support of its battery partner – Hyperdrive Innovation. The company is creating and developing battery packs for mass production at Hyperdrive's HYVE facility in Sunderland, the UK's first independent battery pack manufacturing facility.

Managing director for passenger services at the Department for Transport (DfT), Peter Wilkinson, said: "I'm thoroughly delighted to see these battery trains progressing. In a world increasingly vulnerable to climate change, and the environmental and atmospheric impacts of carbon and other forms of pollution, the rail industry must both show leadership and take the lead; waiting for permission simply won't be an acceptable excuse. This project is an exemplar and we are going to need others like it if we are to succeed in creating a future mixed economy of modern, environmentally clean and safe future rolling stock traction solutions."

UK & Ireland Country Lead for Hitachi Rail, Jim Brewin, said: "This trial can deliver a significant green boost to passengers and operator alike, improving air quality, cutting carbon emissions by at least 20% and reducing fuel costs. Hitachi Rail is a world leader in battery technology and believes it will be key to the UK hitting its net zero targets.

"As a business with a footprint across the North of England and with our factory at Newton Aycliffe, we see enhancing the TPE network as meeting the Government's levelling up agenda, delivering greener, more efficient services to the region."

CEO of Angel Trains, Malcolm Brown, said: "Investing in battery technology for our fleet of Hitachi Class 802 trains is critical to delivering a greener service for passengers travelling with First TransPennine Express. We are committed to supporting the Government's net zero targets and working collaboratively with our partners to achieve these goals."

Steve Montgomery Managing Director of First Rail said: "We recognise and welcome opportunities to invest in sustainable rail initiatives and support innovations such as this which create solutions to help improve rail's emissions and air quality, accelerating the transition to a zero carbon world. Working with our industry partners ensures that we achieve a better environment for our customers and will further encourage them to switch from cars to trains, which have a lower environmental impact per passenger mile."