

UK's first rapid-charging battery train ready for boarding this weekend

Great Western Railway service recharges in three and a half minutes between trips on west London line



 The 12-minute line from West Ealing to Greenford has four stops. Photograph: James Manning/PA

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now carrying up to 273 passengers, should its celebrity stoke up the demand.

The battery will recharge in just three and a half minutes back at West Ealing station between trips, using a 2,000kW charger connected to a few metres of rail that only becomes live when the train stops directly overhead.



 The train can travel up to 200 miles on a single charge. Photograph: Steve Cotton/Alamy

There are hopes within government and industry that this technology could one day replace diesel trains on routes that have proved difficult or expensive to electrify with overhead wires, as the [decarbonisation of rail continues](#).

The train has proved itself capable of going more than 200 miles on a single charge - last year setting a world record for the farthest travelled by a battery-electric train, smashing a German record set in 2021.

The GWR train and the fast-charge technology has been trialled on the 2.5-mile line since early 2024, but has not yet carried paying passengers.

GWR's engineering director, Simon Green, said: "This is a significant moment for all those involved in this innovative project and comes at a crucial time as we focus on plans to replace our ageing diesel fleet."



The new train can carry 237 passengers. Photograph: James Manning/PA

“Our fast-charge trial has successfully demonstrated that battery technology offers a reliable and efficient alternative to power electric trains, in cases where overhead lines aren’t possible or desirable.”

Network Rail’s western route director, Marcus Jones, whose teams installed the fast-charge infrastructure, said the trial had shown “how promising this technology is and today marks another important milestone for the industry”.

“Rail is already the greenest form of public transport, and battery-powered trains will play a crucial role in our commitment to a low-emission railway and ambition to reach net-zero by 2050,” he said.

Hybrid battery-electric trains, running on battery where power lines are not available, are already established in Japan and elsewhere. Merseyrail also has trains running a short distance on batteries, but primarily powered and recharging from a third rail.

However, the rapid charging technology used in the new GWR service means trains can be built using batteries alone, which are safer for the public than using a high-voltage third rail, and have less impact on local electricity grids.

The electrification of the Great Western mainline was ended in 2020, **curtailed due to its enormous cost overruns**. GWR believes the technology could now allow it to switch away from diesel on much longer routes in south-west England.

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