

# Innovative UK start up powering headline COP26 rail decarbonisation projects

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An Innovative UK start-up company, Vanguard Sustainable Transport Solutions, today announced latest progress on several headline projects that are driving forward the development of hydrogen and battery technologies to achieve rail decarbonisation.

Vanguard has been working closely with the University of Birmingham and Porterbrook to support the delivery of HydroFLEX, the UK's first mainline-approved hydrogen train. HydroFLEX is currently taking a headline role at COP26 in Glasgow, demonstrating the application of this cutting-edge technology to support decarbonisation of railway systems in the UK and across the globe. The team at Vanguard have been supporting the HydroFLEX project team over the last twelve months with specialist design and engineering work.

Additionally, Vanguard are working in partnership with the Severn Valley Railway and the University of Birmingham to convert one of their Class 08 shunter locomotives from diesel to a clean, modern hybrid hydrogen/battery system. This project has developed with significant input from students and apprentices getting involved and learning about these new technologies and their role in delivering rail decarbonisation.

Vanguard continues its work with rolling stock projects along with delivering solutions for rapid, safe, high volume hydrogen refuelling specifically for railway application. As a result, Porterbrook have also contracted Vanguard to supply hydrogen refuelling services to the HydroFLEX project.

Rob Gibson, Vanguard Chief Operating Officer, says

“We are delighted to have supported the University of Birmingham and Porterbrook and seeing HydroFLEX in operation at COP26 is a fantastic achievement. Our team are thrilled to have played a role in this project and to see our work in full application on the railway at this major global event.

“Vanguard is investing significantly in our research and development activities to take this technology forward towards commercial applications globally. As a UK start up we are thrilled to see our technology showcased at COP26 and look forward to building further partnerships to deliver decarbonised railways.”

Alexander Burrows, Director at the Birmingham Centre for Railway Research and Education at the University of Birmingham, says

“In just 3 years, the University and Porterbrook have designed, developed and now delivered the UK’s first hydrogen train into operation. Seeing it running at COP26 in Glasgow is a wonderful achievement and as a University we are thrilled to see our research now directly influencing policy-making and delivering a real-world impact.”

Mary Grant, CEO of Porterbrook, says

“We are incredibly proud to work alongside some truly great British businesses, whose skills and expertise have helped us take HydroFLEX to COP26. This reflects a high level of collaboration across the private sector which in turn has been supported by our Network Rail and University of Birmingham partners. Seeing HydroFLEX in action in Glasgow is a true milestone moment as we accelerate the rail industry’s journey towards Net Zero.”

Helen Smith, Managing Director of the Severn Valley Railways, says

“Shunter locomotives are the workhorses of our operation as a heritage railway, carrying out essential stock movements on a regular basis. The Harrier HydroShunter will be emissions-free at the point of use, and we hope to inspire other heritage rail organisations to follow our lead. The national rail network relies on its shunting stock just like we do; just imagine how much better the UK’s carbon footprint would be if they were all powered by hydrogen.”

*Image Credit: Vanguard Sustainable Transport Solutions*