

Minister of State
Huw Merriman MP
Great Minster House
33 Horseferry Road
London
SW1P 4DR

Dear Huw Merriman MP,

Our recommendations to make electric railways more resilient to climate change

I am writing to share with you our report on Climate Resilience in Rail Electrification - the first of its kind to consider the full range of climate related impacts on electrified rail.

Investment in the railway is a win-win for the economy and the climate. For every £1 spent on rail £2.50 is delivered to the wider economy.¹ Electric train travel is greener than diesel trains, greener than car travel and significantly greener than air travel. Electric trains are also more affordable, more energy efficient, more reliable and create less noise and air pollution than diesel trains over their lifetime.² However, despite rail electrification being part of the solution to climate change, it must also be resilient to that change.

Almost a year on from the UK's first ever red weather warning for extreme heat, we have prepared this report highlighting exactly how we can increase the resilience of our electrified railways. Our report details how the 6,000km of overhead wires and structures that support electric trains are under threat from hotter, drier summers, more heatwaves, wetter winters, stronger winds, more extensive flooding and sea level rise.

Our report makes the following five recommendations to ensure electric railways are resilient and can recover quickly to new extreme weather conditions, including:

1. Reviewing existing systems' temperature ranges against climate projections
2. Assessing the most vulnerable assets to identify any urgent renewals
3. Implementing more 'Nature based Solutions', such as incorporating vegetation to provide shade and shelter, limit flooding, stabilise embankments and limit coastal erosion
4. Increasing remote monitoring regimes to aid a shift towards risk-based maintenance
5. Carrying out further research into the impacts and potential solutions to climate impacts, for example, in advanced materials, nature-based solutions and the performance of materials in extreme weather conditions

We hope you will take these recommendations forward as policy, to future proof our railway and ensure climate resilience in electrification is a key priority for rail.

The UK has the potential to be a leader in climate change resilience in electrification, to share knowledge and improve infrastructure resilience worldwide.

We'd welcome the opportunity to meet with you to discuss this further.

Kind regards,

Noel Dolphin
Head of UK Projects

¹ Oxford Economics (2021) *Economic Contribution of UK Rail*, Railway Industry Association <https://www.oxfordeconomics.com/resource/The-economic-contribution-of-UK-rail/>

² Shirres, D. et al (2021) *Why Rail Electrification*, Railway Industry Association https://www.riagb.org.uk/RIA/Newsroom/Publications%20Folder/Why_Rail_Electrification_Report.aspx