

Rail experts: Ambitious decarbonisation plan for rail is possible

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Britain's railways could remove diesel-only passenger trains from the network and make substantial progress towards decarbonising their operations by 2040, according to leading rail experts in sustainability and rolling stock.

In February 2018, the then Rail Minister Jo Johnson issued a challenge to decarbonise the railways and remove diesel-only trains by 2040. An initial report by the Rail Industry Decarbonisation Task Force and rail body RSSB - welcomed today by government - is the first step to addressing this challenge, and has found that while the target is achievable, there is no single "silver bullet" solution.

The research confirms that the railways can continue to offer one of the lowest-carbon transport options for passengers and freight, and provides some early insights into the way the issue should be tackled, focussing on the technologies that will support decarbonisation.

A final report in late spring 2019 will outline the strategy with an economic appraisal and a road map of options towards challenging carbon reduction targets.

Rail experts are agreed that additional electrification on intensively-used routes, where it is cost-effective and appropriate, will continue to offer key benefits, but that it must be balanced with the disruption and delays it can cause to passengers. They also identified a need to reach a consensus on the local, targeted roles that newer, emerging traction options such as hybrid trains, battery, and hydrogen could play.

The report suggests it's possible to remove diesel-only trains for passenger trains, but not yet for freight, where new research is currently looking at better options. According to experts, only diesel offers the

power and 'go anywhere' flexibility for freight to operate on one of the world's most crowded networks.

The Task Force's technical review paves the way for a decarbonisation strategy which includes additional electrification where this is justified and, develops and supports other low carbon options where electrification is not the right long-term solution.

Other options for powering trains, such as hydrogen, battery, bi-mode and hybrid trains should be actively encouraged as low-carbon alternatives, either as long-term solutions or as lower carbon transitional arrangements as a step towards full decarbonisation.

An Electrification Cost Challenge led by the suppliers' trade body, the Railway Industry Association (RIA), looking at how to ensure delivery of cost-effective electrification based on best practice in the UK and Europe, is due to report on 28 February. The Challenge report will look at how the electrification can be delivered cost effectively by using learning from schemes in the UK, including Scotland, and internationally.

The Task Force calls industry and government to work together on further R&D and policy development to realise the full potential that both well-established and emerging energy technology can offer by 2040.

Chair of the Task Force, **Malcolm Brown** said:

'Our report sets out a credible set of options to meet the challenge to decarbonise. We believe that there is a real opportunity for the rail industry in Great Britain to become a world leader in developing and delivering low carbon solutions.'

'The railways are already adept at using existing technology, such as diesel and electricity, very efficiently, and this sets a high hurdle to beat. However, industry cannot afford to be complacent. We welcome the challenge set by Government last year, which has helped focus our minds in the Task Force on the art of the possible. Electrification and emerging technologies both have a role to play. We believe our report provides an excellent insight, informed by experts across the whole industry and beyond, into how ambitious we can afford to be, and what needs to happen next in industry and government to make it a reality.'

Taskforce Member **David Clarke**, Technical Director of the Railway Industry Association (RIA) said: 'This report is a vital step in achieving the Government's challenge of decarbonising the rail network by 2040. Crucially, the report sets out a selection of potential solutions, including the electrification of intensively used rail routes where appropriate.'

'Now, the industry will set out how it can deliver electrification schemes cost-effectively, which will be explored further in the Railway Industry Association's Electrification Cost Challenge report - due to be published soon, on 28 February.'

Gary Cooper, Director of Planning, Operations and Engineering at the Rail Delivery Group, which brings together train operators and Network Rail to enable a better railway, said:

'With record numbers of people choosing to travel by rail and with annual rail freight haulage equating to 8 million HGV journeys, the railway is already cutting up to 7.7million tonnes of carbon emissions every year with fewer cars and lorries on the road.'

'But we need to do more to keep pace with progress seen in other transport sectors including making better use of existing electrification infrastructure, electrifying more lines where cost effective and harnessing emerging battery and hydrogen fuel cell technologies.'

RSSB's Head of Sustainable Development, **Anthony Perret**, said: 'This initial report provides the first steps to a solid evidence base from which the industry can reduce and ultimately eliminate carbon emissions. The whole industry has played its part on this, with extensive consultation on the key recommendations across infrastructure, passenger and freight operators, rolling stock companies, manufacturers and suppliers.'

'Further research will inform our final report in late spring 2019. There is a real appetite to meet the challenge of becoming the world's most cost-effective low carbon railway.'