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# Legislating for a rolling programme of rail electrification

June 2026

This briefing sets out the case for:

- Ongoing electrification of the railway as essential infrastructure
- A rolling programme of electrification to deliver in the most cost-effective manner
- An amendment to the Railways Bill to legislate for said programme, providing long-term certainty and guarding against political risk

## A better railway

Rail electrification delivers quicker journeys, more services and more seats for customers. Electrified railways are more efficient and more reliable, all while being cheaper over their total lifetime than the alternatives, even when including the up-front infrastructure investment.<sup>1</sup> With no tailpipe emissions, the air passengers breathe is cleaner, and carbon emissions are directly tied to the electricity grid that powers them. Prices are set by the domestic grid, not volatile international diesel markets, and cheap energy from wind and solar can be integrated directly into supplies, reducing costs even further.

Electric railways attract more passengers through the 'sparks effect' (the passenger experience of the benefits set out above) reducing traffic congestion and carbon emissions while supporting more productive cities and towns. The technology has been proven, refined and improved upon for a century, and remains operationally superior to all other methods of rail locomotion.<sup>2</sup>

## Essential infrastructure

To achieve our Carbon Budgets, it is inevitable that thousands of kilometres of railway will need to be electrified over the coming years.<sup>3</sup> It is now well understood that the most cost-effective way to do so is through a committed, long-term rolling programme.<sup>4</sup> Only the quietest corners of our railway are ideally suited to battery-electric power, and rail freight corridors will not be able to operate economically on battery power for the foreseeable future: if there is freight or high speed passenger services on a line, it needs wires.<sup>5</sup>

Crucially, while it is often assumed that battery trains are a cheaper solution, when full system life cycle costs are accounted for, they can be more expensive than electrification.



Even where battery traction is technically viable, it may cost more to deliver worse outcomes for rail customers.

## How Britain got it wrong

Britain lags behind much of Europe: 60% of passenger services run on electric trains here compared to 74% in Germany and 85% in France. For rail freight services, the rate is almost non-existent at 2.8%,<sup>6</sup> compared to 55% in Germany and 61% in France. Only 39% of Britain's rail network is electrified.<sup>7</sup> India is celebrating electrifying 100% of its much larger broad gauge network.<sup>8</sup>

This leaves a significant proportion of Britain's railway with higher operating costs, lower capacity and worse reliability, while leaving a significant proportion of Britain's workforce and logistics exposed to volatile fuel prices.

Major British stations remain exclusively served by diesel trains, including Leicester, Nottingham, Derby, Sheffield, Middlesbrough, Oxford, Worcester, Gloucester, Exeter, Plymouth, Perth, Dundee, Aberdeen, Bristol Temple Meads, Bath, Swansea, Lincoln, Birmingham Moor Street, Hull and even Marylebone in London.

Successive UK governments' piecemeal, project-by-project approach over decades has proven to be hugely inefficient, needlessly inflating capital costs. When the current government took power in summer 2024, the only live rail electrification project in England – the Midland Mainline (MML) between London and Sheffield – was 'paused' indefinitely ahead of the 2025 Spending Review. This has damaged the supply chain significantly, including its knowledge, skills and supply of plant and machinery. CEBR estimates around 500 electrification workers lost their jobs due to this decision. Most will leave the sector altogether as there is no other work underway.<sup>9</sup> This demobilisation of the skilled workforce is in turn expected to substantially increase per-kilometre electrification costs for East-West Rail and HS2 when those projects eventually begin. Meanwhile, the main operator for the East Midlands route is now having to consider new diesel rolling stock to replace its aged fleet<sup>10</sup> – potentially meaning diesel trains operational on our railways as late as 2065.<sup>11</sup>

## How to get it right

In any future scenario, Britain will need thousands of kilometres of new rail electrification, focusing first on key freight corridors and high traffic routes. A 'minimum-viable-product' strategy, developed recently by the rail industry, making full use of alternative traction technologies wherever possible, concluded that at least 345kms of electrification will be needed *every year* into the late 2030s.<sup>12</sup> Crucially, this estimate factors in an expectation that 'discontinuous electrification' – with a combination of wires and on-board batteries enabling trains to run on electricity – will be the government's preferred solution for many currently unelectrified routes.

The need for this kind of scale of electrification was echoed in the CCC's 7th Carbon Budget, which assumes 65% of the railway is electrified by 2050.<sup>13</sup> Any less than this and Britain will not have a decarbonised railway by 2050, in turn jeopardising the national targets in the Climate Change Act. Road-to-rail modal shift targets for passengers and freight, as many have called for, would only increase the amount of electrification required.

Countries with rolling programmes of electrification - where dedicated, skilled and experienced teams deliver a consistent pipeline of work each year - have significantly lower costs per kilometre. Germany, Switzerland, India and Scotland have all demonstrated this approach.

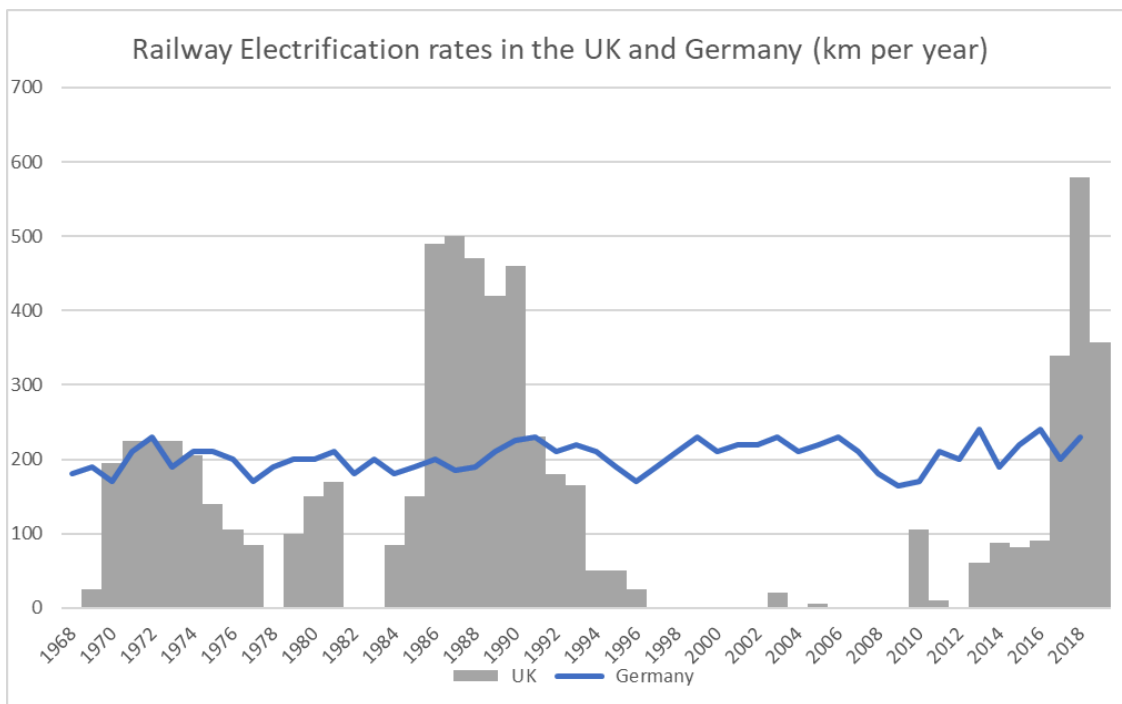


Figure 1: Germany's consistent rates of electrification over decades have brought unit costs down. Chart of annual rates of electrification in the UK and Germany 1968-2019.

In its 1st May 2026 response to the Transport Select Committee, the Government acknowledged the benefits of a rolling electrification programme and that its current strategy has pushed up costs: "The Government recognises that previous stop-start approaches to electrification may have contributed to higher unit costs and loss of capability, reinforcing the case for a more continuous and efficient approach in future."<sup>14</sup>



Proven the world-over, a rolling programme of electrification is essential to deliver a better, decarbonised railway in the most affordable way.

## Enshrining in the Railway Bill

Enshrining this in the Bill will provide the long-term certainty needed to deliver electrification in the most cost-effective way, while protecting critical UK infrastructure from political risk. Regardless of the size of overall spending each year, a committed and continuous programme would deliver significant cost-efficiencies as demonstrated by the approach taken in Scotland.<sup>15</sup> The government has suggested that a rolling programme need not be committed to in the Bill, and issues around electrification should instead be dealt with in the Department for Transport's long-awaited *Rolling Stock And Infrastructure Strategy*, part of the Long-Term Rail Strategy mandated by the Bill.<sup>16</sup>

“A legislative duty to carry out an electrification programme is not the right way to deliver these important upgrades. In the effort towards net zero, electrification may not always be the right solution” - *Keir Mather MP, Parliamentary Under-Secretary of State for Transport*<sup>17</sup>

But indications are that the rolling stock and infrastructure strategy will itself not prescribe a rolling programme, nor even issue determinations on the optimal final traction solution for each part of the network. The ‘track and train’ strategy should have been published this spring but may not now be released until the end of 2026. Infrastructure investment horizons in the rail sector can be 30 years, and re-starting the work of electrification cannot be delayed any further without placing national Net Zero targets at risk. It is instructive to note that MML electrification has been formally committed to by successive UK governments in 2012, 2015 and 2021, but each time subsequently ‘paused’ by Ministers seeking to reduce spending commitments in the near-term - leading to increased costs over the long-term.

This is not a question of whether full network electrification is desirable, or whether electrification is the optimal solution for any given route. Network-wide, hundreds of kilometres of electrification per annum is now required even in the least ambitious viable scenario before us, and it is not in dispute that the most cost-efficient way to deliver this volume of work is via a continuous rolling programme - regardless of its overall spending envelope.

## Railway Bill Passage

The Bill was recently reintroduced to the Commons at Report Stage for the 3rd Reading, which began on the 3rd June. It will now return to the Lords for a 2nd Reading during the current (2026-27) Parliamentary Session<sup>18</sup>. There will be a number of opportunities for further amendments to the Bill during its passage through the Lords.



CEBR believes the Bill can be improved in a way that is consistent with the Government's objectives for the Bill, via an amendment to enshrine a requirement to maintain a rolling programme of electrification into the terms of Great British Railways when it is established as the Railways Act comes into force.

### Suggested draft amendment:

To move the following Clause—

#### **“Great British Railways electrification programme**

“(1) Great British Railways has a duty to publish and adhere to a programme of rail electrification.

(2) The programme must seek to—

(a) reduce unit costs, and

(b) improve timely delivery of infrastructure associated with rail electrification.

(3) The programme must cover a period of five financial years, beginning with the financial year following the financial year in which the programme is first published.

(4) The programme must be published each financial year thereafter, covering the period of the following five financial years.

Member's explanatory statement:

This new clause would require Great British Railways to commit to a rolling programme of line electrification.

This draft is based on the Opposition amendment tabled by Olly Glover MP during the Public Bill Committee stage. A number of other Opposition amendments which CEBR supports relating to decarbonisation and targets for increasing passenger numbers and modal share of rail were also unsuccessful. The House of Commons Library has just published a full summary of the Railways Bill's progress to date, available at:

<https://researchbriefings.files.parliament.uk/documents/CBP-10538/CBP-10538.pdf>

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## Endnotes

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TO **ELECTRIFY**  
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