

THERE IS A CONTINUED BUSINESS CASE FOR THE ELECTRIFICATION OF UK RAILWAYS.

CAMPAIGN
TO ELECTRIFY
BRITAIN'S
RAILWAY



Rail electrification offers many real benefits, often less obvious than you might think. We want to take the time to remind everyone of those benefits.

Capacity Crunch	Electric trains have more seats than diesel/bi-mode trains of the same length. Greater capacity without the need for lengthening platforms.
Journey Time	Electric trains are faster than diesel/bi-mode trains, superior braking and acceleration go to make journey times shorter and increase route capacity.
Noise Reduction	Electric trains are quieter than diesel engines: good for people living near the railway and those on board. When stopped or in stations they are almost silent. This all helps improve relaxation or concentration for passengers, helps neighbors and makes stations more pleasant places to be.
Carbon Emissions	Electric trains have 20–35% lower carbon emissions than diesel, even when using non-renewable electricity generation. Electric drivetrains are just more efficient. The reduction is substantially greater when you consider the current percentages of electricity generated by renewables in the UK.
Reduced Exhaust Particulates	Diesel trains generate soot and particulates often visible in the air. These harm our lungs and attract other air pollutants, especially for people who work or live near stations or areas where trains accelerate. Electrification eliminates this bringing cleaner healthier air quality.
Emissions Free at Point of Use	Electric trains are emissions free at the point of use. Improving air quality in pollution hot spots, such as city centers. A number of UK cities are required to implement clean air zones. Electric trains can also eliminate the need for idling diesel engines in stations and terminuses.
Train Purchase Cost	Electric trains are cheaper to purchase than diesel trains - bi-mode trains are the most expensive.
Train Maintenance Cost	Electric trains are approximately 30% cheaper to maintain than diesel trains - bi-mode trains are again the most expensive.
Fuel Cost	The Fuel/Energy costs of an electric trains is approximately 50% less than diesel. Electric trains are more efficient & electricity is cheaper than diesel. Bi-mode trains are the most expensive due to the extra weight.

Track Maintenance	Track maintenance costs are approximately 10% cheaper on an electric route than for a diesel/bi-mode route. This is due to the lighter axle loads of electric only trains. The result of this is less track maintenance works and better track reliability.
Train reliability	Electric trains are more reliable than diesel/bi-mode trains, this means fewer broken down trains.
Fuel security	Electric can be sourced from a diversified grid (Remember the fuel strikes in 2000 which crippled UK transport and was only a day away from crippling the diesel railway).
Efficiency	Electric trains can recover energy from braking (regenerative braking) and feed it back into the grid or directly to nearby trains, the bi-mode trains cannot currently do this when they're running in diesel mode. Wasting this potential and making Bi-Mode trains operating in diesel mode more inefficient.
Reduced Brake Particulates	Many diesel trains use only friction brakes (like a car/lorry) to slow the train. This wears the discs and pads producing many tonnes of particulate dust into the atmosphere. Electric trains predominantly use the motors in regeneration mode to slow the train, producing zero particulates. This improves the health of the nation, especially for people who live near the railway.
Fuel Logistics	Electrification once installed is a fixed asset requiring minimal maintenance. Diesel / Bi-mode trains require huge fuel stores in the depots and a network of regular lorry deliveries to sustain them. Electrification reduces heavy road traffic as a result
Road Vehicle Electrification	The Department for Transport are well aware of the problems with diesel engines and as a result are banning them from 2040. It makes no sense to continue to use diesel trains with a 40 yrs plus lifetime knowing that diesel in other industries will be eliminated only half way through their lifecycle.



We believe the benefits of electrification over bi-mode and diesel trains are clear.

Furthermore, we believe the rail industry should be focusing on reducing costs and reducing programme durations of electrification rather than cancelling electrification.



All facts on this sheet are obtained from a **Parliamentary Briefing Paper on Electrification** – used to inform UK Parliament. HOUSE OF COMMONS LIBRARY | BRIEFING PAPER SN05907 'RAIL ELECTRIFICATION' | 27/07/17

If you want further information, or want to get involved in the campaign please contact us:
 Email info@railwayelectrification.org | www.railwayelectrification.org

