

# VISION 2030: CLEAN RAIL

#ClimateEmergency #BigClimateConversation, September 2019

## Action needed now to decarbonise Scotland's rail network.

Scotland's track record on innovation in trains and electrification of rail, is good. In the past, Scotland has pioneered electric solutions, including battery driven trains, as early as the 1950s; and is a leader in electrification of the rail network in the UK. With a need for urgent action in the #ClimateEmergency - it is time to lead again.

By 2030, 76% of our diesel rail fleet will need replaced - with the rest needing replaced just 5-10 years later. Whether the replacement fleet can be zero-emission, depends on decisions made today. If Scottish Government are serious about tackling the climate emergency, a *complete* rolling programme that enables passengers and freight to shift from road to clean rail, will start today.

- Hitachi Class 385s are electric, more efficient than earlier electric trains and popular.
- With serious investment, the future is further electrification, battery and hydrogen.
- Scotland has led before; with ambition and investment, and can do so again.

## Today clean, green trains run between Edinburgh and Glasgow.

Hitachi Class 385s (electric trains) are reducing journey times, reducing air pollution in our cities and providing a quality, reliable alternative to the car. Decisions made over ten years ago, in 2008, that led to these clean trains being in operation by 2018.

Currently 75% of existing passengers travel on electric (or zero emission) trains, and this could rise to 96% with electrification of the routes to Aberdeen and Inverness. All passengers could travel emission free with new rolling stock on the long rural routes.

Infrastructure investment decisions made today will impact upon our rolling stock choices in 2030, and determine whether our railways are on track for a net-zero emission nation in 2045. We have ten years complete a rolling programme of electrification.

Delaying the commitment and investment in an urgent rolling programme today could mean more fossil fuel powered trains, even beyond 2050 and into the 2060s. Well beyond Scotland's ambition of being a net-zero emission nation by 2045.

## Scotland urgently needs a complete rolling programme to decarbonise the whole network and be on track to net-zero.

The benefits could be huge. To the economy and jobs, building experience, skills, improved efficiency and connectivity, and strengthening a shift to a circular economy.

There would be two wins. A clean railway, plus modal shift for freight and passengers from road to rail. Further reducing emissions and air pollution from rail, as well as the co-benefits of better health and reduced costs of major disease across the nation.

Good decisions now could reap huge rewards and be a key part of a Just Transition to a net-zero nation, positioning Scotland as a leader in skills and expertise to export in future.

Without action right now, opportunities are missed. Current electrification plans from Scottish Ministers are too limited, storing up problems for mid-late 2020s with no viable plan for replacing High Speed Trains as they reach the end of their working life in 2030.

## What would a rolling programme of electrification look like?

- A long term rolling programme means commitment to a whole programme (not just individual sections) - as a matter of urgency - to see first electrifications completed in 2020.
- Planning to replace the High Speed Trains in ten years time should drive a programme of electrification of long distance routes to Aberdeen and Inverness, with completion by 2030. This alone would enable 96% of passengers to use have zero-emission railway journeys.

## Everyone must benefit from investment - from city to rural routes.

- Long Rural routes will require a new form of self-powered trains to replace the current diesel trains by the late 2020s. With today's technology these could be battery or hydrogen.
- Interim replacement of diesels on some suburban routes could be achieved now with battery fitted Electrical Multiple Units (BEMUs), as a solution until electrification is delivered.

## The Challenge:

In 2008, a Strategic Transport Projects Review set out the Scottish Government's transport investment priorities to 2032. It aimed to improve journey times and connections, reduce emissions and improve quality, accessibility and affordability of public transport. There were four headline priorities:

1. Forth Replacement Crossing (completed);
2. Edinburgh to Glasgow Rail Improvements Programme (which led to 385s and completed);
3. Highland Mainline Improvements (Phase 1 complete @ £1.2 M, Phase 2 underway, c.£55.8m);
4. Aberdeen to Inverness Rail Improvements (Commissioned 2017, to complete Dec 2019).

To achieve these stated aims, three of four strategic priorities were on rail. Yet, beyond successful delivery of Edinburgh to Glasgow Improvement, road projects have been prioritised in terms of both financial investment (£6 Billion+) and action.

## Today we face a Climate Emergency. Yet, current investment and action is locking us into high carbon infrastructure.

Priority actions and investment could look so different, and deliver aims set out in 2008. Based on current methodologies and projections, and in line with those applied by the Railway Industry Association and across Europe, Transform Scotland experts propose the whole Scottish Railway could be decarbonised by 2030, for around £2.5 Billion. Bringing benefits to people all across Scotland and to inspire our visitors, not just in our cities but right through to our long rural routes.

## Scotland's railway decarbonised by 2030.

This vision is realisable, with multiple benefits to the nation. To deliver by 2030, it needs commitment, investment and action from Scottish Government right now.

A whole rolling programme, grid planning for electrification and clean, green Scottish electricity to power the network.

Project supported by:

