

Q&A

Why is only part of the NIMT electrified?

The project was one of the so-called “Think Big” projects of the Muldoon era and a response to the oil price shocks of the 1970s and early 1980s.

A factor in the decision was that the diesel locomotives at the time were not powerful enough to transport the freight up the gradients in the central North Island, meaning a second locomotive had to be used. Electrifying the relatively level sections of line between Wellington and Palmerston North and between Te Rapa and Auckland was not considered economically justifiable at the time.

Technology has advanced to the point that diesels can now deliver this horsepower. The DL locomotives are powerful enough to negotiate the gradients without needing to be doubled up.

Why do the current electric locomotives need to be replaced?

They are almost 30 years old and are under-performing. Over the past 6 months they have failed on average once every 30,000 kms. Fleet targets are for locomotives to not fail until 50,000 kilometres. The electric trains are becoming harder to maintain, parts are difficult to find and the two fleet system is hindering our growth strategy.

What is gained by moving to an all-diesel fleet in the North Island?

It will help KiwiRail deliver a more reliable, more efficient service for its customers.

Creating a simplified operating model is a key KiwiRail business growth strategy to help our customers become more competitive through reliability and improved performance.

Lifting our operational performance will improve customer confidence by encouraging our customers to move more freight by rail. That is important for New Zealand, also, as every tonne of freight moved by rail has a 66% reduction in carbon emissions over road.

Moving from two to one fleet type will also mean lower training and maintenance requirements.

Why doesn't KiwiRail buy new electric locomotives?

They would be more expensive and would take longer to get into service. Simply replacing the existing locomotives also would not address the difficulties caused by operating both electric and diesel locomotives on one network, which creates a railway within a railway. It is equivalent to an airline requiring those flying from Auckland to Wellington to change planes at Hamilton and again at Palmerston North.

Why don't you electrify the whole North Island system?

It would be very expensive. The cost estimate is \$2.5 million per kilometre of single track. Electrifying the parts of the North Island Main Trunk currently not electrified would cost at least \$1 billion for the infrastructure alone and feeder lines would still require diesel trains. There are additional complications in that the Wellington electric network uses a different power system to the Auckland electric network.

Will we now have diesel for 30 years on that line?

The electric infrastructure will remain in place and maintained to a safe standard for any future needs.

What is the cost of maintaining the electric infrastructure?

The cost of maintaining the infrastructure is about \$2 million a year. KiwiRail is continuing to spend this money to keep the use of electric trains as a future option should the situation change.

What was the difference in cost between buying new electric or diesel locomotives?

The exact cost of locomotives is commercially sensitive. However the overall costing of the diesel option was estimated at 20% - 30% lower than the overall cost of the electric option over its operational life.

What part in the decision did environmental issues play?

Environmental factors were considered as part of the overall decision, which also looked at operational efficiency and economic viability. When KiwiRail delivers a more consistent and reliable service it encourages more freight to move by rail.

Emissions from rail are less than 1% of all transport emissions, with transport accounting for 17% of New Zealand's overall emissions.

A shift to diesel on the NIMT will increase the emission factor for freight carried by rail in New Zealand from 30.80 gms per Net Tonne Kilometre to approximately 34 gms per NTK (The sum of the tonnes carried multiplied by the distance travelled). There is no comparable figure for road freight in New Zealand but the United Kingdom produces an annual figure for Heavy Goods Vehicle. This is currently 114 gms per NTK.

What will happen to the old electric trains?

They will be decommissioned over a two year period.

How many new diesel locomotives will be bought and how much will they cost?

Eight locomotives will be required to replace the EF fleet. The cost is commercially sensitive.