

Regional Rail Fleet Project

Fact Sheet

Bi-mode technology

With transport accounting for almost 45 per cent of the state's energy consumption, Transport for NSW plays a key role in reducing emissions and contributing to the NSW Government's long-term target of net-zero emissions by 2050.¹

Transport for NSW is introducing bi-mode technology to the new Regional Rail Fleet, arriving from 2023. The new Regional Rail Fleet will be the first fleet of trains in Australia to use bi-mode technology.

Bi-mode is a diesel-electric hybrid which will allow the fleet to run on overhead power when operating on the electrified section of the train network.

When operating outside of the electrified network, the train uses on-board Diesel Electric Multiple Units (DEMU) to generate its own electricity.

Benefits of bi-mode



Operating the trains in bi-mode configuration will:



reduce carbon emissions by **over 540 tonnes annually**



reduce diesel pollution by **around 3 tonnes annually.**

These reductions in emissions will result in a **saving of approximately \$1 million** through associated health and environmental benefits.

This is the equivalent of:

- the emissions of around 77 Australian households,
- travelling 3 million vehicle kilometres or Australia's perimeter 83 times.

Operating the trains in bi-mode will create a **saving of over \$2 million** on diesel fuel costs annually. Bi-mode operation also means the engines will be switched off when under the electrified network, making the journey quieter for customers. Further noise reductions are expected when the trains are stationary.

¹ Office of Environment and Heritage 2016, Achieving Net-Zero Emissions by 2050, OEH, New South Wales, viewed 10 July 2019, <<https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Climate-change/achieving-net-zero-emissions-by-2050-fact-sheet-160604.pdf>>



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