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## On track to reduce resources emissions

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced \$9.4 million in funding to a new project to electrify rail freight transport of commodities.

The grant to Aurizon Operations Limited (Aurizon) will contribute to an \$18.8 million 'Battery Powered Tender for Heavy Haul Fleet Decarbonisation' project and is a world-first proof of concept rail tender.

The Project will develop, test and trial a battery electric tender, to power a diesel-electric locomotive in a hybrid diesel and battery configuration, working to cut emissions from Australia's resources industry.

ARENA CEO Darren Miller said the project is addressing an emissions challenge in one of Australia's largest industries.

"Aurizon's battery electric tender is a world first that hopes to pave the way for the rail freight industry and help the resources on its decarbonisation journey."

The Battery Electric Tender (BET) prototype will consist of a purpose-built wagon housing a 1.8 MWh battery. There is the potential that at scale, and with the use of regenerative braking, a BET could enable a power transition from diesel to electricity when coupled with a modified diesel electric locomotive. In addition, when coupled with future Battery Electric Locomotives, the BET will potentially provide all the power required for up to 50% of Aurizon's commercial haul routes.

Battery electric locomotion offers a pathway to decarbonising rail freight using existing rail infrastructure, without electrifying railway lines at potentially much greater cost.

Project partner Alta Battery Technology (Alta) will design and construct the unit in Australia and it will be deployed hauling raw materials for an Aurizon customer.

The project will also see the installation of associated charging infrastructure at an Aurizon customer site. Engineering consultants will provide technical services and engineering work for the charging infrastructure connection.

Aurizon is Australia's largest rail freight operator, with around 700 active locomotives hauling over 15,000 wagons of product across Australia.

Rail transport emissions from Australia's heavy haul freight industry accounts for more than 4 Mt of CO<sub>2</sub>e, or 0.8% of Australia's total greenhouse gas emissions.

The bulk of these emissions are in service of Australia's resource industry, which relies on heavy rail freight haulage to transport commodities from remote mine sites to ports and refineries.

"The resources industry is a pillar of the Australian economy, but also accounts for a significant share of emissions," Mr Miller said.

"ARENA is investing in the technological solutions that will enable the sector to reduce emissions across its operations."

Project design is currently underway, with Aurizon expecting the unit to commence trial operations in early 2026.

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