

Aurizon Holdings Limited ABN 14 146 335 622

ASX Market Announcements ASX Limited 20 Bridge Street Sydney NSW 2000

#### BY ELECTRONIC LODGEMENT

3 October 2024

**Aurizon Sustainability Report** 

Attached for release to the market is Aurizon's 2024 Sustainability Report.

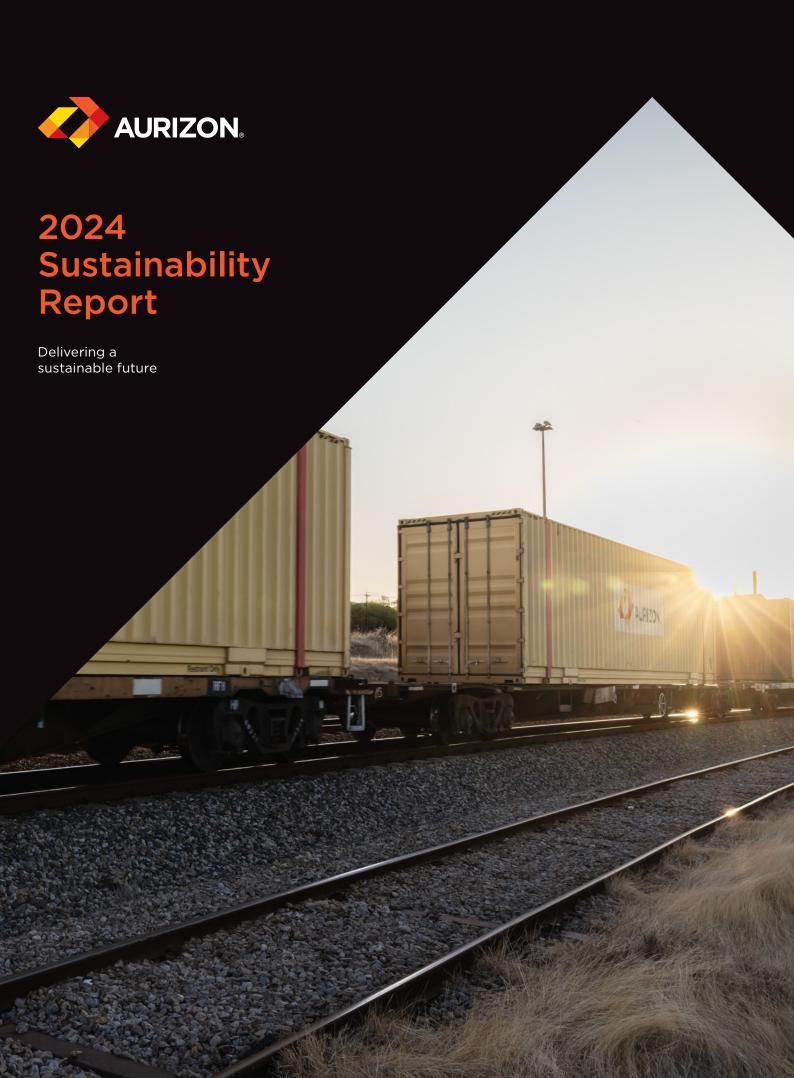
Kind regards

**Nicole Allder** 

Company Secretary

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Authorised for lodgement by the Aurizon Holdings Limited Board of Directors



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#### Scenario analysis

This document also describes Aurizon's approach to scenario analysis of long-term coal scenarios, bulk scenarios, containerised freight scenarios and ESG targets. The scenario analysis that informs this document was undertaken by Aurizon, supported by expert third party review

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#### Statements about the future

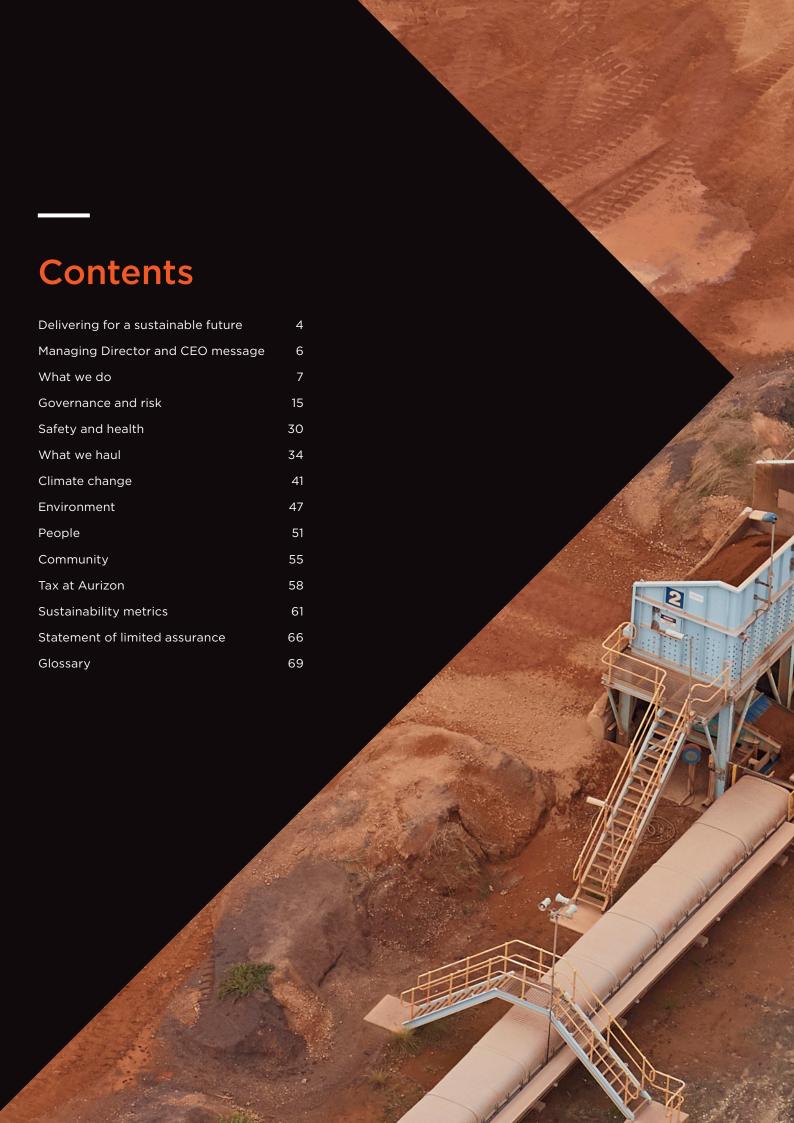
This document contains "forward-looking statements". The words "expect", "anticipate", "likely", "intend", "should", "could", "may" "predict", "plan", "propose", "will", "believe", "forecast", "estimate", "goals", "aims", "target", "may imply" and other similar expressions are intended to identify forward-looking statements. Indications of, and guidance or outlook on, future states of affairs are also forward-looking statements. The forwardlooking statements are not based on historical facts, but rather on current beliefs, assumptions, expectations, estimates and projections of Aurizon. Accordingly, these statements are subject to significant business, economic and competitive risks, uncertainties and contingencies associated with the business of Aurizon (both known and unknown) which may be beyond the control of Aurizon, which could cause actual results, developments or trends to differ materially, including but not limited to competition, industry downturns, inability to enforce contractual and other arrangements, legislative and regulatory changes, sovereign and political risks, ability to meet funding requirements, dependence on key personnel and other market and economic factors. Neither these statements nor past performance are guarantees, predictions or indications of future performance. Except as required by applicable regulations or by law, Aurizon is not under any obligation to update these forwardlooking statements (or scenario analysis) to reflect events or circumstances that arise after publication. Aurizon makes no representations as to the accuracy or completeness of any such statement or that any scenarios discussed will be achieved. Aurizon cautions against reliance on any forward-looking statements or guidance.

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Acknowledgement of Country
We acknowledge the Traditional
Custodians of this land and pay our
respects to the Elders past, present
and future, for they hold the memories,
the traditions, the culture and hopes of
Aboriginal Australia. We must always
remember that under the ballast,
sleepers, rail systems and office buildings
where Aurizon does business, the
land was and always will be traditional
Aboriginal land.



# Delivering for a sustainable future



# The first freight locomotive built in Australia, powered by batteries

The zero-emissions capable prototype is a core initiative as Aurizon moves to decarbonise its business; see page 43.



### Net-zero operational emissions target

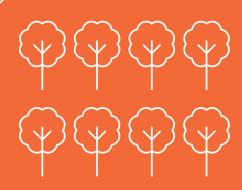
Aurizon is committed to a target of net-zero operational emissions (Scope 1 and 2) by 2050¹. For more information about our investment in innovative solutions and the progress we have made towards our commitments and emission targets, see our Climate change and Environment chapters, starting on page 41.



### 150 equivalent semitrailer trucks per single freight train

For more information on our continued advocacy for rail in the transition to a low-carbon economy, see page 12.

1 ESG-related aspirations and targets described in this document are discussed in detail in the risk section of the Directors' Report, as well as prior Aurizon Sustainability Reports and Aurizon's Climate Strategy and Action Plan, available at aurizon.com.au/sustainability. These documents describe the important assumptions that underpin these aspirations and targets, as well as applicable risks to their achievement (which are further described on page 19 of this document).



### Planting almost 60 thousand native plants

on a 118 hectare site has the potential to generate -1,300 Australian Carbon Credit Units per annum.

# Over 630 charities

have been supported by the Aurizon Community Giving Fund since its inception in 2011.





# More than 85% of employees

live and work in regional Australia



# Improvement in safety performance

Improvement in TRIFR by 15% and SIFR(a+p) by 29% compared to the prior year. For more information, see our Safety and health chapter starting on page 30.



\$1.7 billion

spent with suppliers across Australia. Aurizon is committed to achieving a target of net-zero operational emissions by 2050.

# Managing Director and CEO message



**Andrew Harding**Managing Director And CEO

On behalf of Aurizon, I am delighted to highlight the progress we have made in our sustainability efforts over the past year, presented here in Aurizon's 11<sup>th</sup> Sustainability Report. I summarise some of these achievements below and you can read more detail in this report, together with our Climate Strategy and Action Plan (CSAP), which is available on our website.

As Australia's largest rail freight business, we are committed to being open and transparent on the Environmental, Social and Governance aspects of our business. Aurizon aims to continuously improve our business, and to create tangible, sustainable value for stakeholders, including employees, customers, communities and investors.

We have a range of short-, mediumand long-term decarbonisation initiatives underway, with the target of achieving net-zero operational emissions by 2050. Our \$50 million Future Fleet Fund continues to progress work on the Battery Electric Locomotive and Battery Electric Tender projects, which aim to use renewable energy sources to deliver low- or zero-carbon freight transport solutions for customers. We are seeking to introduce alternative fuel platforms and carbon reduction technologies at a more efficient cost than currently available in the market. Aurizon has also recently completed our first nature-based carbon-offsetting tree reserve on a 118-hectare site near Mackay, Queensland (QLD).

We are committed to strengthening our commercial sustainability by investing in our Bulk and Containerised Freight businesses and tapping into growing and emerging markets. The robust and cash-generative nature of our Network and Coal businesses enables us to make these important investments in future growth. We see a promising future for containerised freight rail traffic in Australia because it provides efficient, low-carbon supply chain solutions that cater to the needs of both industry and consumers.

We made progress in our major operational transformation efforts during the year, delivering significant benefits across fleet safety and maintenance, network scheduling and corporate areas of the business. One example is the staged implementation of TrainGuard in the Central Queensland coal operations, which supports safer and more efficient train operations and also provides a pathway to expanding our driver-only operations.

At Aurizon we are committed to protecting our people, our customers and the communities in which we operate. It was pleasing to see an improvement in our key operational safety metrics this year. Through FY2024, our Safety Strategy has continued to prioritise building and implementing simple systems and processes, understanding and controlling safety risks, and building leadership and capability with a strong in-field presence. Our strategy also includes supporting our employees' mental wellbeing through a number of key initiatives, which you can read more about inside this report.

In late FY2024, I was delighted to launch a national level crossing education and awareness campaign to support improved level crossing safety – Respect the sign. Lives are on the line. Aurizon is also committed to supporting the collective efforts by industry, government and other agencies to improve community awareness and education and to influence motorists' behaviour at level crossings.

We believe it is important for us to contribute to the communities where our employees live and work. Since 2011, through our Community Giving Fund, we have provided cash grants to over 630 eligible community organisations, with 61 groups benefitting this year. Aurizon also partners with several organisations across our national footprint, creating mutually beneficial relationships that help these groups achieve their goals. These include Orange Sky, the Clontarf Foundation, Queensland Firebirds and WattleNest.

Aurizon acknowledges and respects the Traditional Owners of the land and the communities where our operations are based. Aurizon has a proud history of working in partnership with and growing opportunities for First Nations peoples, businesses and communities. I am pleased to say we continued our reconciliation journey with a range of initiatives in FY2024.

We also remain dedicated to enhancing our environmental performance and recognise our duty to support local communities and supply chains with sustainable business practices and ongoing efforts to reduce environmental impact.

I hope you can take time to read in this report about Aurizon's work and commitment to sustainability in all that we do. Our aim is to maintain open and constructive communication with our customers, communities, and our broader group of stakeholders, as we strive to achieve sustainable growth in our business.

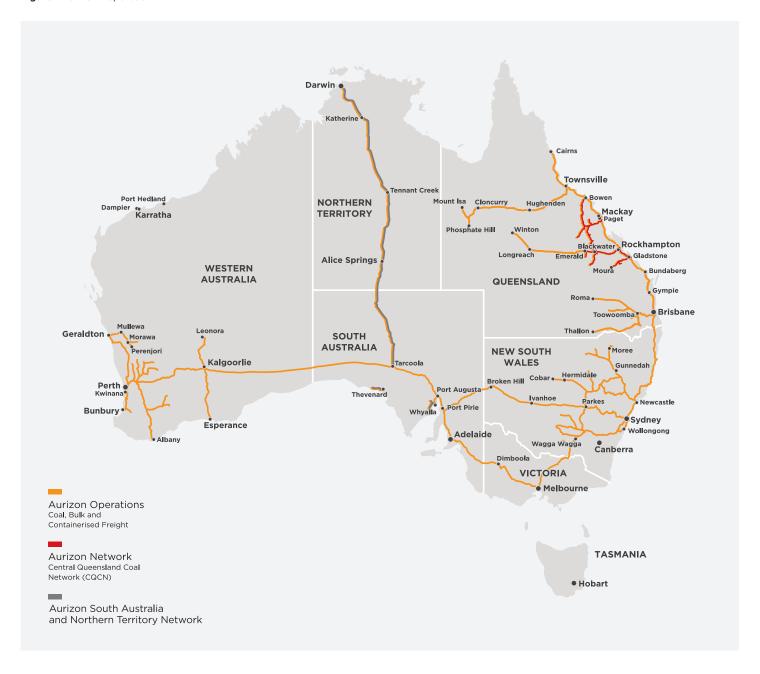
Aurizon (ASX: AZJ) is Australia's largest rail-based transport business.

## What we do

Aurizon is Australia's largest rail operator, with a fleet of over 700 locomotives, 15,000 wagons, and 5,000 kilometres of rail infrastructure. We transport around 255 million tonnes of bulk commodities and around 160,000 Twenty-foot Equivalent Units (TEUs), connecting miners, primary producers, and industry

with international and domestic markets. Aurizon is leveraged to global demand for Australian bulk commodities driven by infrastructure development, energy generation (and storage) and food consumption, in addition to domestic consumption (containerised freight).

Figure 1 Aurizon's operations



#### What we deliver

Our key operational areas are broken into Operations (Coal, Bulk, Containerised Freight), and Network.

#### **Operations**

Outside of our regulated Network infrastructure revenue, around 45% of the revenue is derived from our Bulk and Containerised Freight businesses. The remaining revenue is attributable to our Coal operation, with haulage evenly split between coking and thermal coal<sup>2</sup>.

Our Coal business provides a critical service to Australia's \$91 billion<sup>3</sup> export coal industry, the nation's second largest source of export revenue in FY2024, with demand linked to Asian steel production and energy generation. Aurizon has the largest rail fleet in Australia and is the only operator with services to all nine coal export ports on Australia's east coast. The nature of Aurizon's haulage contracts provides greater certainty for our future revenue streams, as well as greater commercial and operational certainty for all stakeholders across the supply chains in which we operate.

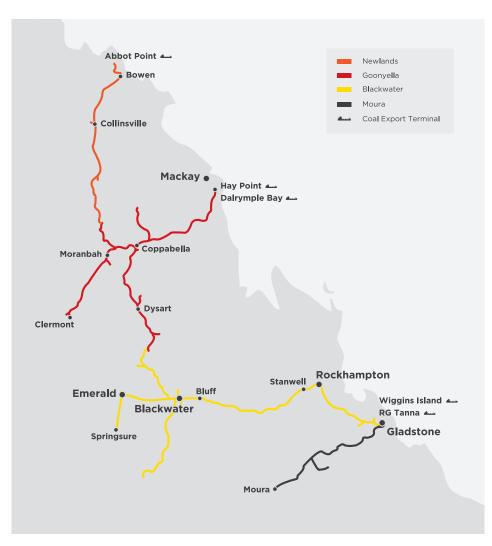
The Bulk business delivers full supply chain solutions, including haulage, terminal storage and handling and stevedoring for commodities, such as iron ore, bauxite and alumina, copper and grain. Following on from the acquisition of One Rail in July 2022, the Bulk business includes 2,460 kilometres of track infrastructure in South Australia and the Northern Territory.

Our Containerised Freight business provides rail linehaul services for customers in the interstate freight market. This includes the transport of vital supplies, such as retail and supermarket goods, vehicles, machinery and equipment. Building upon this national network (and Bulk Central below-rail infrastructure), a land-bridging opportunity is being developed to deliver freight from the Port of Darwin to major cities via rail.

#### Network

We hold the long-term lease for and operate the Central Queensland Coal Network (CQCN), a critical piece of infrastructure supporting about 90% of Australian steel-making coal export volume. The CQCN connects over 40 mines to five export terminals, as well as to domestic customers. Around 70% of volume hauled across the network is

Figure 2 Aurizon's Central Queensland Coal Network (CQCN)



Aurizon has the largest rail fleet in Australia and is the only operator with services to all nine coal export ports on Australia's east coast.

steel-making coal (the other 30% is thermal coal), and around half of all global seaborne export steel-making coal travels across the network. The 2,670 km multi-user track network comprises four major coal systems: Newlands, Goonyella, Blackwater, and Moura.

The Goonyella Abbot Point Expansion (GAPE) is the connecting link for the Newlands and Goonyella systems. Access to our rail network is managed under a process approved by the competition regulator, the Queensland Competition Authority (QCA).

- 2 Revenue is the sum of the Coal (excluding all track access), Bulk (net of track access expense) and Containerised Freight business units and excludes the Network business unit. Coal revenue allocation (coking/thermal) is based on estimated volume split.
- 3 Australian Bureau of Statistics.

#### **Our Strategy**

Our Strategy in Action framework, defined by our purpose, vision and values, continues to guide Aurizon's pursuit of value creation and service delivery for customers and communities across Australia (figure 3), with a particular emphasis on safety and exploring opportunities to decarbonise our fleet in support of our ambition of net-zero operational emissions by 2050<sup>4</sup>.

Our Strategic Levers, which help us prioritise key drivers of value, also remain fundamental in how we execute on these priorities throughout the organisation.

Our strategic priorities are periodically reviewed by management and the Board and are adjusted to reflect our view of the current and future external environment and our organisational goals.

### Optimise: progressing major transformation efforts

Major transformation efforts continue to support efficiencies within our cost base to enhance competitiveness, with delivery of significant benefits across fleet safety and maintenance, network scheduling and corporate areas of the business.

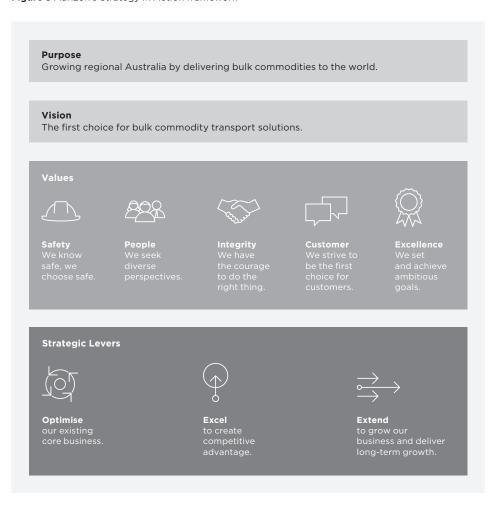
TrainGuard is a platform utilising European Train Control System (ETCS) technology to support driver decision-making, particularly in relation to speed control and signal enforcement. TrainGuard supports safer and more efficient train operations with fewer rail process safety issues and better train handling. TrainGuard technology is the pathway to expanding our driver-only operations in Central QLD.

The technology is deployed on all Alternating Current electric trainsets (and associated track infrastructure) in Blackwater (Callemondah to Bluff), with the first driver-only operational service having commenced in the first quarter of FY2024. The deployment in the Goonyella System (Mainline) is now operational, and driver-only operation ramp-up started in FY2025. The final Goonyella and Blackwater Branch line deployment phase is progressing to plan, with the first operational service expected to commence in the fourth quarter of FY2025.

#### **Excel: optimising capital proactively**

Aurizon's rollingstock fleet is the largest in Australia with over 700 locomotives and 15,000 wagons. In FY2024, we have continued to optimise our fleet value generation via fleet cascading and reinstatement as well as proactive

Figure 3 Aurizon's Strategy in Action framework



investments to support growth and maximise enterprise value. We also continue to explore opportunities to decarbonise our fleet in support of our ambition of net-zero operational emissions by 2050<sup>5</sup>.

In FY2024, in response to a lower east coast grain outlook, we redeployed locomotives and wagons to support growth in Coal South East Queensland, and have also transferred locomotives and wagons to Coal New South Wales and Containerised Freight.

Our rollingstock reinstatement program is also on track to support growth opportunities, with six refurbished locomotives deployed into the active fleet, and 20 container flat wagon conversions (narrow gauge to standard gauge) targeted for completion and deployment by the end of 2024.

These reinstatements and redeployments are supporting customer hauls and driver training across the country, capturing new volumes, and driving higher capital productivity, cash flows and fleet resilience.

<sup>4</sup> See footnote 1.

<sup>5</sup> See footnote 1.

We are also progressing plans to adapt fleet assets to support our net-zero journey by progressing development of our Battery Electric Locomotive (BEL) and our Battery Electric Tender (BET) prototypes. BEL prototype development is currently underway and will continue over the next six to 12 months. With the donor locomotive strip-down complete, subsequent phases of prototype development will involve conversion to a battery-based platform.

A \$1 million funding grant supported by the Western Australian Government Carbon Innovation Grant Program will help develop charging infrastructure and support early-stage operational trials. Additionally, the Australian Renewable Energy Agency (ARENA) is providing \$9.4 million in funding to Aurizon towards the development of a BET prototype for which initial concept designs are underway. These initiatives will provide insight into the broader opportunities that may be available within our fleet portfolio to introduce alternative fuel platforms and carbon reduction technologies at a more efficient cost than currently available for original equipment manufacturer alternatives.

By proactively managing our fleet assets, we ensure resilience through the cycle, create opportunities for growth, adapt to future needs, and sustain a competitive edge while delivering long-term value to shareholders.

#### Extend: growing our Bulk business<sup>6</sup>

We continue to execute on our strategy to leverage the stable cash-generative platform of our existing Network and Coal businesses to support growth in our Bulk and Containerised Freight businesses. Our Bulk business is unlocking a truly national footprint and provides primary producers access to safe and reliable supply chain solutions wherever they require them. Our Bulk aspiration is to achieve a 25% to 30% share of the estimated addressable bulk market of about \$1.7 billion (EBITDA) in FY2030. Achieving this aspiration would imply an EBITDA of \$400 to \$500 million for Bulk. Bulk continues to evolve and deliver value for a growing customer portfolio. The strength of our pipeline, paired with Australia's role in the global supply of future-facing commodities, underscores the opportunity ahead for Aurizon. Our Containerised Freight business is enhancing national supply chains with capability of up to 350,000 TEUs per annum from a combination of



existing containerised freight capability in the Central Corridor and with the stand- up of National Interstate services now complete.

At Investor Day in July 2023, we announced an additional 100,000 TEU of capacity from 2025 that includes Stage 1 of our land-bridging concept that will use regional ports (and rail, including Bulk's Tarcoola-to-Darwin track infrastructure) to create alternative supply chains for customers, bringing total planned containerised freight capacity to about 450,000 TEUs.

Beyond this, our aspiration is to move more than 500,000 TEUs annually by FY2030, with implementation of incremental capacity assessed in a staged approach in response to demand from freight owners and shippers. As Aurizon capitalises on these opportunities, growth in Bulk and Containerised Freight could reduce thermal coal revenue exposure to 10-20% at 2030<sup>7</sup> (FY2024: 29%).

Our Bulk business is unlocking a truly national footprint and provides primary producers access to safe and reliable supply chain solutions wherever they require them.

- 6 Refer to slides 2 and 3 of Aurizon's 2023 Investor Day presentation (available at aurizon.com.au) for important cautionary language in respect of 'aspirational statements'.
- 7 Revenue is the sum of the Coal (excluding all track access), Bulk (net of track access expense) and Containerised Freight business units and excludes the Network business unit. Coal revenue allocation (coking/ thermal) is based on estimated volume split.

# How Aurizon creates value

Our business model supports sustainable business practices and enables us to operate efficiently and effectively.

We have worked hard to build a stronger, more sustainable business in recent years, and are committed to being open and transparent on the Environmental, Social and Governance (ESG) aspects of our business. We aim to continuously improve and ultimately create tangible and sustainable value for our primary stakeholders, including our employees, customers, communities, and investors (figure 4).

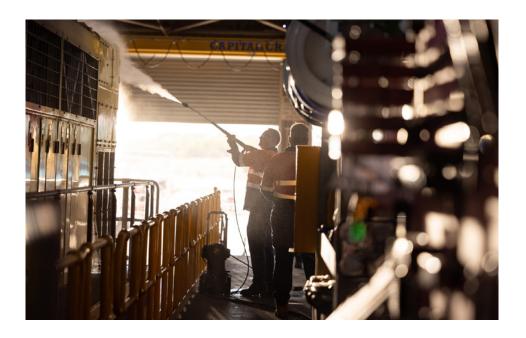
#### **Regulation and policy**

We engage directly with policy development processes that are relevant to our businesses and the industries in which we operate.

Figure 4 How Aurizon creates value

Stakeholder	Description	Value created in FY2024
Employees	We provide stable employment and rewarding career development in a safe and high-performing work environment, as well as the opportunity to contribute to the economic prosperity of Australia.	<ul><li>Over 6,100 people employed.</li><li>\$1,086 million in wages and benefits paid.</li></ul>
Customers	We deploy our significant asset base, capital investments and industry-leading expertise to provide reliable, safe and efficient bulk transport solutions for our customers via rail, which generally achieves better sustainability outcomes than road haulage.	<ul> <li>256 million tonnes of bulk commodities transported at an estimated value of over \$60 billion for our customers<sup>8</sup>.</li> </ul>
Community	Our key role in bulk supply chains enables economic prosperity and growth for all Australians. We help sustain regional communities by providing employment and economic benefits in areas where we operate.	<ul> <li>More than 85% of our employees live in regional areas.</li> <li>\$386 million in taxes collected and paid<sup>9</sup>.</li> <li>\$1.7 billion spent with suppliers.</li> </ul>
Investors	Our integrated business model provides a defensive stream of earnings from our regulated track infrastructure (the CQCN), while our rail haulage business benefits from stability in Australia's steelmaking coal and thermal coal exports and growth in haulage volumes of other new economy bulk commodities.	<ul> <li>Aurizon's capital allocation framework is designed to maximise shareholder value and has returned \$2.9 billion to shareholders since FY2020.</li> </ul>

We aim to continuously improve and ultimately create tangible and sustainable value for our primary stakeholders.



<sup>8</sup> Estimated value of customers' product, as calculated by Aurizon.

<sup>9</sup> Excludes PAYG income taxes included in wages and benefits paid.

# Engagement on infrastructure and transport policy priorities

The policies and regulations of governments and regulatory bodies have significant impacts on the efficiency, resilience and development of transport supply chains.

Aurizon engages directly on issues and policy processes that are relevant to our businesses and the industries in which we operate. We also participate in the policy and regulatory work of several industry associations (as outlined in our *Governance and risk* chapter).

In 2024, Aurizon's Managing Director and CEO Andrew Harding has continued as the Chair of the Freight on Rail Group (FORG), which represents rail freight operators and infrastructure providers. FORG continues to engage with governments and regulators on the following priorities:

- Decarbonisation: rail freight produces 95% less carbon pollution than road freight per tonne kilometre<sup>10</sup>.
- Safety: rail transport is a far safer mode of transport than road; the freight volume carried by one freight train is equivalent to the volume carried by 150 semi-trailer trucks<sup>11</sup>. Increasing the use of rail reduces congestion and results in improved road safety outcomes.
- Productivity: significant economic and productivity gains are achievable where there are large volumes of freight and/or where the freight is carried over longer distances.
- Resilience: reducing the likelihood and the severity of infrastructure outages due to weather and other events is vital to improving the reliability of rail freight.

Through direct engagement with federal and state governments, FORG proposed and advocated for policy changes to improve the productivity and utilisation of rail-based supply chains in the following areas.

#### **Decarbonisation**

As noted by the Climate Change Authority<sup>12</sup>, rail transport performs about half of Australia's total freight transport task, yet rail is responsible for only 4% of transport emissions because it is a far more energy efficient form of transport than road. There is an opportunity to deliver emissions reduction benefits in the transport sector by shifting freight from road to rail.

Our industry has advocated for recognition of the key contribution rail freight can make to reducing the carbon emissions from the overall freight sector. Recently this position has been reflected in government documents. The Infrastructure and Transport Net Zero Consultation Roadmap states that 'where feasible, increasing the share of freight moved on rail will also contribute to reducing overall freight emissions'<sup>13</sup>.

#### Safeguard Mechanism reforms

Aurizon is one of about 220 large enterprises in Australia covered by the Australian Government's legislated Safeguard Mechanism. Those covered by the Safeguard Mechanism are required to reduce Scope 1 emissions by 4.9% each year.

Currently, 65% of rail freight (which generates 2.5 million tonnes of emissions) is captured by the Safeguard Mechanism, but only 2% of road freight (which generates 36 million tonnes of emissions) comes under the Safeguard Mechanism. Over the past 18 months, Aurizon has advocated reducing negative impacts on rail through changes to the Safeguard Mechanism, as well as for other policy actions to recognise the environmental and community benefits of rail

Although the likely impact of the Safeguard Mechanism is still expected to be significant for rail freight, the federal government is working with the industry on other policy actions that recognise the benefits of rail. As a result, ongoing work to implement funding programs for new technology and developing potential incentives to increase the proportion of freight on rail will continue to be a key focus for industry engagement.



- 10 Deloitte Access Economics for the Australasian Railway Association, Value of Rail 2020, November 2020.
- 11 NSW Government: Consultation Paper: Clean Air for NSW, 2016.
- 12 Climate Change Australia (CCA 2020), Prospering in a low-emissions world: An updated climate policy toolkit for Australia.
- 13 Transport and Infrastructure Net Zero Consultation Roadmap, Department of Infrastructure, Transport, Regional Development, Communications and the Arts, May 2024, p. 4.



#### Funding programs for the development and commercialisation of technology

Government funding and support programs will make an important contribution to facilitating decarbonisation. Key issues relating to the role of funding programs include the following:

- freight rail uses long-life assets, including locomotives, which typically have an operational lifespan of over 25 years.
- new technologies being developed that substantially reduce emissions, or involve zero emissions, involve high upfront costs, and most new technologies are not expected to be commercially available until after 2030.

Before 2023, several transport decarbonisation funding and support programs were either developed specifically for road transport or had a major road transport focus.

Recognising the issues raised by the rail freight industry, the Australian Government announced the creation of an Industrial Transformation funding stream using \$400 million from the Powering the Regions Fund, which has been made available for industries, including specifically for rail freight.

FORG has recommended to the government that a similar approach to recognising and providing the opportunity for rail to access and use support available for decarbonisation should be provided under other funding programs. This should also include emissions reduction technologies and approaches that apply across different transport modes and to multi-modal supply chains.

Ongoing priorities for the rail freight industry regarding decarbonisation include:

 further consideration of the detailed implementation of the Safeguard Mechanism to address the expected negative impacts on rail freight

- focused engagement on mode shift, including working on ways to enable Australian Carbon Credit Units (ACCUs) to be earned for freight that shifts from road to rail
- that government funding and support schemes recognise the benefits of freight customers using rail and provide equitable access for the rail freight industry.

# Improving the resilience of the interstate rail freight network

A critical issue for the rail freight industry is the inability to deliver freight during periods of rail infrastructure outages caused by severe weather, including floods and prolonged rain events.

For example, on the east-west corridor between Sydney-Melbourne and Perth over the last three years, outages due to flooding have averaged 40 days per year.

In response to the recommendation from industry, on 14 May 2024, the Australian Government announced a planned total investment of more than \$1 billion to improve the resilience of the interstate rail network. The investment involves two components: a \$540 million funding package from the Australian Government; and an additional funding commitment of more than \$500 million by the Australian Rail Track Corporation via its Network Investment Program.

The package includes targeted projects aimed at preventing outages from flooding and severe weather events on the key east-west and north-south rail freight corridors that serve Australian consumers, industry and export sectors, such as resources and agriculture. Investments will include the upgrade of existing crossing loops and culverts, track rehabilitation and re-railing, signalling works, and sleeper replacements.

Recognising the need for the resilience projects to be undertaken as quickly as possible, the timely implementation of the investment package is a priority for FORG members, particularly over the next two years.

#### Interoperability of rail systems

The rail freight industry is working with governments to identify priorities for improving the productivity of rail freight operations as well as maintaining a focus on safety.

Restrictions and additional costs associated with the interoperability of rail freight operations across different networks are a major impediment to productivity of rail-based supply chains.

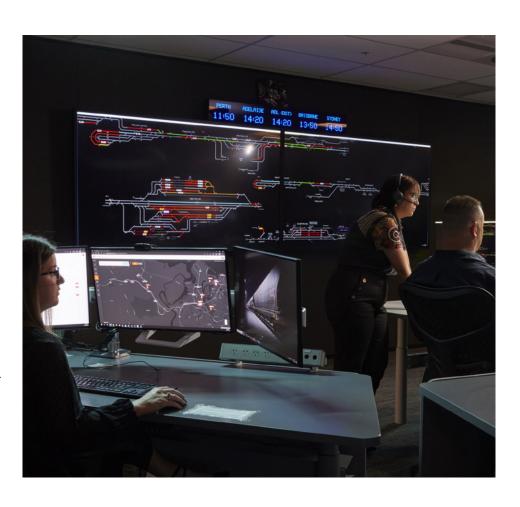
Aurizon has recommended to governments that actions to deliver improvements should be informed by the practical requirements for rail freight operators to deliver services that offer higher productivity, and that are safe and integrated across rail networks managed by different rail infrastructure managers.

In relation to priority areas for reform, Aurizon has worked with FORG to advocate for the following recommendations:

- Streamlining rollingstock approval regimes should include a specific focus on reducing timeframes for approval and accreditation processes.
- New rail technology systems, including train control, signalling and communications systems, should be developed to allow one in-cab unit or screen in a locomotive, enabling the train crew to use the one unit and system when operating across different rail networks. Interoperable technology solutions that enable the use of one in-cab unit should be costeffective for freight operators.

Governments have agreed to the development and implementation of performance-based standards as one of the ways to foster improvement. The new standards will focus on digital train technology with the objective of having a single on-board interface for drivers and crew, and the streamlining of rollingstock approvals. FORG will be contributing to the development of the performance-based standards and to other actions to remove or address the main barriers to interoperability.

Aurizon will continue working closely with others in industry to advocate that governments level the playing field for rail to enable rail freight to increase the volumes of freight carried on key regional corridors, and to realise the benefits that rail freight offers to customers and the communities in which we operate.



#### **Regional policy**

Aurizon is a founding member of Regional Australia Council 2031 (RAC2031) with other leading Australian companies to give a greater voice and support to the future development of regional Australia. RAC2031 is an initiative of the Regional Australia Institute. More than 85% of our employees are based in regional and remote areas.

The Regional Australia Institute is the nation's first and only independent regional economic think tank specialised in developing and communicating the knowledge, policy and practical solutions required to lift the prosperity of people in regions and Australia overall. An important benefit of our involvement in RAC2031 is the access to and insights provided from evidence-based research. This helps member companies like us, as well as policy makers and the general community, better understand the drivers

An important benefit of our involvement in RAC2031 is the access to insights provided from evidence-based research.

of regionalisation across Australia. As a member of RAC2031, we are working to inform policy decisions by governments to contribute to regionalisation, focusing on helping employees and their families to be able to have the services and community infrastructure they need when living and working in regional Australia. The research by the Regional Australia Institute will inform the policies of federal and state governments.

We see risk management as a value-adding process for our business to sustain and enhance performance for shareholders, customers, employees, and the broader community.

## Governance and risk

This is achieved through establishing the culture, processes and structures to realise potential opportunities while managing adverse effects (figure 5). We consider a wide range of social,

environmental and economic risks within our strategic planning by applying high-quality, integrated risk assessments to support informed decision-making.



#### **Effective governance for sustainability**

We believe corporate governance is a critical pillar on which our business objectives and, in turn, shareholder value must be built.

The Board has adopted a suite of charters and key corporate governance documents that articulate the policies and procedures our business follows in pursuing our objectives.

#### **Board skills and experience**

Our Board is structured to include a range of skills that enable the effective governance of our business. We carefully consider the character, experience, education and skill set as well as interests and associations of potential candidates for appointment to the Board, and we conduct appropriate checks on the suitability of candidates before their appointment. Our Board members possess a range of skills and experience across areas such as strategy, leadership, transactions, technology, sustainability, industry, government, risk management, governance, and community relations (see the Aurizon FY2024 Annual Report for more detail, which is available on our website).

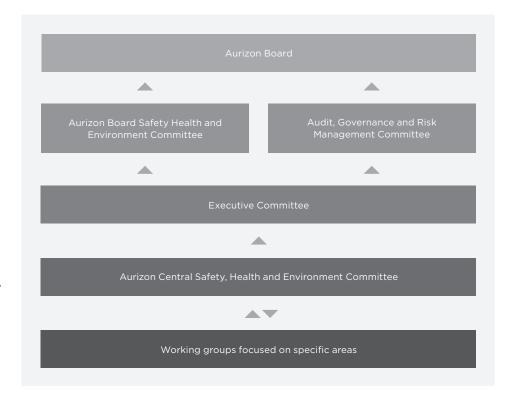
#### **Committees and meetings**

Our Board provides oversight and strategic direction to sustainability and has ultimate responsibility for our Company's consideration of climaterelated risk. It is guided by our Audit, Governance and Risk Management Committee (AGRMC) and Safety, Health and Environment Committee (SHEC) as part of our risk framework and broader corporate strategy and planning.

The AGRMC includes several members of the Board, including the Chairman, and is responsible for reviewing our governance policies, framework, and compliance. The SHEC is responsible for reviewing and making recommendations to the Board on matters relating to safety, health, and environmental performance and policies. Quarterly AGRMC and SHEC meetings review and consider enterprise and Safety, Health and Environment (SHE) risks, including sustainability and climate-related risks and opportunities.

The Board understands that sustainability is one of the key interests for stakeholders. Following the launch of the CSAP in October 2020, the cross-functional CSAP Committee has continued to guide the implementation of the CSAP and to align initiatives under the three key pillars: manage risk and build

Figure 5 Aurizon's committee structure<sup>14</sup>



resilience; deliver decarbonisation; and create carbon abatement opportunities. A range of sustainability-related topics is discussed frequently at Board meetings and Board Committee meetings.

During FY2024, the Board:

- provided its annual guidance and approval of the Sustainability Report
- oversaw progress and implementation of the CSAP on a biannual basis
- reviewed quarterly a range of enterprise and SHE risks, including environment- and climate-related risks
- was directly engaged in the review of the scenarios for consideration under our Strategy in Uncertainty framework, as well as developing plans and initiatives to position the organisation

to mitigate risks and take advantage of opportunities. This strategic process is repeated at least annually to ensure that our strategic priorities are continually updated so we can proactively respond to emerging market dynamics and opportunities.

## Embedding sustainability into decision-making

The Board and AGRMC Charters acknowledge the need for the Board and, in turn, management to maintain effective risk management to identify and manage risks.

This includes consideration of inherent risks as well as contemporary or emerging risks, such as conduct risk, digital disruption and cyber risks, and climate and sustainability risks. A copy of the charter is available in the Governance section of our website.

<sup>14</sup> Other Aurizon Committees not shown include the Nomination and Succession Committee, and the Remuneration and People Committee. For more information about our committee structures, see the Aurizon FY2024 Annual Report.

Aurizon's Enterprise Risk Management Framework and Appetite enables the assessment of elevated risks to support decision-making and actions by providing guidance on the Board's risk appetite. Climate-related risk is incorporated into our Enterprise Risk Management Framework and Appetite and is therefore specifically considered by management when considering material decisions, with the Board reviewing and approving decisions where above-appetite risk is identified, including any sustainability or climate-related risks. Our Executive Committee and AGRMC regularly review the enterprise risk profile, which identifies and rates enterprise-level risks. Aurizon's approach to enterprise risk management is aligned to ISO 31000:2018 Risk Management - Guidelines.

The Aurizon Investment Standard guides the internal process governing investment decisions, and requires that management considers the long-term sustainability of an investment, including consideration of alternative technologies or processes, possible policy and regulatory changes and progress towards a low-carbon economy to balance enterprise objectives and outcomes.

Our capital allocation framework is designed to maximise shareholder value. The minimum Internal Rate of Return targets across our business units, which other than commodity type, assume all else is equal, range from high teens for thermal Coal; mid-teens for steel-making coal; and low double digits for Bulk and Containerised Freight. The higher rates for thermal coal reflect the more varied considerations for the commodity longer term, relative to Bulk and Containerised Freight. Along with the application of the Strategy in Uncertainty (SIU) scenarios in cash flow modelling, this approach highlights the levers available to preserve free cash flow. Under scenarios where decarbonisation is accelerated, the clean energy technology required in this transition will increase demand for Bulk commodities, such as iron ore, copper, nickel, lithium, cobalt, vanadium, and rare earth elements.

## Managing sustainability performance through targets and monitoring

We continue to manage our progress by monitoring our performance against key sustainability targets and objectives. Examples include (but are not limited to):

 a net-zero operational emissions (Scope 1 and 2) by 2050 target<sup>15</sup>  an additional emissions intensity reduction target of 10% by 2030<sup>16</sup> to maintain an emphasis on using existing capabilities and assets in the near term

- two primary safety metrics to measure safety outcomes across the enterprise: Total Recordable Injury Frequency Rate (TRIFR); and the Serious Injury and Fatality Frequency Rate (SIFR(a+p))
- gender representation on the Board
- representation of women in senior executive roles
- representation of women in the workforce
- representation of Aboriginal and Torres Strait Islander men and women in the workforce.

At the start of the performance year, the Board determines individual strategic measures for the Managing Director and CEO. These measures are based on our strategy of continuing to optimise, excel and extend the business. Relevant measures are subsequently cascaded to the Executive Committee and throughout the organisation. Aligned with the CSAP, climate change objectives are incorporated into MD and CEO and key management personnel remuneration through individual deliverables in the Short-Term Incentive Award.

## Government and regulatory engagement

Our Corporate Affairs team manages a program of regular engagement with federal and state governments, federal and state Members of Parliament (MPs) (including opposition MPs), and engagement with local governments. Corporate Affairs also supports ongoing engagement between business units and regulators.

This engagement program has been broadened from a geographic perspective in the last two years, including in South Australia (SA), Northern Territory (NT) and Victoria, reflecting the establishment of Bulk Central and the start of interstate containerised freight services under the contract with Team Global Express (TGE).

**Industry association memberships**We are a member of several industry

associations and participate in some government industry forums alongside other companies.

We hold these memberships for the following purposes:

- to contribute to the development and advocacy of policy and regulatory settings that promote and facilitate efficient and competitive infrastructure development, and that enable investment in new mining and resource project developments and efficient and cost-effective supply chain operations
- to enable engagement with customers and other industry stakeholders on policy and regulatory priorities
- to share updated information on emerging macroeconomic, and policy and industry issues.

We regularly review our participation in industry associations and government industry forums to ensure our involvement continues to be aligned with these purposes, and is an efficient and effective use of Company time and resources.

#### Conduct

Aurizon's Code of Conduct (Code) has strong links to our values of Safety, People, Integrity, Customers and Excellence. It encapsulates our commitment to a workplace where employees are expected to be fit for work, work safely, act professionally, to be lawful, ethical and fair, and to use our systems, equipment, property and tools appropriately. Before employment, all employees are made aware of the Code and are required to complete online training modules to ensure a thorough understanding and continuous adherence.

Building on the Code, Aurizon's Conflict of Interest Policy provides employees with more information about how to manage potential, perceived, or actual conflicts of interest at work.

We want to be known for how we treat each other and foster a working environment with a shared understanding of respectful behaviour, and how our people feel empowered to stand up for each other, or when our values are not

demonstrated. Our key people policies undergo regular revision to support our operations and work culture.

We promote our Whistleblower
Hotline as a confidential avenue
for employees to speak up. Our
Whistleblower Policy details the
protections we provide whistleblowers
and our strong commitment to complying
with laws and to maintaining the highest
ethical standards throughout all our
business conduct. Copies of our Code,
Whistleblower Policy, and Anti-Bribery
and Anti-Corruption Policy can be
accessed on the Governance page
of our website.

#### How we manage risk

#### Risk management framework

We foster a risk-aware culture through a combination of leadership focus, training and the application of high-quality, integrated risk analysis and management, including for sustainability and climate-related risks.

The consideration of risk features heavily in our thinking, from the framing of strategy through to informing decision-making. Aurizon's Enterprise Risk Management Framework and Appetite, and supporting Risk Assessment Procedure are aligned to the international standard for risk management (ISO 31000:2018), supporting the identification, assessment, management and reporting of risk across the business, including financial and nonfinancial risks. The application of these approaches includes leveraging insights from internal and external data, employing scenario analyses and evaluation of the risk's nature, and the likelihood and magnitude of potential consequences, to take risk-informed action.

The Enterprise Risk team, together with all leaders in the business, monitors our operating environment to ensure key risk exposures and situational developments, including those relating to sustainability and climate-related risks, are well understood and proactively managed. The Aurizon FY2024 Annual Report provides details of elevated enterprise risks, including sustainability and climate-related risks.

The primary focus of all key decisionmaking remains the welfare of our people, continuity of services to our customers, and regard for the communities in which we operate.

# Contemporary and emerging risks

#### Cyber security and technology reliance

The evolving cyber threat landscape continues to challenge industry, including the targeting of personal or commercially sensitive information. Malicious attacks causing business interruptions are increasing, and we monitor these events closely.

We continue to uplift our capability to manage the threat landscape, making our business more robust, including through business continuity plans, response plans, and enhancement of incident management capabilities.

We review and update our cyber security strategy and controls regularly, with a focus on cyber risk management. This includes assessing and updating preventative and mitigating controls. We will continue to develop cybersmart people and processes for Aurizon to run reliable and resilient operations. We continue to work closely with state and federal governments, and our peers in the industry, to strengthen cyber risk management across the freight and logistics sector.

Aurizon is reliant on fit-for-purpose technology to deliver services, maintain assets and transact business. Technology is rapidly evolving and if Aurizon does not effectively leverage advances in technology, it may become less efficient relative to competitors.

Technology roadmaps are refreshed annually, and technology upgrades progress through Aurizon's capital approval process, including benefit identification.

#### Supply chain risk

Building resilient supply chains and effective inventory management is critical to ensure optimal levels of supply, to minimise costs, and ensure Aurizon's operational assets are appropriately maintained to enable uninterrupted service delivery.

Ongoing global events continue to increase supply chain complexity and challenge reliability, including evolving international trade relations tensions, labour shortages, and constraints on raw materials.

These risks are manifesting with increasing supply chain costs, lead times, and delays in obtaining some goods and services.

Aurizon is approaching the risk by:

- engaging directly with suppliers
- diversifying supplier bases
- refreshing inventory management approaches
- strengthening inventory levels
- monitoring emerging supply chain risks.

We understand the importance of addressing and managing sustainabilityrelated considerations and modern slavery risk with our suppliers. The Supplier Code of Conduct outlines our expectations of existing and future suppliers based on five key principles: Safety; Business Integrity; Labour and Human Rights; Communities; and Environment. The code is available on our website in the Supplier portal. Aurizon recognises we may be exposed to modern slavery risk in our supply chain and that we may be unable to fully mitigate it. The Company is committed to operating responsibly and has standards and processes to minimise and address risks associated with modern slavery.

More information is contained in the Modern Slavery Statement on the Aurizon website.

#### Climate-related risks

The impacts of climate change are broad and systemic. Aurizon's value chain, industry and the global economy face direct and indirect impacts. Transition risks relate to a wide set of changes in policy, law, markets, technology and prices that are necessary to achieve the transition to a low-carbon economy and will affect the demand for the commodities we haul. Acute physical risks related to extreme weather events will also continue to affect our business through supply chain disruptions. In the longer term, trends, such as average summer temperature increases and extended periods of high temperature, have the potential to disrupt the supply chain through heat stress and associated precautionary measures, such as track speed restrictions.

Since 2017, we have incorporated recommendations from the Financial Stability Board's Final Report:
Recommendation of the Task Force on Climate-related Financial Disclosures (TCFD) in our annual Sustainability Report. Table 1 describes the

recommended disclosures under the TCFD framework and the respective content in this report. Tables 2 and 3 summarise our response to climate-related risks and opportunities.

In FY2021, we published our first CSAP. The strategy builds on our existing work in reducing our carbon footprint, as detailed in our Sustainability Report each year since 2014. Our CSAP outlines our position on climate change. It is underpinned by long-term strategies and associated actions to mitigate climate risk and to take advantage of climate-related opportunities, including a target of netzero operational emissions by 2050<sup>17</sup>.

Although our business is exposed to transition and physical risks, we are also well positioned to take advantage of climate-related opportunities.

The CSAP is built on three key pillars:

- 1. Manage risk and build resilience.
- 2. Deliver decarbonisation.
- 3. Create carbon abatement opportunities.

Under the 'Manage risk and build resilience' pillar, we commit to continually assess and enhance our processes for managing climate-related risk and leveraging opportunities in the way we manage our business and key assets, by:

- continuing to develop scenario analysis for use in key decision-making processes to consider transition risks over short-, medium- and long-term time horizons
- continuing to enhance capability to assess physical risk to key assets and operations
- embedding consideration of climaterelated risk into risk frameworks and investment standards.

Scenario analysis is conducted under our Strategy in Uncertainty framework, which takes climate-related transition risks into consideration for key decisions, including around acquisitions and capital investments. The key drivers used in our scenario analysis are outlined in our What we haul chapter. Our management of climate-related physical risks is addressed in the Climate change chapter of this report.

For the second pillar of 'Deliver decarbonisation', we commit to achieving net-zero operational GHG emissions by 2050<sup>18</sup>, to take a leading role in

#### Risks relating to our commitments and emission targets

Australian and international governments will continue to evolve expectations on emissions reduction, management and reporting. Aurizon has set targets for the reduction of emissions; however, with a large, complex and multi-year decarbonisation program, there are risks relating to:

- the ability to reduce those emissions as committed to the market, particularly as operations expand
- the availability of technology at scale to meet those ambitions
- the availability, efficiency and affordability of renewable energy and/or drop-in fuels to power the transition
- reliance on third parties, including the implementation of government policy, to facilitate the transition costs, such as decarbonisation technologies, energy sources or ACCUs
- the targets, or actions taken in progressing towards those targets, not being considered sufficient to key stakeholders
- the ability to attract and retain talent to support transition to net-zero and decarbonisation programs.

These risks and the evolution of such expectations could result in increasing operational costs to Aurizon, damage to our social licence, shareholder action or litigation, or other reputational impacts.

accelerating decarbonisation of Australia's freight sector, and contribute to decarbonising the supply chains in which we participate, by:

- establishing the \$50 million
   Future Fleet Fund (to be dispensed over 10 years)
- implementing our Tracking Towards Net-Zero Operational Emissions initiatives
- establishing partnerships and forums for customer and industry collaboration
- continuing advocacy for rail's significant role in the transition to a low-carbon economy.

In the third pillar, 'Create carbon abatement opportunities', we commit to increase the proportion of carbon-neutral energy into our energy mix, and investigate

opportunities to invest in and/or generate carbon offsets with environmental and social co-benefits, by incorporating our Tracking Towards Net-Zero Operational Emissions initiatives and prioritising:

- cost-effective renewable energy to augment supply to our electrified rail infrastructure and real estate portfolio<sup>19</sup>
- high-quality, credible, verified and co-beneficial carbon offset portfolio development.

- 17 See footnote 1.
- 18 See footnote 1.
- 19 Potential barriers to efficient renewable energy sources may include delays in advancement and/or a lack of reliable renewal energy sources available within the market, lack of infrastructure necessary to support renewable energy sources (particularly in regional areas), and reliance on third parties (including the implementation of government policy) to facilitate the transition.

**Table 1** Core Elements — Task Force on Climate-related Financial Disclosures (TCFD)

Core element	TCFD Recommended Disclosure	Index
Governance	Board's oversight of climate-related risks and opportunities.	Chapter: Governance and risk
	Management's role in assessing and managing climate-related risks and opportunities.	Effective governance for sustainability (page 16)
Strategy	Climate-related risks and opportunities the organisation has identified over the short, medium, and long term.	Chapter: Governance and risk Response to climate-related risks and opportunities (page 21)
	Impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.	
	Resilience of the organisation's strategy, taking into consideration different climate-related scenarios.	Chapter: What we haul (page 34)
Risk Management	Organisation's processes for identifying and assessing climate-related risks.	Chapter: Governance and risk Effective governance for sustainability (page 16)
	Organisation's processes for managing climate-related risks.	Chapter: Governance and risk Response to climate-related risks and opportunities (page 21)
	How processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	Chapter: Governance and risk Effective governance for sustainability (page 16)
Metrics and Targets	Metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	Chapter: Governance and risk
	Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Response to climate-related risks and opportunities (page 21)  Chapter: Climate change (page 41)
	Targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	

In table 2, identified risks are considered material and, unless otherwise specified in the subsequent section, they apply to the whole of enterprise.

Table 2 Response to climate-related risks

Definition of Time Horizon — Short Term: up to 4 years; Medium Term: 5 to 10 years; and Long Term: more than 10 years

#### Fleet decarbonisation

Challenges may arise in managing our fleet's decarbonisation program due to:

- Economic/technological viability of the fleet transition at scale, including reliance on unproven (or less mature) technologies, access to critical materials and/or cost-effectiveness.
- Lack of supporting infrastructure (including charging technology).
- Absence of regulatory support and supply of transitional solutions, such as renewable diesel and biofuels.
- Lack of available, efficient and affordable energy to power the transition.
- Lack of, or changes to, government policy and customer incentive to address their Scope 3 emissions or policies relating to fuel and energy.
- Reliance on third parties (including in the implementation of government policy) to facilitate the transition.

Relevant Climate-Related Risk Category:	Policy & Legal, Reputation, Technology
Risk Level:	High
Time Horizon:	Medium to long term
Potential Business Impacts:	May result in financial losses or may cause delays in meeting our climate commitments.
Our Management Response:	<ul> <li>Direct mitigations:</li> <li>Future Fleet Fund - \$50m to progress and prove prototype development.</li> <li>Aurizon leading and participating in Australian Rail Industry collaboration on Engineering and Safety Standards (RISSB).</li> <li>Emission reduction initiative-focused localised solutions to reduce fuel consumption on the current diesel fleet.</li> <li>Engagement with federal government and regulators about emissions mechanisms, rail production variables, accounting standards, and fuel quality standards.</li> <li>Developing partnerships with customers, vendors, manufacturers and suppliers.</li> </ul>
Metrics:	<ul> <li>Scope 1 emissions.</li> <li>Operational Emissions Intensity and emissions targets (% of progress).</li> <li>Safeguard position.</li> <li>Direct investment and collaboration with peers, researchers and manufacturers on acceleration of low-carbon technology development for Australian heavy-haul freight sector.</li> <li>Government, industry and customer funding and support for first-of-type projects and solution roll outs.</li> </ul>

#### Table 2 Response to climate-related risks (continued)

#### Thermal coal demand

Demand for seaborne thermal coal is subject to energy policy and fuel-mix decisions driven by energy costs, energy security, and regulation of GHG emissions.

Relevant Climate-Related Risk Category:	Market, Policy & Legal, and Technology
Risk Level:	High
Time Horizon:	Medium to long term
Potential Business Impacts:	Approximately 30% of Coal, Bulk and Containerised Freight revenue <sup>20</sup> and around 30% of Network revenue is related to the haulage of thermal coal. The thermal coal risk for Network is lower, given the regulatory nature of the asset (including revenue protection mechanisms) in addition to coking coal being the dominant coal type.

#### Steel-making coal demand

Demand for seaborne steel-making coal is subject to economic development, steel-intensive growth, method of steel production (including emerging lower carbon processes), import reliance, and regulation of GHG emissions.

Relevant Climate-Related Risk Category:	Market, Policy & Legal, and Technology
Risk Level:	Moderate
Time Horizon:	Long term
Potential Business Impacts:	Approximately one quarter of Coal, Bulk and Containerised Freight revenue <sup>21</sup> and around 70% of Network revenue is related to the haulage of steel-making coal.

#### Australian coal supply

Australia's supply of steel-making and thermal coal to seaborne export markets is subject to factors such as global competitiveness, operating coal mine production, and domestic climate policies.

Relevant Climate-Related Risk Category:	Market, Policy & Legal, and Technology
Risk Level:	Low to moderate
Time Horizon:	Medium to long term
Potential Business Impacts:	Over half of Australia's coal export using our below rail Network and/or carried by our Coal business.

<sup>20</sup> Revenue is the sum of the Coal (excluding all track access), Bulk (net of track access expense) and Containerised Freight business units and excludes the Network business unit. Coal revenue allocated (coking/thermal) based on estimated volume split.

<sup>21</sup> See footnote 20.

Table 2 Response to climate-related risks (continued)

For steel-making & thermal coal demand and Australian coal supply		
Our Management Response:	<ul> <li>Direct mitigations:</li> <li>The nature of our contracts provides greater certainty for our future revenue streams; 77% of the Coal business portfolio has a remaining contract life of 3+ years (as at 30 June 2024).</li> <li>Continue to use scenario analysis to test the resilience of our fleet capacity, capital investments, haulage opportunities and impairment testing.</li> <li>Aurizon's aspiration to grow Bulk and Containerised Freight (as shared at the July 2023 Investor Day) may result in share of Operation's revenue derived from thermal coal to reduce to 10-20% by 2030.</li> </ul>	
Metrics:	<ul> <li>Coal demand and supply projections and scenario analysis (refer to our What we haul chapter).</li> <li>Composition of Aurizon revenue (by commodity group).</li> </ul>	

#### Efficiency, availability and affordability of renewable energy and/or drop-in fuels to power transition

Barriers to efficient renewable energy sources as a result of:

- Delay in advancement and/or a lack of reliable renewable energy sources (including adequacy and availability of necessary infrastructure to support renewable energy sources, particularly in regional areas).
- Government instruments and policies relating to traditional or renewable energy sources.
- High cost of investment to transition to renewable energy.
- Reliance on third parties (including in the implementation of government policy) to facilitate the transition.

Relevant Climate-Related Risk Category:	Policy & Legal, Reputation, Technology and Market
Risk Level:	Moderate to high
Time Horizon:	Medium to long term
Potential Business Impacts:	May result in financial losses or may cause delays in meeting our climate commitments.
Our Management Response:	Direct mitigations:  Renewable energy project initiatives.  Engaging with suppliers and project developers to increase renewable energy mix within the procurement framework.  Engaging with government, regulators and energy suppliers regarding timing and regional focus of renewable energy initiatives.
Metrics:	<ul> <li>Renewable energy penetration (grid, contracted and behind the meter).</li> <li>Electricity consumption.</li> <li>Operational GHG emissions.</li> </ul>

 Table 2 Response to climate-related risks (continued)

#### Availability and access to capital and funding

Challenges related to access to capital and funding arise as a result of:

- Market-based or policy restrictions for our business to gain licences, funding or insurance for mining and logistics sector.
- Negative investor sentiment hindering funding prospects and/or capital raising.
- $\bullet$  Greater risk of litigation/social action against our business and customers.
- An inability to progress climate-related programs.

Relevant Climate-Related Risk Category:	Reputational and Policy & Legal
Risk Level:	Moderate to high
Time Horizon:	Short, medium and long term
Potential Business Impacts:	May affect our ability to operate, comply with regulatory requirements, increase costs/time requirements associated with litigation, or limit growth and climate commitments.
Our Management Response:	<ul> <li>Direct mitigations:</li> <li>Taking action, as articulated in our CSAP commitments.</li> <li>Accessing a broad range of capital markets and diversifying funding sources and/or extend tenor, where possible.</li> <li>Applications for ARENA and other state government grants/funding.</li> <li>Ongoing utilisation of wholly owned captive insurance company, foster long-term relationships, engagement with new insurance markets and ongoing market engagement.</li> <li>Sustainability reporting and engagement.</li> <li>Investment decision and corporate funding frameworks.</li> <li>Carbon liability analysis.</li> <li>Grow Bulk and Containerised Freight revenue streams.</li> </ul>
Metrics:	<ul> <li>Lengthening debt duration and refinancing ahead of maturity.</li> <li>Government grant analysis/ratios.</li> </ul>

**Table 2** Response to climate-related risks (continued)

#### Climate change resilience and adaption

Operational disruption and damage arising from more severe extreme weather and related events, such as flooding, erosion, bushfires, and annual average summer temperature increases, affecting mining operations/production volumes, transport and port activities across the supply chain.

Relevant Climate-Related Risk Category:	Physical: Acute and Chronic
Risk Level:	Moderate to high
Time Horizon:	Short, medium and long term
Potential Business Impacts:	May result in loss of revenue and/or higher costs associated with remedial actions to ensure asset availability.
Our Management Response:	<ul> <li>Direct mitigations:</li> <li>Continue to design infrastructure to recover quickly from extreme weather events, including strategic positioning of inventory.</li> <li>Implement appropriate rail network operations strategies during extreme weather events (e.g. speed restrictions).</li> <li>Localised real-time monitoring of track temperatures.</li> <li>Climate modelling to understand potential impacts of climate change on fixed assets, such as CQCN and Tarcoola-to-Darwin track infrastructure.</li> <li>Ensure sufficient, appropriate and adequate insurance coverage, where applicable.</li> </ul>
Metrics:	<ul> <li>Current/projected temperatures through the CQCN's remote monitoring system.</li> <li>Data analytics on weather/climate-related operational disruptions.</li> </ul>

#### Table 2 Response to climate-related risks (continued)

#### Carbon emission management and reporting

Challenges in the management and monitoring of carbon emissions as a result of:

• Changes in Australian and international government policies and regulations, affecting expectations on emissions reporting and management, including the requirement to offset with ACCUs.

- Carbon liability under GHG emissions regulation (statutory) and targets (voluntary).
- Greater risk of litigation/social action against our business and customers.
- Inadequate strategic effort, commitment of resources, and technological challenges, and reliance on third parties (including the implementation of government policy) to facilitate the transition could impede decarbonisation progress and increase carbon liability.

Relevant Climate-Related Risk Category:	Policy & Legal
Risk Level:	Low to moderate
Time Horizon:	Short, medium and long term
Potential Business Impacts:	May result in higher operational costs, and reputational and social damage. Higher cost/time requirements associated with litigation.
Our Management Response:	<ul> <li>Direct mitigations:</li> <li>Implement CSAP targets and initiatives focused on operational decarbonisation through improved operational efficiency, renewable energy integration, and adoption of low-carbon fleet technologies.</li> <li>Monitor and engage with government on climate policy, and advocate for a positive policy outcome for rail and energy-efficient freight services.</li> <li>Embed our ACCUs purchasing strategy to ensure Aurizon has sufficient supply to meet its carbon liability while decarbonisation technologies are developed, scaled and deployed.</li> <li>Maintain open and transparent communication with stakeholders, including climate-related disclosures.</li> </ul>
Metrics:	<ul> <li>Emissions reporting (Scope 1, 2 and 3).</li> <li>Operational emissions intensity (including NTKs).</li> <li>Operational emissions intensity target (% of progress).</li> <li>Energy consumed.</li> <li>Number of ACCUs purchased and retired to meet Safeguard compliance obligations.</li> </ul>

#### **Table 2** Response to climate-related risks (continued)

#### Talent to support transition

Aurizon's ability to transition to net zero is hindered or prevented as a result of workforce planning and talent challenges:

- Shortage of qualified candidates or experts in the marketplace, particularly in regional areas.
- Inability to attract and retain employees with the necessary skillsets.
- $\bullet\,$  Inadequate training available to upskill existing and new employees.

Relevant Climate-Related Risk Category:	Policy & Legal, Reputation and Technology
Risk Level:	Low to moderate
Time Horizon:	Short to medium term
Potential Business Impacts:	May result in financial losses or may cause delays in meeting our climate commitments.
Our Management Response:	<ul> <li>Direct mitigations:</li> <li>Priority Talent Working Groups form part of the workforce planning process and will be triggered when required.</li> <li>Employee Value Proposition and Talent Acquisition.</li> <li>Upskill existing staff and future candidates with the appropriate skills.</li> <li>Federal government engagement on regional investment and skills.</li> <li>Explore and engage opportunities via partnership agreements.</li> </ul>
Metrics:	<ul> <li>Workforce planning, monitoring and data analysis.</li> <li>Aurizon Graduate Program.</li> </ul>

Identified opportunities in table 3 are considered material and, unless otherwise specified in the subsequent section, they apply to the whole of enterprise.

**Table 3** Response to climate-related opportunities

#### Access to new markets

Growth opportunities are expected to continue to develop for our Bulk business in line with higher demand for the raw materials required for low-carbon, renewable energy, and storage technologies.

Relevant Climate-Related Opportunity Type:	Markets
Time Horizon:	Short, medium and long term
Potential Business Impacts:	The global clean energy transition will continue to drive significant consequences for mineral demand, incentivising the development of new mines and downstream processing in Australia, creating opportunities for our Bulk business.
Our Management Response:	Direct adaptations:  • Provide end-to-end bulk haulage services in key mineral corridors augmented by integrated port services.
Metrics:	<ul> <li>Bulk business growth and share of bulk market profit pool.</li> <li>Bulk volume projections and scenario analysis (refer to our What we haul chapter).</li> </ul>

#### Renewable energy and energy efficiency

Alongside greater renewable energy penetration across the grid, renewable energy contracting, photovoltaic (PV) installation and energy capture offer cost-neutral/positive decarbonisation outcomes for electrified assets.

Relevant Climate-Related Opportunity Type:	Energy Source and Markets
Time Horizon:	Medium term
Potential Business Impacts:	Faster decarbonisation of electric fleet and fixed assets. Lower energy costs.
Our Management Response:	<ul> <li>Direct adaptations:</li> <li>Install solar PV arrays across our largest operational depots.</li> <li>Identify opportunities to increase renewable energy mix within energy procurement frameworks by engaging with suppliers and project developers.</li> <li>Leverage efficiencies between fixed assets and mobile plant.</li> <li>Actively pursue partnerships with suppliers and customers to identify and implement innovative energy solutions.</li> </ul>
Metrics:	<ul> <li>Electricity consumption.</li> <li>Renewable energy penetration (grid, contracted and behind the meter).</li> <li>Operational GHG emissions (absolute and intensity).</li> </ul>

#### **Carbon markets**

 $Carbon\ market\ growth\ presents\ an\ opportunity\ to\ create\ high-quality\ offsets\ to\ augment\ direct\ abatement\ initiatives.$ 

Relevant Climate-Related Opportunity Type:	Markets
Time Horizon:	Medium term
Potential Business Impacts:	Less exposure to carbon costs by augmenting direct abatement initiatives with high-quality offsets to help address hard-to-abate emissions (linked to availability of low-carbon technology for the Australian rail freight sector in the near term).
Our Management Response:	Direct adaptations:  • Assess opportunities to build a carbon offset portfolio by engaging with project developers to either acquire or originate high-quality carbon offsets with environmental and social co-benefits aligned to key sustainability objectives.
Metrics:	<ul> <li>Regulation of GHG emissions.</li> <li>Operational GHG emissions (absolute and intensity).</li> <li>ACCUs supply/demand.</li> </ul>

#### Development and/or expansion of low-emissions goods, energy sources and services

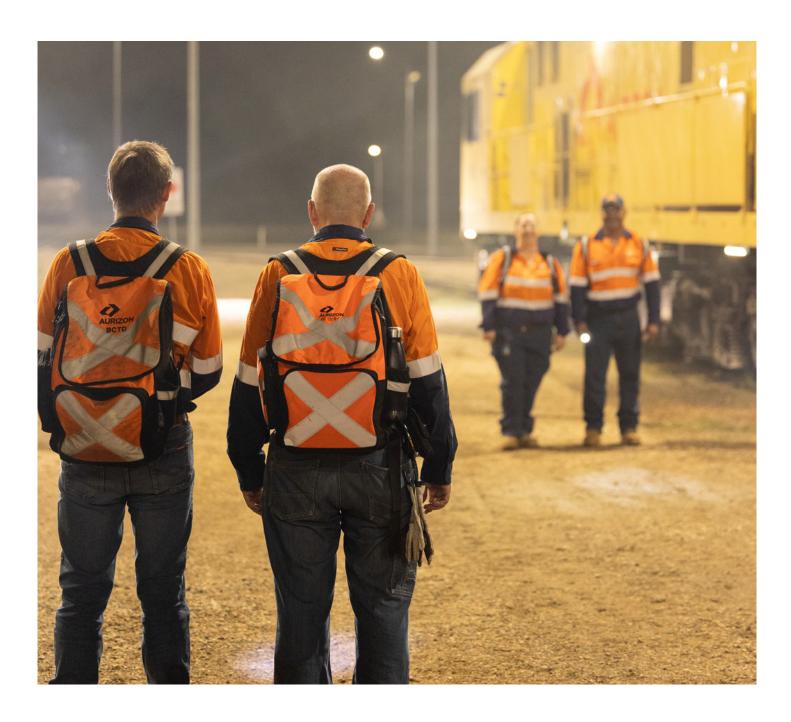
Our direct investment in fleet decarbonisation technologies (low-carbon energy supply, fuels, battery and hydrogen) could result in enhanced engagement and partnerships with participants across Australia's freight transport sector.

Relevant Climate-Related Opportunity Type:	Products and Services
Time Horizon:	Medium to long term
Potential Business Impacts:	Increased customer value proposition and alignment of supply chain decarbonisation objectives (e.g. by offering low-carbon freight transportation services).  Faster development of low-carbon technologies for our own use and potential adoption across Australia's freight transport sector.
Our Management Response:	Direct adaptations:  Continue to implement our Tracking Towards Net-Zero Operational Emissions initiatives (supported by the establishment of a \$50m Future Fleet Fund, and the creation of forums for collaboration and partnerships to accelerate the development of low-carbon technologies).
Metrics:	<ul> <li>Operational GHG emissions (absolute and intensity).</li> <li>Capital investment in low-carbon energy supply chains (e.g. green hydrogen) and storage (e.g. battery technology).</li> </ul>

Our safety goal reflects our commitment to protecting ourselves, each other, and the communities in which we operate.

# Safety and health

Through FY2024, our Safety Strategy has continued to prioritise building and implementing simple systems and processes, understanding and controlling safety risks, and building leadership and capability with a strong in-field presence.



#### Safety in Action - how we deliver safely

Safety in action adds value to our teams by enabling our people to take the time to design and plan work, using clear and simple practices with the right tools to deliver.

Figure 6 Safety in Action





Three components (figure 6) enable our people to be safe at work:

- Well-designed, planned, and resourced work.
- Informed by risk.
- Executed by engaged and enabled people.

In FY2024, we launched two significant safety initiatives:

#### **Contractor Safety Management**

Planning, Evaluation and Engagement is part of our enhanced framework designed to support managing contractor safety consistently across our operations. Our enterprise approach recognises common risks and enables us to plan, evaluate and engage entities more effectively.

#### Design of the Fatigue Risk Management framework

This represents a significant change to a more contemporary, flexible, and responsive approach to managing fatigue. Our approach has introduced simple tools and processes to enable our people to identify fatigue risk and to implement appropriate controls within the context of the task and work being undertaken.

Aurizon Network was recognised at the Rail Industry Safety and Standards Board (RISSB) Rail Safety Awards 2024, and was nominated in the Frontline Worker Safety Initiative category for the rollout of the External Precise GPS (EPG).

EPG has been a key Track Worker Safety initiative in the FY2024 safety strategy, strengthening our ability to identify the correct location of a work group by using GPS technology to visibly track the location of rail safety workers in a live environment.

## **Employee health** and wellbeing

#### **Mental Wellbeing initiatives**

In FY2024, we refreshed our Culture and Wellbeing Strategy, built upon the three pillars of Prevention, Promotion, and Support. In addition, a formal psychological risk assessment of 15 psychosocial hazards used three scales - frequency, severity, and duration. In collaboration with the Black Dog Institute, we started providing a series of online, self-paced training modules aimed at providing insights into common mental health conditions and their prevalence in the workplace for employees and leaders. Our training is mandatory for all leaders.

We also continued our initiatives from previous years, such as continuing to expand Aurizon's Peer Support Network, and providing immediate psychological support to our employees through our Proactive Injury Intervention Program.

#### Health monitoring for crystalline silica

In FY2024, we continued to monitor silica dust across the business. Actions taken included redesigning equipment to control dust at its source and providing powered air-purifying respirators to exposed workers. Any workers identified as having potential exposure to silica are included in Aurizon's health monitoring processes, which includes low-dose high-resolution CT scans monitored by the Chief Medical Officer.

# Recording our safety performance

We record and investigate safety incidents to help us learn and improve. Our key operational safety metrics in FY2024 included:

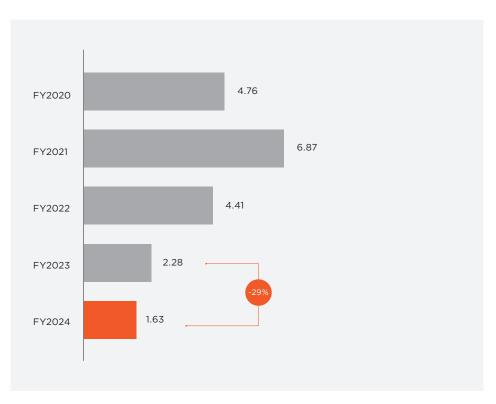
- Serious Injury and Fatality (SIF) incidents, both actual SIF events and events with SIF potential.
- Total Recordable Injury Frequency Rate (TRIFR).

As of 1 July 2023, Aurizon Bulk Central has been included in Aurizon's enterprise safety performance reporting. For comparison purposes, any percentage improvement compares current FY2024 performance to the combined Aurizon and Aurizon Bulk Central FY2023 performance.

### Serious Injury and Fatality Frequency Rate (SIFR(a+p))

To focus on managing what matters, we identify and learn from events that have

Figure 7 Actual and Potential Serious Injury and Fatality Frequency Rate (SIFR(a+p))



the potential for serious injury or fatality. During FY2024, Aurizon reported zero SIF actual events and 19 SIF potential events. These are the events we want to and do talk about - promoting a learning culture and reducing the risk of harm. SIFR(a+p) is an allencompassing measure across all aspects of our operations - including rail, ports, terminals, road transport and broader infrastructure. The measure will continue to direct our efforts at preventing SIF events across all of Aurizon's operations. The FY2024 SIFR(a+p) is a total of 1.63 events expressed as a frequency rate per million hours worked (figure 7).

Our two most common critical risks that are associated with SIF events are Fall from Heights and Rail Traffic Impact on Worker. In FY2024, we have focused on reducing SIF events by concentrating on the critical controls of our key activities across our operations, which includes our continued embedding of the Critical Control Management Project.

## Total Recordable Injury Frequency Rate (TRIFR)

In FY2024, our TRIFR was 7.36 injuries per million hours worked, which is an improvement of 15% on FY2023 (figure 8). In FY2024, a core focus was directing injury prevention efforts to musculoskeletal stressing challenges.

In FY2024, we have focused on reducing SIF events by concentrating on the critical controls of our key activities across our operations.

#### Safety metrics: definitions

#### Serious Injury and Fatality (SIF)

A work-related actual incident or near miss with potential to result in a fatality, a life-threatening or life-altering physical injury or illness.

Serious Injury and Fatality Frequency Rate (SIFR(a+p)) The number of SIF events (actual or potential) sustained by employees and contractors per million hours worked.

**Total Recordable Injuries (TRI)** The sum of Lost Time Injuries, Medical Treatment Injuries, and Restricted Work Injuries sustained by employees and contractors.

Total Recordable Injury Frequency Rate (TRIFR) The number of instances of Lost Time Injuries, Medical Treatment Injuries, and Restricted Work Injuries sustained by employees and contractors per million hours worked.

We reviewed manual handling tasks and developed musculoskeletal disorder plans (MSD) and initiatives designed to reduce high-frequency, low-impact MSD injuries.

Incident severity continues to reduce, with low-severity body-strain injuries being the most common. In FY2024, there were 86 recordable injuries, against 93 reported in FY2023. In FY2024, our Lost Time Injury Frequency Rate was 3.51, an improvement of 10% from 3.92 in FY2023.

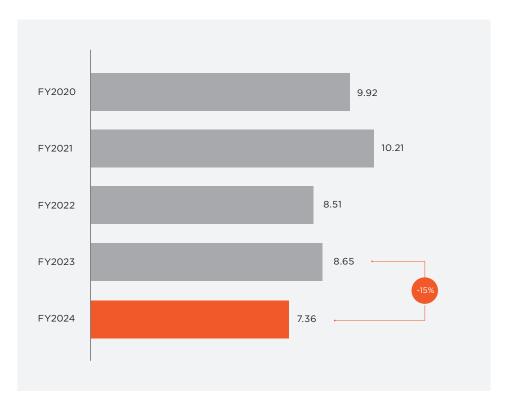
In FY2025, business units will broaden attention from the enterprise deep dive on musculoskeletal injuries to their own unique injury risks, as relevant. Each business unit will then review and develop relevant programs at a local level, focused on lower end injury trends.

#### Leading for Safety 2.0

Aurizon's award-winning Leading for Safety program was redesigned and piloted in FY2024. The program aligns with Aurizon's continued focus on psychosocial risks. It is dedicated to supporting our leaders to build psychologically safe teams and combines theory with practical tools and takeaways for our leaders to use.

Aurizon recognises that our people need to feel safe to speak up. If people feel safe to speak up, we can listen and learn. The program captures all frontline leaders and includes ongoing coaching from managers and safety specialists across Aurizon.

Figure 8 Total Recordable Injury Frequency Rate (TRIFR)





#### Keeping our communities safe

At Aurizon, our Safety goal is to protect ourselves, each other, and our communities. In FY2024, Aurizon advocated across state and federal bodies to support policy reforms and funding allocation in relation to level crossing safety.

In March, Aurizon participated in the national Level Crossing roundtable. The roundtable focused on key priority areas in technology, enforcement, and education. Aurizon has also met with the National Heavy Vehicle Regulator, identifying areas to collaborate to improve level crossing outcomes.

In late FY2024, Aurizon launched a national level crossing education and awareness campaign – Respect the sign. Lives are on the line. The campaign is told through the eyes of those directly affected by level crossing events, especially train crew and the first responders who see the impacts of near misses and collisions.

The campaign includes several resources available for people to engage with their local schools and communities for a multi-faceted approach from Aurizon on this key safety risk.

What we haul 34

Aurizon is leveraged to global demand for Australian bulk commodities driven by infrastructure development, energy generation (and storage), food consumption and containerised freight.

## What we haul

We draw upon scenario analysis to test market drivers and to evaluate capital, fleet and haulage opportunities. About half of our earnings and assets belong to the Network business, which is our regulated infrastructure in Central QLD. The CQCN is critical infrastructure supporting around 90% of Australian

steel-making coal export volume. The other half of the group represents our Coal, Bulk and Containerised Freight<sup>22</sup> businesses operating across Australia and hauling key commodities, such as steel-making coal, thermal coal, iron ore, alumina and bauxite, grain and containerised freight.



What we haul 35



#### Steel-making coal

Primarily used to produce steel, an integral link with economic development driving construction of urban infrastructure. It takes about three-quarters of a tonne of steel-making coal to produce one tonne of crude steel.

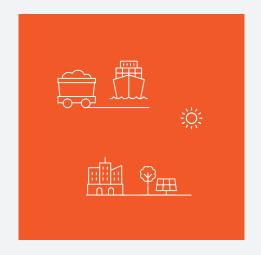
Australia is the largest seaborne exporter of steel-making coal.



#### Thermal coal

Used as a heat source to generate electricity but also used as a source of energy in the production of cement. Demand is dominated by Asia, which accounts for 83% of global seaborne import volume<sup>23</sup>. Against an expected retirement age of 40 years<sup>24</sup>, the average age of coal-fired generation capacity in Asia is just 15 years<sup>25</sup>.

On average, Australia's export thermal coal has high energy content and relatively low ash content, which result in less coal consumption per kilowatt hour (kWh) of power station output. Australia is the second largest<sup>26</sup> seaborne exporter of thermal coal. In FY2024, 99% of Australian thermal coal exports were destined for Asia<sup>27</sup>.



#### Iron ore

Iron ore is a bulk commodity that is key to the production of steel, which is largely used in the construction, machinery and automotive sectors, but also plays a critical role in clean energy technology and generation. China represents over two-thirds of global iron ore trade<sup>28</sup>.

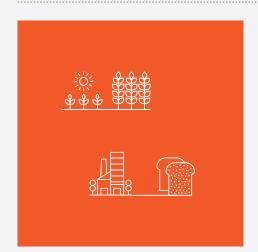
Australia is the largest exporter of iron ore<sup>29</sup> and the lowest cost (on average) export nation on a delivered basis to China<sup>30</sup>.

- 23 International Energy Agency (IEA), Coal Information (April 2024).
- 24 International Energy Agency, Coal in Net Zero Transitions (2022).
- 25 S&P Capital IQ (Power Plants Units) May 2024.
- 26 IEA Coal 2023.
- 27 Australian Bureau of Statistics.
- 28 Office of the Chief Economist, Resources and Energy Quarterly (March 2024).
- 29 Office of the Chief Economist, Resources and Energy Quarterly (March 2024).
- 30 Minerals Council of Australia, Australian Iron Ore: Where Quality Meets Opportunity (February 2021).



#### Aluminium and bauxite

Due to its light weight, aluminium is ideal for transport applications. Bauxite is the primary mineral for alumina and, ultimately, aluminium production. Australia is the world's largest producer of bauxite<sup>31</sup> and second largest producer<sup>32</sup> of alumina behind China.



#### Grain

On average, Australia has produced 50 million tonnes of crops per annum over the past decade; about 60% of this volume was exported<sup>33</sup>. Over the same period, Western Australia (WA) was the largest cropproducing state (35% share), followed by New South Wales (NSW) (27% share) and SA (16% share)<sup>34</sup>.

Wheat is Australia's dominant crop, with annual production representing around half of total crop production. In 2023-24, Australia was the third largest country for wheat exports (behind Russia and Canada), representing around 10% of global trade<sup>35</sup>.



#### **Containerised Freight**

Our Containerised Freight business provides rail linehaul services for customers in Australia's growing interstate freight market. This includes the transport of vital supplies for communities across Australia, including retail and supermarket goods, vehicles, machinery and equipment.

The total interstate containerised freight market size is estimated at around seven million TEUs per annum, of which around one million TEUs per annum is on rail $^{36}$ .

Building upon this national network (and Bulk Central below-rail infrastructure), a land-bridging opportunity is being developed to deliver freight from the Port of Darwin to major cities via rail. Around eight million TEUs per annum are exchanged at major container terminals in Australia, which has doubled in size over the past 20 years<sup>37</sup>. In addition, around 1.3 million motor vehicles entered Australia in 2023<sup>38</sup>.

- 31 Geoscience Australia, Australia's Identified Mineral Resources 2023.
- 32 USGS Mineral Commodity Summaries 2024 (Bauxite and Alumina).
- 33 Department of Agriculture, Water and the Environment, Crop Report (March 2024) and Agricultural commodities (March quarter 2024). Average based on marketing years 2013-14 to 2022-23.
- 34 Department of Agriculture, Water and the Environment, Crop Report (March 2024) and Agricultural commodities (March quarter 2024).
- 35 International Grain Council, June 2024, marketing years.
- 36 Bureau of Infrastructure, Transport and Regional Economics (Trainline 7), Aurizon analysis.
- 37 ACCC, Container stevedoring monitoring report 2022-23, based on container throughput at major Australian ports in FY2023.
- 38 Bureau of Infrastructure and Transport Research Economics (BITRE) Register of Approved Vehicles (RAV) Report (January 2024).

# **Enterprise strategic planning**

As part of our SIU framework, we undertake scenario analysis to enable the business to evaluate capital, fleet and haulage opportunities, and importantly, sustainability in the context of climate change risks (figure 9).

A key component of this analysis is understanding the drivers of demand and supply for the commodities we haul. This process considers opportunities and risks that emerge over the medium to long term, where the timing and magnitude is less certain. In addition to the fundamental drivers of Australian coal and bulk commodities (figure 10), we also consider more subjective factors, such as government policy and trade considerations.

Figure 9 Where we use Strategy in Uncertainty scenarios

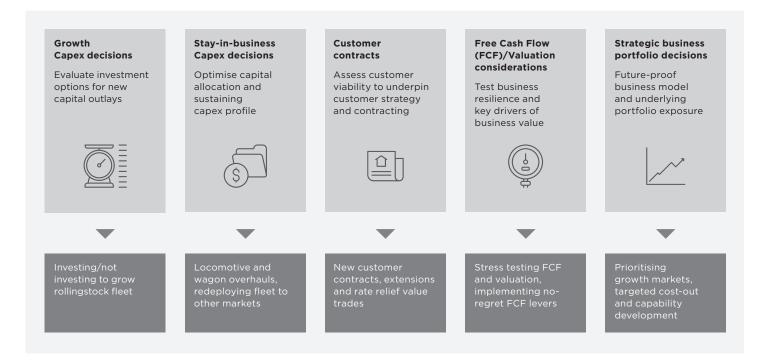


Figure 10 Strategy in Uncertainty key drivers

#### Steel-making Australia Australia coal demand coal demand coal supply bulk demand - GDP - GDP - Operating coal Infrastructure mine production development - Climate policy - Climate policy - Trade flows - Food consumption - Crude steel production - Energy intensity - Export infrastructure Energy transition - Scrap availability - Energy generation and - Global competitiveness Australia mine capacity mix - Steel production projects pipeline method Coal-generation - Domestic coal fleet pipeline requirements - Australia mine life - Domestic coal supply/ import reliance — Convertible road - Domestic coal supply/ - Climate policy import reliance volumes (to rail) - Coal mine project pipeline

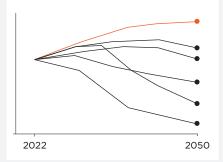
Our management team and Board are directly engaged in identifying the scenarios for consideration, as well as developing plans and initiatives to position the organisation to mitigate risks and take advantage of opportunities. This strategic process is repeated at least annually to ensure that our strategic priorities are continually monitored and updated to proactively respond

to emerging market dynamics and opportunities. The most recent scenarios for coal export volumes are shown in figure 11.

Figure 11 Coal: Strategy in Uncertainty volume scenarios<sup>39</sup>

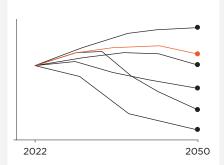
## Commodity Strong

- Higher seaborne demand driven by accelerated GDP growth
- No new climate change policies implemented
- Lower scrap availability, supports higher share of BOF-BF in crude steel production in Asia (China at 75% share and India at 70%)
- No Australian mine/ port constraints



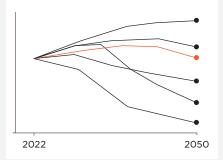
#### **Current Economics**

- BOF-BF share of crude steel production retained as dominant method of steel production in Asia
- India's GDP growth across the period is projected at 5% CAGR. Government 2030 steel production target (255mt) achieved a decade later
- Coal-fired power plants maintain
   typical economic life and new capacity
   limited to those under construction
- No Australian mine/port constraints



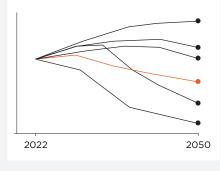
#### Australia Market Share Loss

- Major coal exporters gain share in global coal trade at the expense of other export nations (including Australia) supported by new infrastructure capacity development
- Equivalent GDP and demand trajectory as Current Economics
- No Australian mine/port constraints



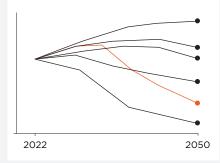
# Carbon-Constrained Asia

- Lower GDP growth reduces seaborne demand
- China self-sufficient in thermal coal from 2028
- Earlier closure of coal-fired power plants driven by government policy and significant reduction in renewable energy costs



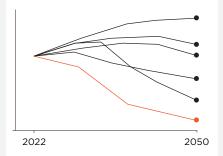
#### Mine/Regulatory-Constrained Australia

- New coal mines limited to probable near-term opportunities
- Existing mine production expansions considered. No port constraint
- Equivalent GDP and demand trajectory as Current Economics



# **Rapid Decarbonisation**

- Staggered retirement of global coalfired electricity capacity, targeting oldest to newest plants. Complete closure by 2033
- ~50% share of steel production is hydrogen-based DRI/EAF by 2050
- BF-BOF share of global steel production reduces to around 10% by 2050



Focusing on the first 10 years of the scenario projection period, under all but one scenario there is flat to moderate growth in coal export volume. However, there is naturally greater divergence thereafter – export volumes fall under

four of six scenarios out to 2050. For Bulk volumes, the most recent scenarios are shown in figure 12. All scenarios demonstrate positive growth over the projection period, with the Rapid Decarbonisation scenario providing

upside to Current Economics. Clean energy technologies drive demand for critical minerals, in addition to greater demand for high-grade iron ore (magnetite) used in low-carbon steel-making.

2050

Figure 12 Bulk: Strategy in Uncertainty volume scenarios<sup>40</sup>

# Commodity Strong **Current Economics** - Stronger GDP growth in Asia - China steel production remains above 800mtpa over projection period and India achieves steel production - Low scrap availability reduces use of electric arc growth of 4 to 5% per annum furnaces (EAF) in steel-making Global population growth and limited arable land supports - Food consumption increases significantly per capita increased use of fertilisers - Commercial battery storage drives mineral demand - Sales of electric vehicles (EVs) reach over 30 million by 2030 - Increased global instability drives investment in Australia Australia maintains strong cost competitiveness - Favourable growing conditions and effective farm - Favourable growing conditions and effective farm management management practices in Australia drive higher crop yields practices in Australia support sustained higher crop yields 2022 2050 2022 2050 Australia Market Share Loss **Rapid Decarbonisation** - Australia's cost competitiveness declines, resulting in loss of - Accelerated implementation of climate change policies market share - Around 50% share of steel making from hydrogen by mid- Regulation (mining, environmental and heritage) becomes century. Magnetite projects prioritised, given high iron increasingly stringent in Australia content and low impurities — Unfavourable growing conditions in Australia and reduced — Strong investment in commercial battery storage in addition to electric vehicles and renewable energy infrastructure drive productivity leads to lower crop volumes increased demand for battery minerals and base metals

2050

2022

2022

For Containerised Freight, the expanding interstate containerised freight market is expected to continue its trajectory underpinned by Australia's economic growth. The Bureau of Infrastructure and Transport Research Economics (BITRE) forecasts the Australian interstate nonbulk rail freight volume to grow at a compound annual growth rate (CAGR) of 2.5% between 2020 and 2050 in its base scenario (figure 13). Given the importance of this new market to Aurizon, further analysis is being developed to support strategic planning.

#### Financial application of scenarios

The application of the SIU scenarios in cash flow modelling highlighted the levers available to preserve free cash flow under low-volume scenarios:

- operating expenditure efficiency
- capital expenditure optimisation
- incremental free cash flow via fleet cascade opportunities
- asset disposal.

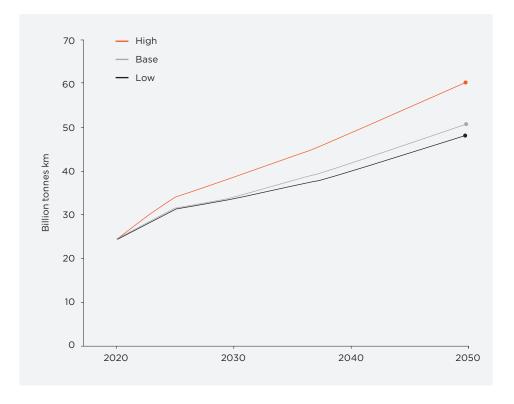
The flexibility of our fleet capacity enables our business to respond to shifting market dynamics and supports our focus on capital productivity and free cash flow. Modelling of our scenarios at a detailed level for coal type, mine and rail corridor enables us to stress test key decisions. It also identifies the opportunity for the Bulk business to target new markets and expand across supply chains, including port and terminal services.

Under scenarios where decarbonisation is accelerated, the clean energy technology required in this transition will increase demand for commodities, such as iron ore, copper, nickel, lithium, cobalt, vanadium, and rare earth elements.

### **External scenarios**

As well as developing our own long-term outlook for seaborne coal demand, we consider scenarios developed by external organisations, such as the International Energy Agency (IEA). One recommended disclosure from the TCFD is to consider different climate-related scenarios. Although the Task Force does not recommend the use of a specific scenario, we continue to draw upon the best known and most widely used scenarios produced by the IEA in the annual release of the World Energy Outlook. This is used for comparison with our SIU scenarios for coal.

**Figure 13** Containerised freight: BITRE Forecast: Australia Interstate non-bulk rail freight volume (2020-2050)<sup>41</sup>



The IEA Announced Pledges Scenario (APS) assumes all climate commitments announced by governments are met on time and in full. This results in Australian coal exports reducing by 49% in 2050 compared with 2022, comparable with our SIU Mine/Regulatory-Constrained Australia scenario.

The IEA Net Zero Emission by 2050 Scenario (NZE) shows a pathway to achieve net-zero carbon emissions by 2050 globally and is consistent with the 'stabilisation of global temperature at 1.5°C above pre-industrial levels'.

The NZE projects Australian coal exports reducing by 75% in 2050 compared with 2022. Although this broadly aligns at the end point with the SIU Rapid Decarbonisation scenario, the NZE profile (through to 2050) is generally higher, driven by greater thermal coal export volume.

The flexibility of our fleet capacity enables our business to respond to shifting market dynamics.

<sup>41</sup> Bureau of Infrastructure and Transport Research Economics (BITRE), Australian aggregate freight forecasts (2022 update) - Non-bulk rail freight dataset (billion tonne kilometres).

Rail plays a significant role in the transition to a low-carbon economy because rail freight produces 95% less carbon emissions (per tonne kilometre) than road freight<sup>42</sup>.

# Climate change

As Australia's largest rail freight operator, we are investing in innovative solutions to facilitate decarbonisation of the supply chains we support.

This chapter provides an overview of the progress we have made toward our CSAP commitments and GHG emission targets.



# Our CSAP commitments

- We will continually assess and enhance climate change considerations in the way we manage our business and key assets.
- We are committed to achieving net-zero operational GHG emissions by 2050<sup>43</sup>.
- We will take a leading role in accelerating decarbonisation of Australia's freight sector.
- We will contribute to decarbonising the supply chains in which we participate.
- We are committed to increasing the proportion of carbon-neutral energy into our energy mix.
- We will investigate opportunities to invest in and/or generate carbon offsets with environmental and social co-benefits.

We believe that our business can thrive and be resilient in the face of physical and transition risks related to climate change. We use scenario analysis to inform our decision-making and to enhance our climate-related financial disclosures (see our *Governance and risk* chapter).

We believe that our business can thrive and be resilient in the face of physical and transition risks related to climate change.

# Climate resilience

Climate change is a complex and uncertain phenomenon that poses significant risks to various sectors, including the rail industry.

We are continuing to inform our understanding of and readiness for climate-related risks aligned with the anticipated reporting under the draft Australian Sustainability Reporting Standards (ASRS).

We are currently completing scenario analysis in accordance with the draft ASRS, based on at least two scenarios, one of which is aligned with a 1.5°C warming by 2100 (as outlined in the Paris Agreement on Climate Change).

This is a low-emissions scenario that represents a more ambitious mitigation effort. We have started to consider the climate impacts to our Tarcoola-to-Darwin track infrastructure for the medium (2030) and long (2050) term.

It is anticipated that this will help us understand and plan for a range of possible climate futures, manage uncertainty, and identify opportunities for business planning and complement similar work undertaken for the COCN

# **Delivering** decarbonisation

Since we launched our CSAP, we have progressed key decarbonisation initiatives across our national footprint. We are at the forefront of the Australian rail industry in developing low-carbon solutions for rail operations, including through our dedicated \$50 million Future Fleet Fund. Our decarbonisation efforts are divided into two innovation streams: Emission Reduction (immediate impacts); and Zero-Emissions Capable Haulage (development of our future fleet). There are acknowledged operational risks involved in large, complex and multi-year decarbonisation programs, including:

- scalability and availability of technology to meet our ambitions
- availability and efficiency of renewable energy to power the transition
- dependence on third parties, including in the implementation of government policy, to facilitate transition costs associated with decarbonisation technologies, energy sources or ACCUs
- the possibility that our targets, or actions taken in progressing towards those targets, are not considered sufficient by key stakeholders.



Figure 14 Fleet decarbonisation roadmap

#### **Emission Reduction**

These deliver immediate, high local-impact emission reductions for our customers.



#### Reduce idling

Deployment of Auto Engine Start Stop systems will prevent extended engine use due to prolonged periods of idling by up to 50%.



#### Zero-carbon drop-in fuels

We are exploring the use of zero-carbon drop-in fuels. Fuels containing renewable diesel or synthetic diesel could quickly and dramatically reduce carbon emissions by 20-25%.



#### **Train Energy Management**

Deployment of Train Energy
Management solutions will deliver
the consistency needed to optimally
drive the new generation of battery
electric locomotives but, in the short
term, this same technology can
deliver over 10% emissions reduction.

#### **Zero-Emission Capable Vehicles**

There are three types of these vehicles. We will develop, build and trial prototypes to prove technology solutions are fit for purpose, gain experience with the required infrastructure, and progress these prototypes into solutions for our operational business.



#### **Battery Electric Locomotive (BEL)**

Platform provided by locomotive OEMs with pantograph charging system and battery technology providing tractive effort and capturing regenerative braking energy.



#### **Battery Electric Tender (BET)**

A battery on wheels, provides additional battery capacity to the BEL, extending mid-range haulage tasks, which account for about 50% of our operations.



#### Hydrogen Electric Tender (HET)

Hydrogen storage and fuel cell charger on wheels, charges BEL during operation, extending the range of the longest haulage tasks with the highest energy demands.

Our Fleet Decarbonisation Roadmap (figure 14) shows the Emission Reduction and Zero-Emissions Capable Haulage initiatives designed with the intention of speeding up the decarbonisation of our business and the supply chains we support.

Since releasing our last Sustainability Report, Aurizon was recognised for its sustainable innovation as the Logistics and Transport industry winner on the 2024 AFR Sustainability Leaders List, for Aurizon's Decarbonisation Program BEL project.

# **Emission reduction initiatives**

We have dedicated teams working to deploy immediate or near-term solutions to our diesel locomotive fleet's emissions while we advance the research necessary to achieve our 2050 net-zero emissions target<sup>44</sup>. We have made significant progress in reducing the prolonged

idling of our locomotives by using reliable starter battery solutions combined with Automatic Engine Start Stop functionality. More details on this initiative are provided in our *Environment* chapter.

Australian domestic availability of low-carbon liquid fuels (LCLF) is improving, with commercial availability anticipated this decade. Some original equipment manufacturers (OEMs) have approved use of R50 (a blend of 50% renewable diesel, 50% traditional mineral diesel), with about 25% less emissions than traditional diesel in locomotive engines.

We will continue to monitor the results in readiness for the adoption of renewable diesel, where its incorporation is economically feasible.

# Zero-Emissions capable haulage

We continue to collaborate with global technical partners and leading Australian universities to develop renewable energy solutions for locomotives that use batteries or hydrogen fuel cells, or a combination of both. The BEL is the centrepiece of our Zero-Emissions capable haulage program. A converted BEL would be an Australian-first prototype suitable for freight requirements across the breadth of Australia's operating conditions.

#### **Our Future Fleet Strategy**

Aurizon's Future Fleet Strategy comprises three proposed modular end-state solutions capable of providing low- or Zero-Emission solutions for our customers across our service routes. Our aspiration for this strategy is the future deployment

of BELs for our heavy haul routes by developing, building and trialling a BEL prototype, and supported on longer journeys through the development, building and trialling of prototypes of range-extending BET and HET. In FY2024, we made demonstrable progress on the BEL and BET prototypes.

#### Renewable energy

In late 2023, two projects that contribute to the renewable energy component of our Energy Supply Agreement (ESA) with Queensland's clean energy retailer CleanCo Queensland reached commercial readiness. These projects, the Western Downs Green Energy Hub (a solar farm near Warwick) and the Kaban Green Energy Hub (a wind farm southwest of Cairns), have enabled generation of Large-scale Generation Certificates from January 2024, which can be retired in early FY2025. Under the ESA, about 25%<sup>45</sup> of Aurizon Network's demand is fixed as a renewable block. partially linked to generation from three renewable projects. This is scheduled to also include the Dulacca Renewable Energy Project (a wind farm west of Toowoomba) from July 2025.

We have made significant progress against our Facilities Energy Efficiency Roadmap, installing solar arrays and upgrading yard lighting with LED technology to improve energy efficiency. During FY2024, our total solar generation capacity reached 1,036 kilowatts (kW), exceeding our CSAP target of 525 kW by 2024.

#### Offsetting hard-to-abate emissions

We acknowledge that while we develop, trial and commercialise our future fleet solutions. Aurizon will be required to purchase carbon offsets to meet our decarbonisation goals and obligations under the Australian Government's Safeguard Mechanism. Under this mechanism, we are required to maintain Scope 1 emissions below an annually declining regulated baseline. Failure to do so would expose Aurizon to direct carbon costs and/or regulatory action. Aurizon's baseline is set by the Clean Energy Regulator (CER), with key determinants reliant on aspects of our historical emissions intensity. In March 2023, Aurizon Operations Limited successfully transitioned to a National Transport Facility (NTF), with a production-adjusted baseline, under the Safeguard Mechanism. The NTF, effectively, combined Aurizon's existing Safeguard facilities along with emissions generated by Bulk Central. In January

## Work progresses on Australian-first freight Battery Electric Locomotive

The BEL is a collaboration between Aurizon and Progress Rail involving conversion of an existing diesel-powered 4000 Class into a 4.1 MWh battery-powered locomotive. The BEL will be capable of having an approximate 250 km range and be suitable for harsh operating conditions experienced across Aurizon's national footprint. Aurizon has entered into an agreement with customer South 32, as part of a 15-year haulage contract, to trial the BEL at its Worsley Alumina operations in south-west Western Australia.

Aurizon rails alumina from the South 32 refinery at Collie to Bunbury Port for export. Construction of the prototype is anticipated to be complete by mid 2025, followed by on-track trials with South 32 in the second half of 2025. The BEL project is further supported by a \$1 million grant from the Western Australian Government Carbon Innovation Grant Program, which will help fund the installation of charging infrastructure at Aurizon's Picton facilities. The trial of the BEL prototype into regular revenue services for South 32 is an important stage in Aurizon's fleet decarbonisation strategy. If successful, it will potentially enable operational expansion deployed corridor by corridor, and be matched to the fleet strategy, the availability of infrastructure and customer needs.

The BEL project also offers potential advantages above its primary purpose of reducing transport-related emissions. Retrofitting Aurizon's existing fleet provides a more affordable and possibly faster process towards decarbonisation than an off-the-shelf solution.



2024, the CER confirmed emissions generated by Aurizon's NTF in FY2023 were below its baseline, in full compliance with Safeguard. We anticipate a decision from the CER about Aurizon's FY2024 baseline in early 2025. Aurizon's ACCU purchasing strategy reflects the current volatility of and uncertainties within the Australian carbon market. We seek to purchase ACCUs with high integrity and

avoid those generated by methodologies ceased or retired in the wake of the Independent Review of ACCUs<sup>46</sup>. Our purchasing strategy is also aligned with the government's proposed review of the Safeguard Mechanism in FY2027. To date, we have implemented our purchasing strategy by acquiring about 51,000 ACCUs. We would also look to use ACCUs generated by our Central Queensland

- 45 Based on energy demand remaining stable year to year.
- 46 Chubb, I., Bennett, A., Gorring, A., Hatfield-Dodds, S., 2022, *Independent Review of ACCUs,* Department of Climate Change, Energy, the Environment and Water, Canberra, December. CC BY 4.0.

Carbon and Biodiversity Project, detailed in our *Environment* chapter.

#### **GHG** emissions

#### Monitoring our progress

Our total operational GHG emissions (Scope 1 and 2) were 946 ktCO<sub>2</sub>-e in FY2024, representing a 7.9% increase from the previous reporting period. The expansion of Aurizon's Containerised Freight services has driven increased Scope 1 emissions; conversely, lower coal volumes hauled by the electric fleet in Central Queensland has lowered Scope 2 emissions.

Aurizon's operational emissions intensity (OEI) increased by 5.4% from the previous reporting period to 14.62 kgCO<sub>2</sub>-e /'000 NTK. This figure is above Aurizon's FY2021 baseline OEI of 13.58 kgCO<sub>2</sub>-e /'000 NTK, largely due to the expansion of Containerised Freight Services in competition with road (truck) freight and Bulk growth initiatives.

Aurizon received external assurance (a statement of limited assurance) covering our Scope 1, 2 and 3 GHG emissions, which is provided at the end of this report. Further information about our emissions profile is provided in (figure 15) and summarised in our Sustainability metrics on page 63 and 64.

#### Scope 1 emissions

Aurizon's Scope 1 emissions are largely generated by our diesel locomotive fleet and were 663 ktCO<sub>2</sub>-e for FY2024, representing an increase of 12.1% from the previous reporting period. This increase is mainly due to the expansion of Containerised Freight services in the past 12 months.

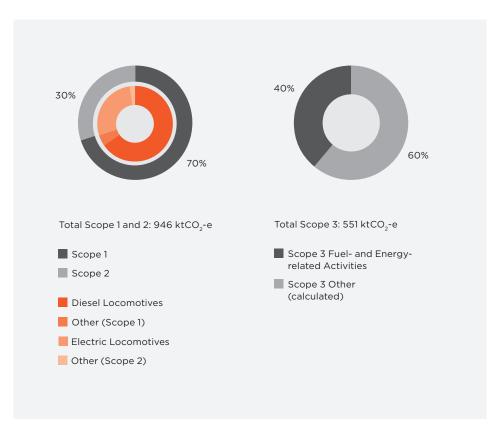
# Scope 2 emissions

Aurizon's Scope 2 emissions are generated through the purchase of electricity to power our operational facilities and CQCN. Our total Scope 2 emissions<sup>47</sup> for FY2024 were 283 ktCO<sub>2</sub>-e, representing a 0.7% decrease from the previous reporting period. This decrease is mainly driven by the locomotive fleet mix within the CQCN. Aurizon's Scope 2 (market-based) emissions are reported within the Sustainability Metrics section of this report.

# Scope 3 emissions

Aurizon prepares its Scope 3 reporting on a voluntary basis, using an internal basis of preparation that applies measurement methodologies consistent with the Greenhouse Gas Protocol Corporate Value Chain (Scope 3)

Figure 15 Aurizon's GHG profile FY2024





<sup>47</sup> Calculated using the location-based method required under the NGER Scheme. This method reflects the average emissions intensity of the grid on which energy consumption occurs.

Accounting and Reporting Standard ('GHG Protocol')<sup>48</sup> and GHG Protocol Technical Guidance for Calculating Scope 3 Emissions (Scope 3 guidance). We consider both the GHG general principles and relevance criteria to determine category inclusions, measurement, and reporting boundary for our Scope 3 emissions inventory.

In FY2024, our Scope 3 reporting continued to mature in relation to enhancing the measurement approach and data quality underpinning our emissions inventory. Our Scope 3 data collection processes and calculation methodologies will continue to evolve in collaboration with our partners and industry peers. Aurizon is committed to working with our customers and suppliers to increase the exchange of specific data, enabling our businesses to continuously improve the quality of our emissions reporting and identify the most effective actions for reduction.

In FY2023, Aurizon utilised the GHG Protocol Quantis Scope 3 Evaluator tool to estimate emissions from purchased goods and services and capital goods and services. This tool has been discontinued and, as a result, our calculation methodologies were updated for FY2024. We have recalculated our FY2023 Scope 3 emissions with emission factors using our FY2024 approach. In addition, we have expanded the coverage of captured spend for purchased goods and services (including capital goods and upstream transportation and distribution) and the data collection among waste collectors and business travel providers. Further detail can be found in the Sustainability metrics table at the end of this report.

Total Scope 3 emissions were estimated to be 551 ktCO<sub>2</sub>-e in FY2024. This represents a 5.2% increase from FY2023 (recalculated). This increase was primarily driven by a 2.8% increase in purchased goods and services emissions (including capital goods and upstream transportation and distribution), which contributed 57% of total Scope 3 emission inventory during the period. Waste emissions increased by 33%, reflecting an increase in recycling of old rail, wagons and rollingstock.

# Aurizon has commenced development of a world-first Battery Electric Tender

The Australian Renewable Energy Agency (ARENA) is providing \$9.4 million in funding to Aurizon towards the development of a BET prototype. The BET is a battery wagon that can be coupled with either a diesel or a battery electric locomotive, enabling fuel switching and extending the locomotive's range. The project aims to demonstrate the potential of this technology to decarbonise rail freight operations.

The BET prototype is being built by Alta Technology, a leading provider of battery solutions for heavy industry, and is proposed to have a 1.8 MWh battery capacity capable of being charged from the grid with the potential to harness renewable sources. The BET will be initially trialled with a modified diesel locomotive, to test the performance and reliability of the system while also measuring fuel savings and emissions reductions. In a future production state, it is anticipated that a BET could be coupled with a BEL, facilitating extended range, and opening up zero-emission capable solutions for over 80% of Aurizon's operations.



Graphic of BET prototype.

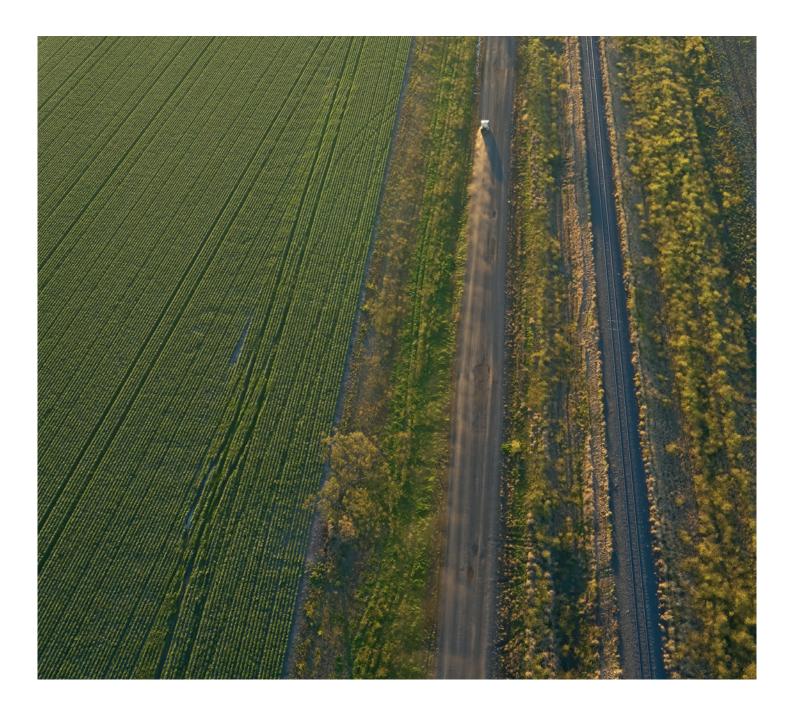
Aurizon continues to explore the use of hydrogen-powered trains for bulk freight. We have completed a feasibility study and have concluded that a tender is the most viable solution. Aurizon and First Mode (a technology company that specialises in hydrogen fuel cell power plants) have recently entered into a Memorandum of Understanding (MOU) to continue to work together to investigate packaging options, including fuelling infrastructure and liquid hydrogen technology.

Under the MOU, the two companies will also explore the potential to leverage First Mode's Path to Zero™ product line of diesel hybrid, battery electric and next-generation hydrogen fuel cell powertrains into Aurizon's heavy had rail application.

We recognise that we are responsible for helping our local communities and supply chains to deliver environmental value through management of risks and improved enterprise environmental performance.

# **Environment**

We employ proactive and evidence-based management measures covering key environmental issues, such as climate change, resource use, and clean air.



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# Clean air

Aurizon recognises its responsibility as Australia's largest rail freight operator to act towards maintaining and improving our country's world-leading air quality.

As outlined in previous Sustainability Reports, one way we achieve this is through emission reduction strategies, such as deploying reliable starter battery solutions to enable Automatic Engine Start Stop (AESS) technology on our extensive fleets of diesel electric locomotives (DELs) to reduce unproductive idling. Li-ion starter battery technology enhances battery reliability, enabling reliable use of AESS on DELs, which can help to reduce the volume of diesel fuel usage per locomotive per day. As well as ongoing initiatives to reduce idling, in FY2024, Aurizon expanded its emission reduction initiatives concerning train energy solutions to more locomotive fleet classes.

In NSW, we have trialled and resumed in-yard enabling of AESS technology on locomotives with stable RailGel batteries on board, ahead of upgrading to Li-ion. After the successful trial of SmartStart technology on Q Class locomotives in WA, this program is planned to be expanded to more of the fleet and includes a Li-ion starter battery solution.

We are continuing to develop reliable starter battery solutions with our supply partner and expand emission reduction initiatives across locomotive classes and multiple depots within our operational footprint.



# **Coal dust**

Aurizon works with our supply chain partners across our operational footprint to effectively mitigate the potential for coal dust loss from the tops of our wagons. We have adopted and applied better practice solutions, customised to suit the specific needs of each coal supply chain. In FY2024, the CQCN maintained and improved upon its historically strong performance by implementing key controls outlined in the CQCN Coal Dust Management Plan (CDMP). The CDMP recognises that each part of the supply chain has a role to play in minimising emissions, including load profiling and veneering of coal wagons before haulage on the CQCN to port.

Opacity (a measure of air quality) is monitored on each of the four rail systems of the CQCN. Opacity trends

are actively tracked, including investigating any exceedance of the Department of Environment and Science's agreed 5% opacity threshold. In FY2024, the number of validated exceedances recorded on the CQCN decreased from 39 (FY2023) to 18. This represents 0.05% of approximately 46,000 recorded coal train movements on the CQCN in FY2024.

As part of other regional coal supply chains, Aurizon continues its collaboration with its respective stakeholders, implementing controls directed at improving air quality.

On the South-West System (QLD), the results of air quality monitoring by the Department of Environment and Science continues to demonstrate rail transport

(including coal haulage) complies with air quality criteria (PM2.5, PM10, TSP and dust deposition).

In the Hunter Valley (NSW), Aurizon has maintained focus on compliance with its Environment Protection Licence for rollingstock operation on licensed rail networks that require minimisation of dust generation.

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## **Noise**

In its Annual Rolling Stock Performance Report, which was submitted to the NSW Environment Protection Authority (EPA), Aurizon confirmed all locomotives that had major engine overhauls in 2023 were compliant with required noise thresholds and able to operate without modification.

All Aurizon freight wagons in operation complied with specifications for Angle of Attack (a key contributor to wheel squeal). Aurizon also maintained compliance with the stringent noise requirements related to locomotive engines and wheel-rail interface in its SA EPA rollingstock licensing.

# Waste and resource management

Aurizon is committed to finding ways to enhance our operational performance, including the way in which we use our resources and manage our waste.

Figure 16 illustrates our waste output in FY2024, which includes landfill, and recycled, treated and incinerated wastes (excluding ballast (aggregate)). In FY2024, Aurizon consumed 242 megalitres of potable water across our operations. We recognise that water is a necessary resource for our component of the transport sector and the supply chains we support. We aim to minimise water stress and prevent pollution.

Figure 16 Aurizon's total recordable waste streams in FY2024 (tonnes)

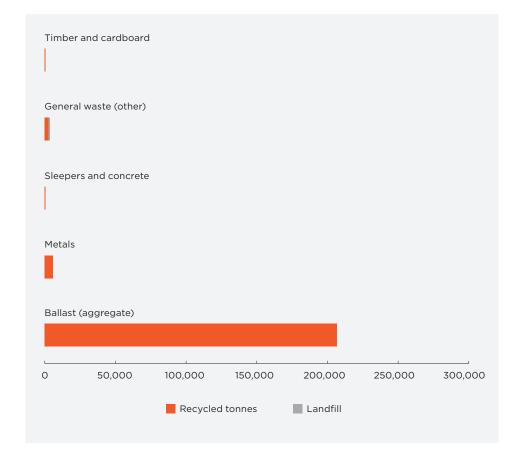


Table 4 Notifiable incidents in FY2024

Location	Volume/Extent	Material
Newcastle, NSW	3 mins of dust plume	Copper concentrate
Avon, WA	~10,000 L	Hydrocarbon-water mix

# Respecting and protecting cultural heritage

In FY2024, Aurizon's Cultural Heritage (CH) Commitment Statement was included in our overarching Safety, Health and Environment Commitment, It states. 'Aurizon is committed to minimising our impact on Indigenous and non-Indigenous cultural heritage through a framework founded on knowledge, understanding, and respect'. Our Cultural Heritage Governance Framework (CHGF) guides our work planning and execution of work, engagement with Indigenous parties, and training of employees on cultural heritage awareness and protection. We enhanced tools, such as Aurizon's GIS system, enabling improved data accessibility during in-field application to assist our workers to identify and avoid potential impacts to CH. Governance documents specific to Bulk Central's operational footprint are being incorporated into Aurizon's wider CHGF. Since the Juukan Gorge incident in WA in 2020, state and territory CH regulatory reforms to improve protections to areas and items of CH significance have been anticipated. These reforms are expected in the near term. Changes are being actively monitored to determine any need to suitably amend our CHGF, its associated controls, and our engagement strategy with Indigenous parties. The effectiveness of our CHGE was demonstrated in FY2024, with no actual or 'near hit' incidents to CH values.

# **Compliance reporting**

In FY2024, Aurizon Holdings Limited (including its subsidiaries) did not incur any fines or sanctions for non-compliance related to environmental harm. Two notifiable environmental incidents, one in NSW and one in WA, were reported to the respective state government environmental regulators. In NSW, a copper concentrate dust plume was briefly emitted during ship loading at Aurizon Port Service's Newcastle terminal. A contributing factor was low moisture content in a portion of the product being loaded. Rectification processes have been enacted to avoid recurrence. In WA, a hydrocarbon-water mix was lost from settlement dams associated with a trade waste plant at Avon. Containment activities were undertaken to limit the loss and prevent further occurrences. Soil analysis identified no adverse impacts to the receiving environment. Neither incident caused ongoing harm to people or the environment, nor needed ongoing remediation, and no ongoing material environmental impacts are anticipated.

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# Biodiversity and land management Central Queensland Carbon and Biodiversity Project

Aurizon has completed the groundwork and initiated its Australian Carbon Credit Unit (ACCU) Scheme registered project, under the *Carbon Credits (Carbon Farming Initiative) Act 2011,* in Central Queensland.

The project, which constitutes reforestation by environmental plantings, is situated on 118 hectares of freehold land that was historically disturbed through land clearance and cattle grazing activities. It occurs in the Great Barrier Reef catchment and Fitzroy natural resource management region is to generate ACCUs over its anticipated lifespan of about 25 years, with the potential to generate an average of 1,300 ACCUs per annum. The project involved revegetation of species endemic to the Hatfield and Connor Ranges, that were planted during two concentrated campaigns in April and June 2024. The seedlings were sourced from Mackay Regional Council's nursery, and the planting was completed by a QLD-based environmental services consultancy provide equipment and complete necessary slashing, herbicide application and other ground preparation works necessary to enable seedling establishment and safe working conditions. As it matures, the project will also contribute to enhancement of biodiversity values in the region by increasing coverage of native vegetation, which is vital for the health and resilience of bio-regionally important ecosystems, including wildlife corridors.

The project faced several challenges during its implementation, which brought opportunities for innovative improvements, including the following.

- High rainfall during the preceding wet season made large sections of the site inaccessible for slashing and ripping of planting rows. This necessitated >3,000 tonnes of used rail ballast (a waste otherwise) from the adjacent CQCN to be reused to construct roads, enabling access to over 200 km of planting rows across the site.
- The wet conditions promoted conditions for feral pigs, which can damage native vegetation. After five pigs were caught as part of targeted trapping, a baiting program was implemented.
- There was no suitable local water source available, which required construction of water storage to capture surface water run-off, and provide a reliable water supply to nourish the plants.
- The site's remote location meant there was no mobile phone coverage, posing communication and safety risks. The project established a safe and secure staging area, increasing local mobile coverage to enable effective communication across the site.

Each challenge was approached with innovation and resilience, enabling successful implementation of this sustainable project, in part, through financial support from a federal government Carbon + Biodiversity (C+B) Pilot grant.



Recently ripped planting rows bearing native seedlings.



Native seedlings thriving following first planting campaign.

At Aurizon, our people are our greatest asset. We have over 6,100 employees, with a vast majority living and working in regional Australia.

# People

Our purpose – growing regional Australia by delivering bulk commodities to the world – is underpinned by a workplace culture of connection to enable great outcomes. Through our commitment to safe and efficient delivery for our customers, we are building our workforce for the future. This includes investing in our people and partnerships and creating an inclusive workplace.



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# **Developing our people**

We strive to create a culture where people live our values, and are engaged and enabled to do their best work. We are passionate about developing all our people, and recognise that meaningful development comes in many different forms.

#### **Development programs**

Targeted leadership programs ensure leaders at all levels have the skills to support their teams to perform at their best. During the year, our Leading for Results program has been refreshed, and Aurizon's Just and Fair methodology was incorporated into our foundational leadership program. Our Leading for Safety program was also redesigned to improve outcomes, with an opportunity identified to roll out masterclasses for senior leadership.

In addition to leadership development, we remain focused on developing the capability we need for the future. Programs such as Careers in Action support recent graduates and those transitioning to the rail industry. Our Rail 101 program stitches our diverse organisation together to demonstrate to participants of all experience levels how their role contributes to the bigger picture. During FY2024, 455 of our people participated in a development program.

We are continuing to invest in training for our biggest employee group – train drivers. In the past three years, we have more than tripled the number of trainees, with 200 completing their training in FY2024. To support our trainee drivers on their learning journey, a new app, KeepTrack, was developed to give them visibility of their progress, replacing a paper-based system.

## Online and mobile learning

In 2023, we strengthened myAcademy, our online self-paced learning platform, by curating learning items aligned to Aurizon's Capability Framework. We also launched our new cloud-based learning management system, myLearning, in which 67,000 courses have been completed since June 2023. Our learning technology has been developed with user experience and engagement in mind, to ensure learning competencies are attained and retained. Shifting to mobileenabled learning means our people have greater flexibility with how they complete their mandatory and required training or how they learn and develop for their current role or future aspirations.



# Supporting safety through culture and wellbeing

In our 2024 People Insights Survey, 60% of our people (up 13% - or an additional 1,000 people from the prior year) had their say on what matters to them and where we can improve. We also launched our first psychosocial Work Factors survey to gain insights into potential workplace hazards and the mental health and wellbeing of our people.

In 2024, we reviewed and refreshed our Bullying, Harassment and Discrimination policy and training, emphasising that these behaviours will not be tolerated. Our training program expands on sexual harassment and the need for early intervention and reporting. To support this refresh, leaders will attend Creating Respectful Workplaces training to understand their role in creating an inclusive and safe environment.

# **Inclusion**

At Aurizon, inclusion is centred on the premise that human connection enables us to deliver great outcomes. Our strength lies in our diversity, underpinned by an inclusive culture that helps us achieve better business outcomes and positively engage our employees. We have continued to strive towards creating an inclusive environment by creating awareness and driving action around inclusion through employee representative groups across gender, Aboriginal and Torres Strait Islander, and LGBTQIA+ inclusion.

# Committed to our second Stretch Reconciliation Action Plan (2022–25)

We acknowledge and respect the Traditional Owners of the land and the communities where our operations are based. As a company with a large national footprint, we can contribute positively to our nation's reconciliation efforts.

We have continued our reconciliation journey in FY2024, including:

- embedding the second Stretch Reconciliation Action Plan (RAP), which is our third RAP since 2015
- continuing our partnerships with Clontarf and Career Trackers, and seeking local partnerships with other organisations in the areas where we operate
- unveiling Indigenous artwork on four Aurizon vehicles
- supporting Indigenous businesses with \$24 million procurement spend with businesses certified by Supply Nation
- commencing our tenth Indigenous
   Future Leaders Program, with 12
   First Nations people from across our
   operations participating in the initial

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12-month program. This year, we also had our first group of participants complete the optional second year of the program to attain a nationally recognised Certificate IV in Leadership qualification.

#### Continued focus on gender balance

In FY2024, we have made progress on the following initiatives from our Gender Balance Action Plan:

- greater representation of women in senior roles and providing development opportunities for female talent through succession processes
- gender balance in our senior executive team, with three female and three male Group Executives
- a gender-balanced senior leadership team in the Coal business unit.

The Executive-Led Mentoring Program continued to provide mentoring opportunities to our people, with a fourth program planned for FY2025. The program is highly valued by participants, connecting talent with senior leaders across the organisation. In FY2024, we transitioned the program to our ongoing capability and development offering.

In FY2024, our gender pay gap increased, with the average base pay gap widening from 1.71% in 2023 to 2.68% in 2024 (figure 18). Over the same reporting period, the average total remuneration gap increased from 6.54% to 9.40%. In part, the total remuneration pay gap can be attributed to an increase in allowances in male-dominated operational areas. Our result this year confirms that, while we have many effective mechanisms in place, we must maintain our focus and adjust our actions to ensure their continued effectiveness.

Over the reporting period, our female representation increased from 21.3% to 22.6% (figure 19), which falls short of this year's target of 24%. This can be attributed to the shift in workforce composition due to acquisitions in recent years. As we continue to grow, we are confident we will progress and embed our gender balance initiatives in the newer parts of our business over the coming years.

Throughout FY2025, we will continue to strive for gender balance at all levels. Key focuses will be the development of our second Gender Balance Action Plan, gender pay gap actions as well as the

Figure 17 Aboriginal and Torres Strait Islander workforce representation (%)



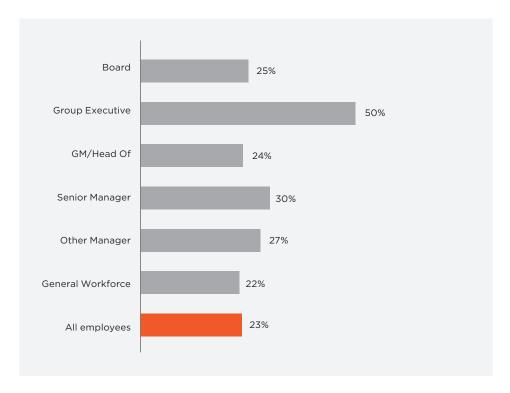
Figure 18 Gender pay gap<sup>49</sup>



<sup>49</sup> Workplace Gender Equality Agency (WGEA) reporting period is from 1 April (the previous year) to 31 March (the current year). Aurizon's gender pay gap data analyses base and total remuneration for each employee, excluding the Managing Director and CEO. Employee earnings are annualised and converted to full-time equivalent.

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Figure 19 Female workforce representation<sup>50</sup>



attraction and retention of female talent, particularly into entry-level and leadership positions. While increasing our entry-level females may worsen our gender pay gap in the near term, we see this as a longer-term strategy to grow and develop our future female leaders.

# Creating the workforce of the future

During FY2024, we progressed our Strategic Workforce Planning initiative to ensure Aurizon proactively prepares for future workforce and capability needs. The focus has been to identify the roles and skills that are critical to our current and future operations, and ensure that we mitigate any risks relating to attracting and retaining people in these roles.

We also continue to support our people to grow their careers and take greater control of their development, which has been an area of feedback from our annual People Insights Survey.

During FY2024, we worked to embed the Aurizon Capability Framework, ensuring a consistent approach to our core development requirements across the enterprise.

Throughout FY2024, we embedded our Employee Value Proposition (EVP), which showed a 19-fold increase in

career website views and a 5% increase in regional job applications. We are committed to delivering on our EVP to support and grow our current people while attracting talent in the areas where we operate.

## **Employee relations**

Our employee relations strategy is focused on helping achieve our Strategy in Action and aligning with our Company values.

Aurizon supports freedom of association and the effective recognition of the right to collective bargaining. We recognise that fostering trust with our people is a key enabler of a safety and high-performance culture that will underpin our approach to enterprise bargaining.

Over the past 12 months, we have continued to renegotiate several enterprise agreements with our employees and their representatives across our rail, stevedoring and general transport operations.

We have also entered into new enterprise agreements with employees to support growth in our operations across the supply chain.



# Our first Indigenous Trainee Train Driver School

In February 2024, Aurizon commenced a new Indigenous Trainee Train Driver school in New South Wales. This initiative is the first of its type for Aurizon and forms part of our commitment to reconciliation and supporting the engagement, retention and development of local First Nations employees. Importantly, it provides local employment and career opportunities for First Nations people in their community.

In the lead-up to the program, our Quirindi and Antiene teams held a series of information sessions in Tamworth, Quirindi, Muswellbrook and Singleton to connect with our Indigenous communities and promote the new Indigenous Trainee Driver school.

Early in the program, we were also privileged to be joined by two well-respected Elders in the Wonnarua community, Aunty Pauline and Aunty Jo, who shared yarns of their culture and Wonnarua Country on which the Antiene Depot is located and where the training is undertaken.

Members of our Indigenous Reference Group provided support and connection to the new trainees throughout the process and continue to connect Aurizon with our local Indigenous communities to form the foundation of future collaborations.

<sup>50</sup> Board, Group Executive and GM/Head of representation is at 30 June; all other representation figures are aligned to WGEA reporting period.

At Aurizon, a vast majority of our people live and work in regional locations across Australia and are a part of their communities.

# Community

As a local employer, we are proud of the contribution our people make to the growth of regional Australia every day.



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# Contributing to the growth of regional Australia

With more than 6,100 employees spread across Australia, our Aurizon teams know that we are an integral part of the communities where we operate.

We continue to invest in infrastructure projects across our operations, enhancing our capabilities and providing long-term benefits for our communities.

#### Spending in our communities

We have spent approximately \$1.7 billion with local suppliers across Australia in FY2024. Local suppliers continue to be a key part of our supply chain, and we look forward to growing this representation across our operations.

As part of the commitments made in our RAP, we continue to look at ways to increase our spending with Indigenous businesses. After our expansion into the NT and SA, in 2024, Aurizon obtained a membership to the NT Indigenous Business Network, the peak body for representing Indigenous businesses in the NT.

In conjunction with our continuing membership with Supply Nation, this new membership will give our teams access to verified Indigenous suppliers from across our operations.

# Community investment and sponsorship support

At Aurizon, we deliver support to the many communities we live and work in across Australia by investing in projects and programs that align to our values and seek to support the ongoing development of our communities.

# Aurizon Community Giving Fund

Since 2011, the Aurizon Community Giving Fund has been supporting charities from across our areas of operations. The fund provides two rounds of funding each year, with grants of up to \$20,000 to successful recipients in the categories of health and wellbeing, the environment, education, and community safety.

Since launch, we have provided funding to over 630 eligible organisations across our areas of operations, and we look forward to continuing to invest in our communities. Some examples of the projects funded in FY2024 include:



# Bravehearts Foundation - Ditto's Keep Safe Adventure Safety Program

Aurizon funding will be used to facilitate the delivery of the Keep Safe Adventure personal safety program, along with activity books and other items used in the program. The program is scheduled to be delivered to over 1,000 children aged three to eight in the Mackay, Nebo, and Moranbah communities.

# Corrugated Iron Youth Arts -Katherine Region Bush Crew

Funding from Aurizon will be used to facilitate six workshops in the Katherine region of the NT that are designed to address risk-taking behaviour among Indigenous youth through a combination of physical activities and storytelling. These workshops are planned to be delivered to young people from the Binjari, Rockhole, and Myalli Brumby communities just outside of Katherine.

# Zero2Hero - Empowering Mental Health for Midwest Youth

Aurizon funding will be used to facilitate the delivery of the Empowering Mental Health program in mid-west schools in Western Australia. The program is an industry-leading school education program that helps to break down barriers and equip disadvantaged children with knowledge to navigate their own mental health challenges and to support their peers.

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# **Sponsorships**

#### **Queensland Firebirds**

Aurizon is proud to be the Principal Partner of the Queensland Firebirds, who compete each year in Australia's elite-level netball competition. This is the fourth year of our partnership, and we continue to evolve our relationship both on and off the court.

Aurizon is proud to support community clinics in regional Queensland, our game day activations at all Aurizon home games throughout the season, and having representatives from our organisation be a part of the consultation process for the Netball Queensland Reconciliation Action Plan, launched in May 2024.

#### **Orange Sky Australia**

Since their humble beginnings in 2014, Orange Sky Australia has grown to provide free laundry services, hot showers, and non-judgemental conversations to people doing it tough in 36 locations across Australia.

With the signing of a new three-year agreement until 2026, Aurizon is proud to continue to be a National Partner of Orange Sky. Aurizon employees across the country have also contributed to the cause, raising over \$19,000 during the Sudsy Challenge fundraising event in 2023.

# The WattleNest

Aurizon is committed to supporting high-performing Australian athletes from a variety of disciplines through our Foundation Partnership with The WattleNest

The WattleNest celebrates, connects and financially supports Australian athletes and para-athletes to help them achieve their goals while inspiring us with their stories. Already in our second year with The WattleNest, we are proud to support young male and female athletes from a variety of sports, right across Australia.

## **The Clontarf Foundation**

Aurizon teams across Australia continue to work closely with our partners from the Clontarf Foundation, hosting academy visits to our depots, taking part in events, and engaging with students.

The Clontarf Foundation's goal is to improve the education, discipline, life skills, self-esteem, and employment prospects of young Aboriginal and Torres Strait Islander men, and we are proud to be able to assist them in this endeavour.



Orange Sky Australia's CFO Emma Young, and Aurizon MD & CEO Andrew Harding at the announcement of the renewal of Aurizon's national partnership with Orange Sky.

# Working together with our communities

We are committed to continuing to be a part of the communities in which our people live and work, and build on our history as contributing members of these communities. We will continue to work collaboratively within our communities in the following ways:

- Living and working every day to ensure our safety value 'We know safe, we choose safe' is at the forefront of everything we do.
- Engaging with and continuing to build upon the relationships we have forged with our existing key stakeholders.
- Upholding legislative, regulatory, and corporate responsibility obligations.

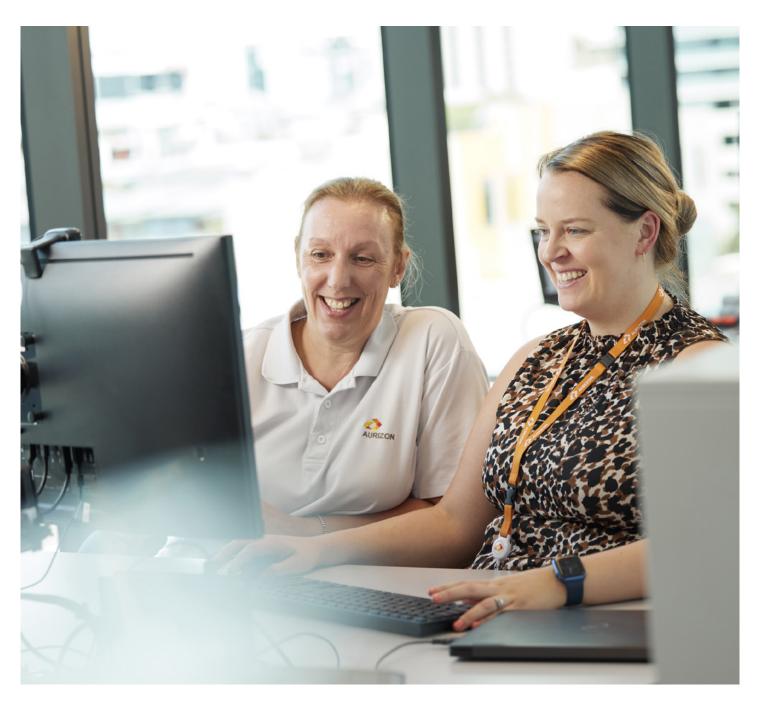
- Engaging with local, state, and federal governments and advocating on behalf of our regional communities and the work we do in them.
- Building upon existing relationships with our community partners at a corporate level and at a local level, and building further resilience in our local communities through initiatives such as our Community Giving Fund.

We encourage members of our communities to contact us directly with any feedback or information through the feedback channels listed on our website.

As an ASX-listed company predominantly operating in Australia, and as an industry leader, we understand the importance of tax transparency.

# Tax at Aurizon

We continue to have an open and cooperative relationship with the Australian Tax Office (ATO), and voluntarily adopt the Tax Transparency Code, demonstrating our commitment to paying our fair share of tax.



Tax at Aurizon 59

Our tax strategy focuses on:

- providing accurate and timely tax compliance and reporting
- enhancing shareholder value through a principled approach to tax
- building a positive and transparent relationship with the ATO.

This strategy is implemented through our Board-approved Tax Policy and our broader Enterprise Risk Management Framework. The Tax Team has primary responsibility for implementing our tax strategy, with oversight by the Chief Financial Officer & Group Executive Strategy (CFO), the AGRMC and the Board.

The Tax Team is responsible for identifying and complying with our tax obligations, including lodging returns and making tax payments on time. Confirmation of accurate and timely tax compliance and reporting is provided to the CFO, AGRMC and the Board. Tax compliance risks are managed through our documented tax control framework, which includes a Tax Risk and Controls Matrix (RACM) and Tax Controls Testing Program. These documents and the Tax Policy are periodically reviewed and actively managed by the Tax Team.

Our tax strategy aims to enhance shareholder value through a principled approach to tax, which includes:

- ensuring operations, transactions and funding are tax efficient
- ensuring we utilise tax concessions and make appropriate tax elections, where available
- ensuring tax positions adopted by our business are in accordance with parliamentary intention and guidance provided by the revenue authorities.

Our Tax Policy prohibits conducting transactions for the specific purpose of obtaining a tax benefit. The Tax Team collaborates with our business units to identify and mitigate any tax risks.

Tax positions adopted by our business are considered by our Tax Team, with material positions verified by external independent advice. Aurizon does not have any material international-related party dealings.

# Reconciliation of accounting profit to income tax payable

The reconciliation of accounting profit to tax expense contained in this report was previously published in the Aurizon Group's 2024 Annual Report in Note 4 to the Financial Report.

Income tax expense is calculated as the accounting profit before tax, multiplied by the applicable tax rate, and adjusted for non-temporary differences. Income tax payable is calculated as the accounting profit before tax, multiplied by the applicable tax rate, and adjusted for non-temporary and temporary differences.

Table 5 Reconciliation of accounting profit to income tax payable

(\$m)	FY2024	FY2023
Profit before income tax expense from continuing operations	584	483
Profit/(loss) before income tax expense from discontinued operations	_	(54)
Statutory profit before income tax expense	584	429
Tax at Australian tax rate of 30%	175	129

Tax effect of amounts that are not deductible (taxable) in calculating taxable income:

Income Tax Expense	178	153
Adjustments for tax of prior periods	(1)	4
Other	4	2
Non-recognition of capital loss on impairment	_	5
Non-deductible sale and divestment costs	_	4
Non-deductible acquisition costs	_	9

#### **Temporary Differences**

Property, Plant and Equipment	(73)	(90)
Other	22	(16)
Income Tax Payable	127	47

Tax at Aurizon 60

#### Effective income tax rate

Effective tax rate is calculated as income tax expense divided by the accounting profit before tax for the year.

**Table 6** Aurizon's effective income tax rate (continuing and discontinuing operations)

(\$m)	FY2024	FY2023 <sup>51</sup>
Statutory Effective tax rate (%)	30.5	35.7
Continuing Operations Effective tax rate (%)	30.5	32.9

# Taxes collected and paid

As we predominantly operate in Australia, we pay various taxes to federal and state governments, and collect various tax payments on behalf of federal and state governments.

We also pay taxes in the overseas jurisdictions in which we operate and report our international activities under the country-by-country reporting regime.

Table 7 excludes several taxes that are considered immaterial for our business, including (but not limited to) customs duty, withholding taxes, taxes paid to foreign governments and taxes paid by controlled Australian entities that do not form part of the Aurizon income tax consolidated group.

Table 7 Taxes collected and paid by Aurizon

\$million (\$m)	FY2024	FY2023
PAYG Withholding Taxes	282	268
Goods and Services Tax (GST) Net of Recoveries	197	166
Corporate Income Tax	128	39
Fringe Benefits Tax	1	1
Fuel Excise Paid Net of Recoveries	_	5
Federal Taxes	608	479
Payroll Tax	57	52
Other Miscellaneous Taxes	3	31
State Taxes	60	83

## **Research and Development Tax Incentive**

The Research and Development (R&D) tax incentive offers a tax offset for companies conducting eligible R&D activities and is administered by both the Department of Industry, Science and Resources and the ATO. Our R&D tax offset is calculated at 38.5% of eligible expenditure, reflecting an 8.5% net benefit over the applicable company tax rate of 30%. The FY2023 R&D tax incentive claim included:

- Fleet Decarbonisation projects to deliver zero-emissions capable freight locomotives, including a prototype battery electric locomotive, battery electric tender, and hydrogen electric tender.
- TrainGuard, a platform utilising ETCS (European Train Control System) technology to support driver decision-making, particularly in relation to speed control and signal enforcement.

Outlined below is a summary of expenditure claimed under the R&D Tax Incentive.

Table 8 Aurizon's R&D Tax Incentive Claims

\$million (\$m)	FY2023	FY2022
Total R&D expenditure	8	8
Non-refundable tax offset (38.5%)	3	3
Other Miscellaneous Taxes	(2)	(2)
Net Tax Benefit Received	1	1

<sup>51</sup> The FY2023 statutory effective tax rate increased due to non-deductible transaction costs associated with the acquisition of One Rail Australia and non-deductible transaction costs in respect of the disposal of One Rail Australia Holdings Limited and a non-deductible impairment in discontinued operations.

Financial Results (Underlying and continuing basis)	Unit	FY2024	FY2023
Total Revenue	\$million (\$m)	3,844	3,511
EBITDA	\$m	1,624	1,428
EBIT	\$m	917	762
Income Tax (expense)/benefit	\$m	(178)	(165)
NPAT	\$m	406	367
Earnings per share <sup>52</sup>	cents	22.1	19.9
Return on invested capital (ROIC) <sup>53</sup>	%	8.9	7.5
EBITDA margin	%	42.2	40.7

Operating metrics	Unit	FY2024	FY2023
Coal haulage (tonnes)	million	189.0	185.0
Bulk haulage (tonnes)	million	66.6	68.2
Network (tonnes)	million	209.6	207.6
Coal Net Tonne Kilometres (NTKs)	billion	43.4	42.2
Network NTKs	billion	51.0	50.4

Safety	Unit	FY2024	FY2023
Total Recordable Injury Frequency Rate	TRIFR	7.36	8.65
Serious Injury and Fatality Frequency Rate	SIFR(a+p)	1.63	2.28

Community	Unit	FY2024	FY2023
Total estimated spend with suppliers	\$b	1.7	1.7
Taxes collected and paid <sup>54</sup>	\$m	386	294
Number of supported charities	#	61	69

<sup>52</sup> Calculated on weighted average number of shares on issue.

<sup>53</sup> ROIC is defined as underlying rolling 12-month EBIT divided by the average invested capital. The average invested capital is calculated as the rolling 12-month average of net assets (excluding cash, borrowings, tax, derivative financial assets and liabilities).

<sup>54</sup> Excludes PAYG income taxes included in wages and benefits paid.

People	Unit	FY2024	FY2023
Full-time equivalent employees	#	5,930	5,618
Wages and benefits paid	\$m	1,086	977
Inclusion and diversity			
Aboriginal and Torres Strait Islander workforce representation	%	6.7	7.0
Female workforce representation	%	23	21
Female appointees into manager roles <sup>55</sup>	%	33	31
Female promotions <sup>56</sup>	%	32	32
Parental leave uptake (Managers) <sup>57</sup>	#	48	25
Parental leave uptake (Non-managers)	#	195	159
Females in senior leadership roles			
Board	%	25	25
Senior executive leadership team <sup>58</sup>	%	50	50
Executive leadership team <sup>59</sup>	%	27	28
General managers <sup>60</sup>	%	24	20
Senior leadership team <sup>61</sup>	%	34	36

 $<sup>55 \</sup>quad \text{Data from annual WGEA report, reporting period of 1 April (the previous year) to 31 March (the current year)}.$ 

<sup>56</sup> Data from annual WGEA report, reporting period of 1 April (the previous year) to 31 March (the current year).

<sup>57</sup> Data from annual WGEA report, reporting period of 1 April (the previous year) to 31 March (the current year).

 $<sup>\,</sup>$  58  $\,$  Group Executives reporting to Managing Director and CEO.

 $<sup>59 \</sup>quad \text{Includes Group Executives and direct reports to Group Executives}. Excludes executive/administrative support.$ 

 $<sup>\,</sup>$  60  $\,$  Includes General Manager or Head of position titles only.

<sup>61</sup> Direct reports to Head of/General Manager.

Environment	Unit	FY2024	FY2023
Emissions			
Total GHG emissions (Scope 1 and 2) <sup>62</sup>	Metric tonnes of CO <sub>2</sub> -e	946,022	876,353
Direct GHG emissions (Scope 1)	Metric tonnes of CO <sub>2</sub> -e	662,797	591,216
Diesel locomotives	Metric tonnes of CO <sub>2</sub> -e	618,226	554,335
Road vehicles	Metric tonnes of CO <sub>2</sub> -e	20,331	10,789
Incidental fuel emissions	Metric tonnes of CO <sub>2</sub> -e	24,240	26,092
Total Indirect GHG emissions (Scope 2) (Location-based)	Metric tonnes of CO <sub>2</sub> -e	283,225	285,137
Electric locomotives	Metric tonnes of CO <sub>2</sub> -e	263,595	265,229
Facilities (electricity purchased)	Metric tonnes of CO <sub>2</sub> -e	19,630	19,908
Total Indirect GHG emissions (Scope 2) <sup>63</sup> (Market-based)	Metric tonnes of CO <sub>2</sub> -e	257,059	269,925
Total indirect GHG emissions (Scope 3)64	Metric tonnes of CO <sub>2</sub> -e	551,224	524,134
Purchased goods and services <sup>65</sup>	Metric tonnes of CO <sub>2</sub> -e	315,660	306,984
Fuel- and energy-related activities <sup>66</sup>	Metric tonnes of CO <sub>2</sub> -e	220,986	203,917
Waste generated <sup>67</sup>	Metric tonnes of CO <sub>2</sub> -e	6,807	5,112
Business travel <sup>68</sup>	Metric tonnes of CO <sub>2</sub> -e	7,771	8,121

- 62 Aurizon's Scope 1 and Scope 2 emissions are reported in accordance with the NGER legislation.
- Aurizon's Scope 2 (market-based) emissions reported in accordance with the voluntary market-based method outlined in the NGER legislation. Aurizon's FY2023 reported Scope 2 (market-based) emissions were incorrectly reported to be 304,703 tCO<sub>2</sub>-e due to the use of an incorrect Residual Mix Factor value. To address this error, Aurizon sought advice from the Clean Energy Regulator and has recalculated its FY2023 Scope 2 (market-based) emissions to be 269,925 tCO<sub>2</sub>-e, The corrected figure is reported in the year-on-year comparisons included in the Sustainability Report metrics table.
- 64 Aurizon uses an internal basis of preparation to outline our Scope 3 reporting boundary and calculation. Currently we include the following categories on a voluntary basis: combined purchased goods and service (including capital goods, and upstream transportation and distribution); fuel- and energy-related activities; waste generated; and business travel. FY2023 Scope 3 emissions have been recalculated using an improved FY2024 calculation methodology.
- This combined category (comprising purchased goods and services, capital goods and upstream transportation and distribution) utilises all spend data for the Group entities extracted from our internal systems, credit card data and data obtained from our Iron Horse subsidiary. The spend data is broken down according to Aurizon's internal procurement categories and allocated to the most appropriate product and sub-product categorisation for United Kingdom's Department for Energy Security & Net Zero ('DESNZ') (Spend-based) (2024 factors for FY2024 and 2023 factors for FY2023). This category also includes approximately 6% and 5% of travel and waste spend respectively for FY2024 and FY2023 due to reporting limitations from those suppliers. Spend that is excluded from this category is related to banking, mining rebates, payroll, regulator, superannuation, taxation and track access. FY2023 has been recalculated for comparative purposes in line with its internal basis of preparation. Previous reporting methodology was limited to approximately 20% of total spend in FY2023 due to the product grouping in the Quantits tool. Due to current internal procurement processes, it is difficult to segregate spend data between purchase of goods and services, purchase of capital goods, and upstream transportation and distribution of purchased products to calculate the associated emissions. As a result, these have been combined and reported into one category for FY2024 and FY2023 (recalculated).
- Geough Test and the purchase of all fuel and electricity used to power Aurizon's assets (e.g., our locomotives), electricity that powers Aurizon-owned facilities, as well as transmission and distribution losses were calculated. This excludes Hook'n'Pull and waste oil recycled. The latest Australian National Greenhouse Accounts Factors 2023 (NGA) issued by the Australian Government Department of Climate Change, Energy, the Environment and Water were used to calculate the related FY2024 emissions. Western Australia electricity was previously not reported in FY2023 due to the unavailability of emission factor sources. The NGA factors have now been updated and as such, Western Australia electricity is included and reported in line with our internal basis of preparation.
- 67 Emissions have been calculated using waste-specific data and spend data provided by our service providers, along with reputable third-party emission factors (being NGA, DESNZ, and the Australian Life Cycle Inventory Database), which have been determined from the nature of waste generated method of disposal, as outlined in the internal basis of preparation. In FY2024, this category has been expanded to include all waste types (i.e., landfill, recycled and wastewater), FY2023 has been recalculated for comparative purposes. Both FY2024 and FY2023 have been calculated in line with its internal basis of preparation.
- In FY2024, business travel has been expanded to include emissions related to air travel, accommodation, car hire, taxi and ride-share services. Emissions for this category have been calculated using supplier-specific distance and nights spent in accommodation data provided by our corporate travel agents, along with reputable third-party emission factors as outlined in the internal basis of preparation. Emissions related to personal vehicle travel have been calculated using claimed-kilometres data extracted from Aurizon's internal systems, along with reputable third-party emission factors (DESNZ) as outlined in the basis of preparation. FY2023 has been recalculated for comparative purposes in line with its internal basis of preparation.

Environment (continued)	Unit	FY2024	FY2023
Targets (Operational Emissions Intensity)			
Measure (Operational GHG emissions intensity)	Kilograms of CO <sub>2</sub> -e/'000 NTK	14.62	13.87
Operational GHG emissions intensity target <sup>69</sup>	% change from FY2021 baseline	-7.7%	-2.1%
Energy			
Total direct and indirect energy consumed within the organisation	Megawatt hours	3,009,760	2,731,520
Total direct energy consumed	Megawatt hours	2,619,312	2,338,589
Diesel (used for locomotives)	Megawatt hours	2,439,391	2,187,237
Diesel (other)	Megawatt hours	170,978	140,621
Natural gas	Megawatt hours	4	3
Other fuels (propane, gasoline, kerosene, stove oil, furnace oil)	Megawatt hours	8,939	10,728

Megawatt hours

Megawatt hours per million

AUD of rail freight revenue

NTK per '000 litres of

fuel consumed

390,448

1,269

265,570

392,931

1,234

290,668

Total indirect energy consumed - electricity<sup>70</sup>

Energy intensity

Fuel efficiency

Aurizon has set a target to reduce operational emissions intensity by 10% by 2030, from a FY2021 baseline (on a basis of kilograms of carbon dioxide per '000 net tonne kilometre). Operational emissions intensity is calculated using aggregated Scope 1 and 2 emissions, and NTK for all Aurizon business units. See footnote 1.

Additional energy consumption associated with diesel-electric locomotive energy production (i.e. the diesel-electric energy generated and then consumed) is excluded from this calculation. This is consistent with previous reporting periods.

Environment (continued)	Unit	FY2024	FY2023
Effluents and waste <sup>71</sup>			
Total weight of waste generated (excl. ballast / bulk metals)	Metric tonnes	21,881	19,171
Total hazardous waste generated	Metric tonnes	6,997	2,912
Metals	Metric tonnes	16,031	14,698
Ballast (aggregate)	Metric tonnes	221,280	223,940
Disposal methods			
Landfill (excl. hazardous and ballast)	Metric tonnes	6,750	3,861
Incinerated/treated/landfilled (hazardous)	Metric tonnes	4,951	1,396
Recycled (excl. ballast and bulk metals)	Metric tonnes	15,079	15,306
Recycled (bulk metals)	Metric tonnes	16,042	11,061
Recycled (ballast)	Metric tonnes	221,280	223,940
Water			
Water consumption	Million litres	242	284

Fiffluent and waste data for waste contractors other than Aurizon's primary waste contractors is currently excluded. Excluded data is considered to be immaterial when compared to total waste produced. Aurizon will continue to improve the completeness and accuracy of waste reporting as part of Scope 3 emissions reporting improvements. Our current reporting methodology does not capture all material flows. For example, re-used materials (such as ballast spoil that is screened and re-used within our operational sites) are not always processed, and therefore reported by our waste contractors. This report may exclude effluent and waste data associated with small, remote or temporary operational sites.

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# Statement of limited assurance

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Deloitte Touche Tohmatsu ABN 74 490 121 060

Quay Quarter Tower Level 46, 50 Bridge Street Sydney NSW 2000

Tel: +61 2 9322 7000 Fax: +61 2 9322 7001 www.deloitte.com.au

## Independent Limited Assurance Report to the directors of Aurizon Holdings Limited

#### Conclusion

We have undertaken a limited assurance engagement on selected sustainability performance indicators included in Aurizon Holdings Limited's ('Aurizon') FY24 Sustainability Report for the periods covering 1 July 2022 to 30 June 2023 (FY23) and 1 July 2023 to 30 June 2024 (FY24).

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the Sustainability Performance Indicators presented below ('Subject Matter Information') and included in Aurizon's 2024 Sustainability Report have not been prepared, in all material respects, in accordance with the applicable Reporting Criteria defined below.

Selected Sustainability Performance Indicators ('Subject Matter Information')	Reporting Criteria	Disclosure location
FY24 Metrics		
Total Scope 1 and 2 GHG emissions (tCO₂-e)	NGER Legislation	2024 Sustainability Report, Climate
Total energy consumption (MWh)		Change Chapter and Sustainability Metric
Market-based Scope 2 emissions (tCO <sub>2</sub> -e)	NGER Legislation	2024 Sustainability Report, Climate Change Chapter and Sustainability Metrics
Operational emission intensity figure based on 2030 emissions target (Kilograms of CO2-e/'000 NTK)	NGER Legislation and Aurizon's Emissions Intensity Basis of Preparation	2024 Sustainability Report, Climate Change Chapter and Sustainability Metrics
Disclosures relating to the basis of selection of reporting boundary and identification of activity sources relevant to the calculation of Aurizon's Scope 3 emissions categories.	The Greenhouse Gas ('GHG') Protocol Corporate Value Chain (Scope 3) Standard)	2024 Sustainability Report, Climate Change Chapter and Sustainability Metrics
Scope 3 GHG emissions (tCO2-e), which will include but not be limited to:  Category 1: Purchased goods and services  Category 2: Capital goods  Category 3: Fuel and energy related activities  Category 5: Waste generated in operations  Category 6: Business travel	Aurizon's Scope 3 Emissions Basis of Preparation (aligned with The Greenhouse Gas ('GHG') Protocol Corporate Value Chain (Scope 3) Standard)	2024 Sustainability Report, Climate Change Chapter and Sustainability Metric
FY23 Metrics		
Scope 3 GHG emissions (tCO2-e), which will include but not be limited to:  Category 1: Purchased goods and services  Category 2: Capital goods  Category 3: Fuel and energy related activities  Category 5: Waste generated in operations  Category 6: Business travel	Aurizon's Scope 3 Emissions Basis of Preparation (aligned with The Greenhouse Gas ('GHG') Protocol Corporate Value Chain (Scope 3) Standard)	2024 Sustainability Report, Climate Change Chapter and Sustainability Metrics

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#### Basis for Conclusion

We conducted our limited assurance engagement in accordance with Australian Standard on Assurance Engagements ASAE 3000 Assurance Engagements Other than Audits or Reviews of Historical Financial Information ("ASAE 3000"), issued by the Australian Auditing and Assurance Standards Board.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Responsibilities of Aurizon

The Directors are responsible for:

- ensuring that the Subject Matter Information is prepared in accordance with the applicable Reporting Criteria;
- confirming the measurement or evaluation of the underlying subject matter against the applicable Reporting Criteria, including that all relevant matters are reflected in the Subject Matter Information;
- designing, establishing and maintaining an effective system of internal control over its operations and financial reporting, including, without limitation, systems designed to assure achievement of its control objectives and its compliance with applicable laws and regulations; and
- the electronic presentation of the Subject Matter Information and our limited assurance report on Aurizon's website.

#### Our Independence and Quality Management

We have complied with the independence and other relevant ethical requirements relating to assurance engagements, and applied Auditing Standard ASQM 1 Quality Management for Firms that Perform Audits or Reviews of Financial Reports and Other Financial Information, or Other Assurance or Related Services Engagements in undertaking this assurance engagement.

#### Assurance Practitioner's Responsibilities

Our responsibility is to express a limited assurance conclusion on Aurizon Holdings Limited's Subject Matter Information as evaluated against the applicable Reporting Criteria based on the procedures we have performed and the evidence we have obtained. ASAE 3000 requires that we plan and perform our procedures to obtain limited assurance about whether anything has come to our attention that causes us to believe that the Subject Matter Information presented in the Sustainability Report is not prepared, in all material respects, in accordance with the applicable Reporting Criteria.

A limited assurance engagement in accordance with ASAE 3000 involves identifying areas where a material misstatement of the Subject Matter Information is likely to arise, addressing the areas identified and considering the process used to prepare the Subject Matter Information. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not express a reasonable assurance opinion about whether the Subject Matter Information presented in the Sustainability Report has been prepared, in all material respects, in accordance with the applicable Reporting Criteria.

#### Our procedures included:

- Making inquiries with Subject Matter data owners and sustainability report responsible management to
  understand and assess the approach for collating, calculating and reporting the respective Subject Matter
  Information across the reporting period from 1 July 2022 to 30 June 2024
- Making inquiries with Scope 3 Subject Matter data owners and sustainability report management to understand and assess the approach for selection of boundary and identification of relevant emission sources.
- Inspection of documents as part of the walk throughs of key systems and processes for collating, calculating
  and reporting the respective Subject Matter Information for the 2024 Aurizon Holdings Limited
  Sustainability Report.

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 Selection on a sample basis items to test from the selected sustainability performance indicators and agree to relevant supporting documentation.

- Analytical reviews over material data streams to identify any material anomalies for the Subject Matter Information and investigate further where required
- Agreeing overall data sets for the Subject Matter Information to the final data contained in the 2024 Aurizon Holdings Limited Sustainability Report.

#### Inherent Limitations

Because of the inherent limitations of an assurance engagement, together with the inherent limitations of any system of internal control there is an unavoidable risk that it is possible that fraud, error, or non-compliance with laws and regulations, where there has been concealment through collusion, forgery and other illegal acts may occur and not be detected, even though the engagement is properly planned and performed in accordance with Standards on Assurance Engagements.

Emissions quantification is subject to inherent uncertainty because incomplete scientific knowledge has been used to determine emissions factors and the values needed to combine emissions due to different gases.

Additionally, non-financial data may be subject to more inherent limitations than financial data, given both its nature and the methods used for determining, calculating and sampling or estimating such data.

#### Other Information

The directors are responsible for the other information. The other information comprises the information included in the Sustainability Report for the year ended 30 June 2024, but does not include the Subject Matter Information. Our responsibilities do not extend to other information and we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Subject Matter Information or our knowledge obtained in the engagement, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude there is a material misstatement of this other information, we are required to report this fact. We have nothing to report in this regard.

# Restricted use

The Reporting Criteria used for the assurance engagement was designed for a specific purpose of the director's reporting on Selected Sustainability Performance Indicators in the Aurizon Holdings Limited 2024 Sustainability Report. As a result, the Selected Sustainability Performance Indicators may not be suitable for another purpose.

This report has been prepared for use by the directors of Aurizon for the purpose of providing assurance over Selected Sustainability Performance Indicators included in the Aurizon Holdings Limited 2024 Sustainability Report. We disclaim any assumption of responsibility for any reliance on this report to any person other than the directors of Aurizon, or for any purpose other than that for which it was prepared.

Matters relating to electronic presentation of information

It is our understanding that Aurizon may publish a copy of our report on their website. We do not accept responsibility for the electronic presentation of our report on the Aurizon website. The security and controls over information on the website is not evaluated or addressed by the independent auditor. The examination of the controls over the electronic presentation of this Report on the Aurizon website is beyond the scope of this engagement.

Deloitte Touch Tohnatsh

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Chi Woo Partner

Sydney, 2 October 2024

# **Glossary**

Some terms and abbreviations used in this document, together with industry-specific terms, have defined meanings. These terms and abbreviations in this glossary are used throughout this document. A reference to dollars, \$ or cents in this document is a reference to Australian currency, unless otherwise stated.

#### **ACCUs**

Australian Carbon Credit Units

#### AFSS

Automatic Engine Start Stop

#### **AGRMC**

The Board Audit, Governance and Risk Management Committee

#### **APS**

**Aurizon Port Services** 

#### ASX

Australian Securities Exchange

### ATO

Australian Taxation Office

#### AUD

Australian Dollar

# Aurizon

Aurizon Holdings Limited (ABN 14 146 335 622) and, where the context requires, includes any of its subsidiaries and controlled entities

#### BAU

**Business As Usual** 

#### BEL

Battery Electric Locomotive

#### BET

Battery Electric Tender

#### BITRE

The Bureau of Infrastructure and Transport Research Economics

#### **Board**

The Board of Directors of Aurizon Holdings Limited

#### **BF-BOF**

Basic Furnace - Basic Oxygen Furnace method of steel-making

#### CAGR

Compound Annual Growth Rate, expressed as a percentage per year

#### **CAPEX**

Capital Expenditure

#### CDMP

Coal Dust Management Plan

#### CFO

Chief Financial Officer & Group Executive Strategy

#### СН

Cultural Heritage

#### CHGF

Cultural Heritage Governance Framework

## CO,

Carbon dioxide

#### CO,-e

Carbon dioxide equivalent

### consist/s

Combination of rail assets, i.e. locomotives and wagons

#### COCN

Central Queensland Coal Network

## **CSAP**

Climate Strategy and Action Plan

#### DRI

Direct Reduced Iron

#### EAF

Electric Arc Furnace method of steel-making

#### **EBIT**

Earnings Before Interest and Taxes

# **EBITDA**

Earnings Before Interest, Taxes, Depreciation and Amortisation

### **ESG**

Environmental, Social and Governance

#### EVP

**Employee Value Proposition** 

#### EVs

Electric vehicles

#### **FORG**

Freight on Rail Group

#### FTE

Full-Time Equivalent

#### FY

Financial Year ended 30 June, as the context requires

#### GAPE

Goonyella Abbot Point Expansion

#### GDP

**Gross Domestic Product** 

#### GHG

Greenhouse gas

#### HET

Hydrogen Electric Tender

#### IEA

International Energy Agency

# kg

kilograms

## kWh

kilowatt hour

# L

litres

# LGBTQIA+

Lesbian, Gay, Bisexual, Transgender, Queer, Intersex or Asexual plus

# Li-ion

Lithium-ion

# m

million

#### MD & CEO

Managing Director and Chief Executive Officer

#### MPs

Members of Parliament

#### mt

millions of tonnes

#### mtpa

million tonnes per annum

#### мw

megawatts

## Network

Aurizon Network Pty Ltd (ACN 132 181 116), a wholly owned subsidiary of Aurizon Holdings

#### **NPAT**

Net Profit After Tax

#### NTK

Net Tonne Kilometre, unit of measure representing the movement over a distance of one kilometre of one tonne of contents, excluding the weight of the locomotive and wagons

#### OFM

Original equipment manufacturer

#### PCI

Pulverised Coal Injection

#### QCA

Queensland Competition Authority

#### RAP

Reconciliation Action Plan

#### ROIC

Return on Invested Capital

# rollingstock

Equipment that provides transportation capability on our railways, such as locomotives and wagons

# share

A fully paid ordinary share in Aurizon Holdings

#### SIF

Serious Injury or Fatality

# SIFR(a+p)

Potential Serious Injury and Fatality Frequency Rate measures the number of incidents that had the potential to cause, or did cause, serious injury or fatality. The result is expressed per million hours worked.

# SPAD

Signals Passed at Danger, reflects an instance in which a train has entered a section of the track without the correct authority

#### **TCFD**

Task Force on Climate-related Financial Disclosures

#### TEU

Twenty-Foot-Equivalent Unit

#### tonne

one metric tonne, being 1,000 kilograms

## tonne kilometres

The product of tonnes and distance

#### TR

Total Recordable Injuries

#### **TRIFR**

The cumulative number of Lost Time Injuries, Medical Treatment Injuries, and Restricted Work Injuries sustained by employees and contractors, per million hours worked, over a given recording period

#### **WGEA**

Workplace Gender Equality Agency

Aurizon Holdings Ltd 900 Ann Street Fortitude Valley

aurizon.com.au

