



# 2022 CONCISE SUSTAINABILITY REPORT

Delivering for a  
sustainable future



# ABOUT AURIZON

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

FIGURE 1 AURIZON'S REVENUE (FY2022)<sup>1</sup>

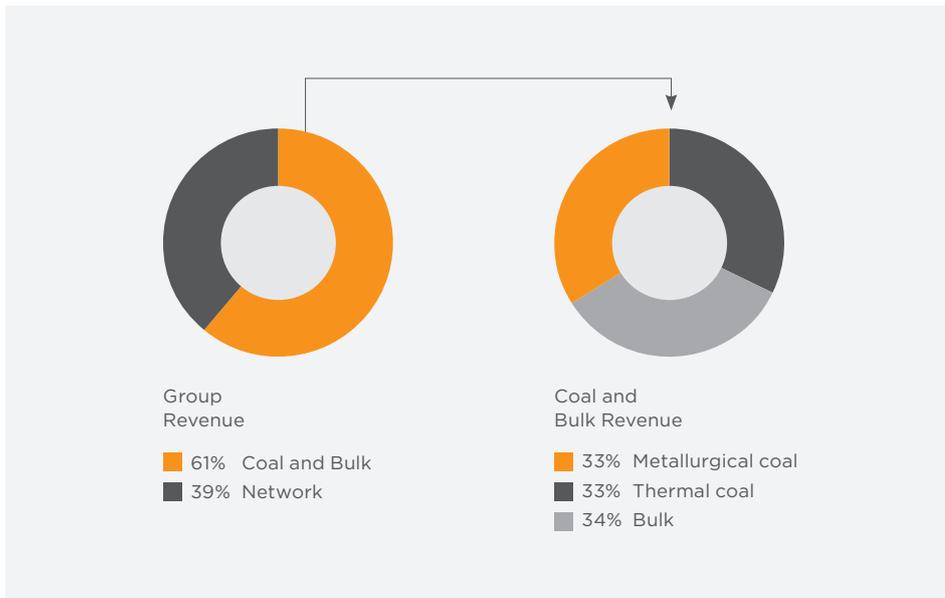
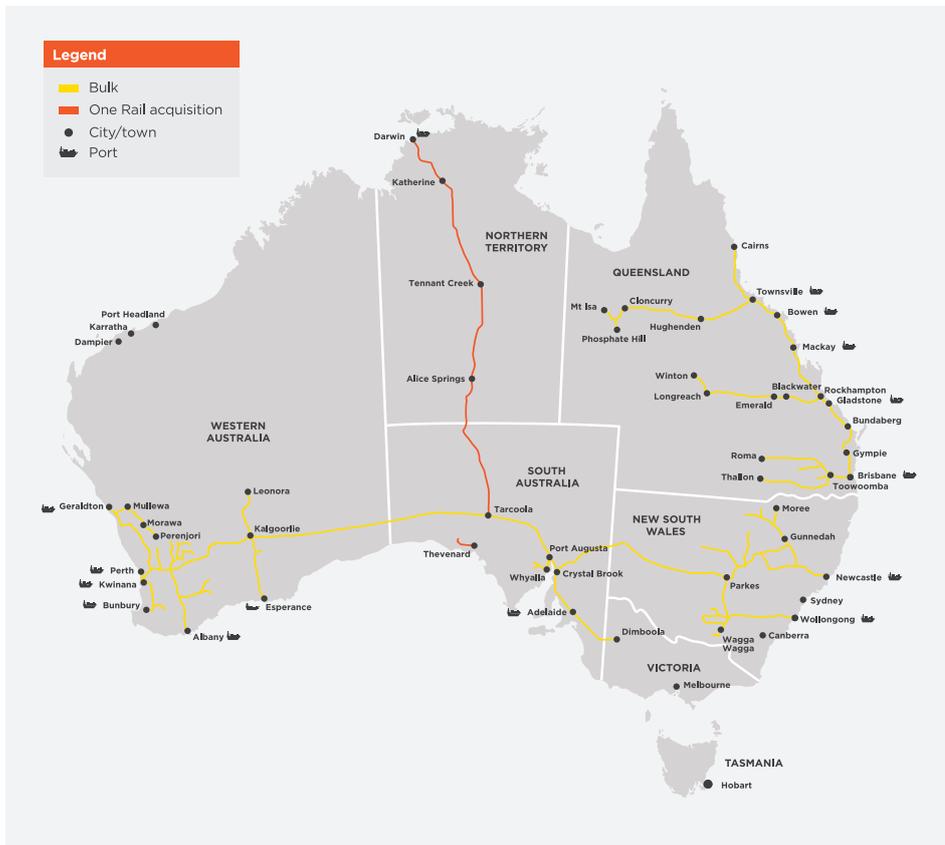


FIGURE 2 BULK OPERATIONS



## What we deliver

Our purpose is to grow regional Australia by delivering bulk commodities to the world. In FY2022, we transported more than 245 million tonnes of Australian commodities, connecting miners, primary producers, and industry with international and domestic markets.

We provide customers with integrated freight and logistics solutions across an extensive national rail, road and port network that traverses Australia. We have a fleet of around 600 locomotives and 12,500 wagons.

Our operations now span across Australia. We hold the long-term lease and operate one of the world's largest coal rail networks, the Central Queensland Coal Network (CQCN), a critical piece of infrastructure supporting about 90% of Australian metallurgical coal export volume. After our acquisition of One Rail Australia (One Rail) in July 2022, we hold the long-term lease and operate the nationally significant north-south rail infrastructure from Tarcoola to Darwin. This acquisition expands Aurizon's operations to include South Australia and the Northern Territory.

Our key operational areas are broken into three business units: Coal, Bulk and Network. As shown in figure 1, over one-third of our Group revenue relates to Network, with the remaining revenue from our Coal and Bulk businesses. Within these two business units, approximately two-thirds of revenue relates to coal, with the remaining third non-coal.

## Regional focus

We have approximately 5,000 employees, with around 85% living and working in regional Australia. Aurizon is part of the communities in which our people live and work, where stable regional communities are grown and can thrive through strong local business.

We engage with local suppliers across our operational footprint and continue to support local organisations and suppliers where we can. In FY2022, we have spent approximately \$1.2 billion with local suppliers from across our operations.

## Bulk

Our Bulk business includes haulage of a range of bulk commodities, such as iron ore, bauxite, alumina, base metals, grain and fertiliser-related products. During FY2022, our Bulk business delivered 51 million tonnes of commodities. The business also provides supply chain services to customers, including ballast cleaning, hook-and-pull, and port services.

We continue to execute on our long-term ambition to double the size of our Bulk business by 2030. In FY2022, we have broadened our customer base in both traditional bulk commodities with the commencement of the CBH contract (Aurizon is now Australia's largest grain haulage provider by volume), and in new economy minerals and metals, supporting Tronox with an east-west freighter service transporting mineral sands concentrate from the Broken Hill region in New South Wales through to through to Kwinana in Western Australia.

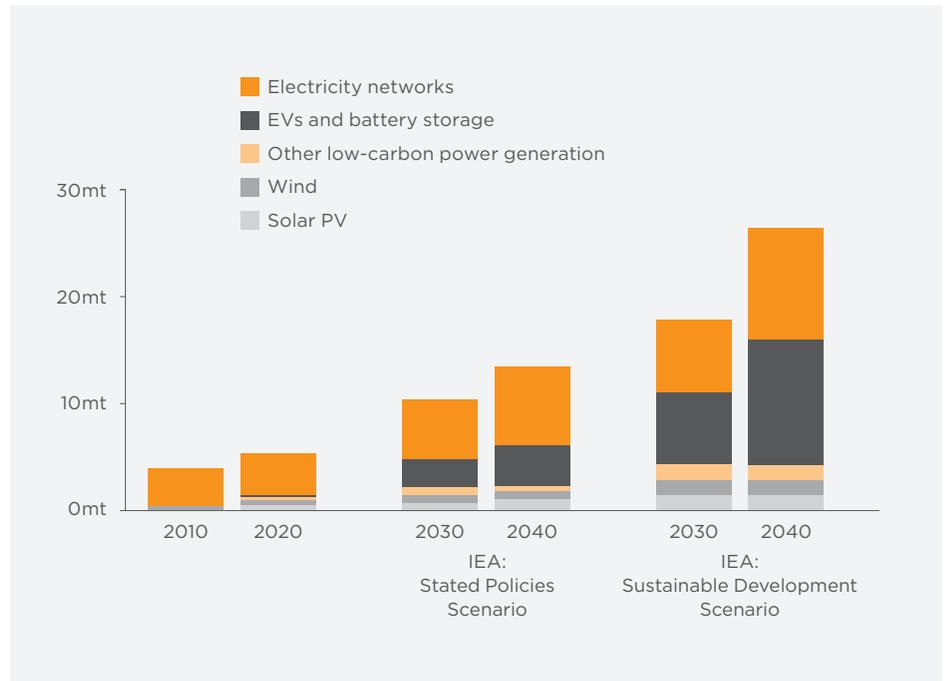
The acquisition of One Rail provides the potential to materially grow Bulk earnings and increase exposure to commodities associated with new economy markets. In addition, development of our national presence into adjacent production-to-port value chain segments is expanding the scope of what we do, increasing our addressable market, and supporting delivery of compelling end-to-end multi-model solutions for our customers.

Demand for bulk commodities will continue to be driven by infrastructure development; however, growth opportunities are emerging from new economy markets and increasing global food consumption.

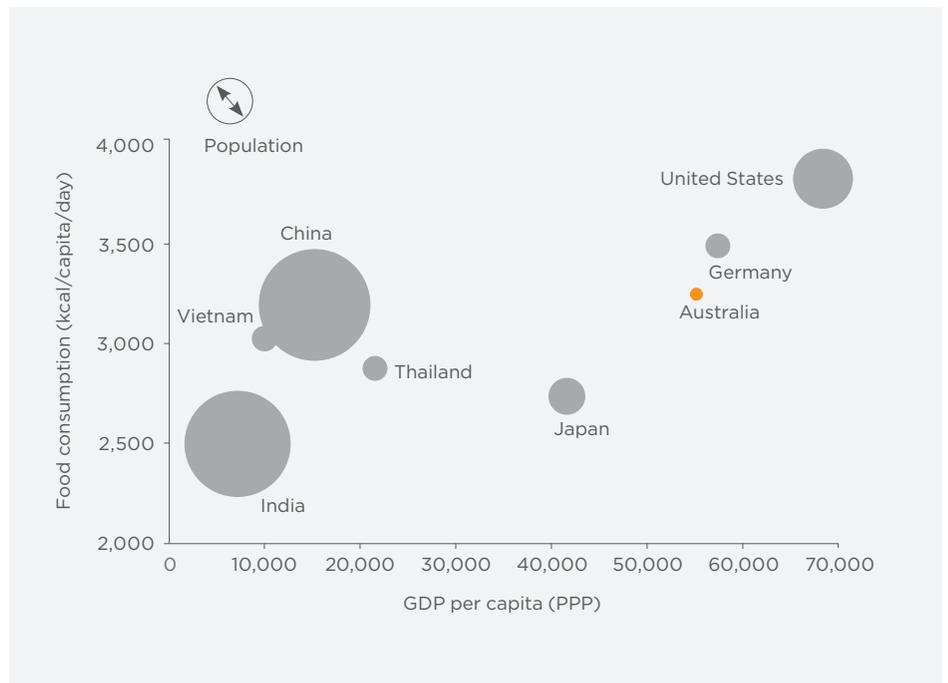
The International Energy Agency (IEA) projects total mineral demand from clean energy technologies to double by 2040 in the Stated Policies Scenario, and to quadruple in the Sustainable Development Scenario from current demand (2020)<sup>2</sup>. Minerals include cobalt, copper, lithium, nickel, and rare earth elements (figure 3). Food consumption is expected to increase as a result of growth in the world population and the impact of growing income, which leads to more calorie-intensive diets (figure 4). Australia's agriculture industry contributes to global food demand, with around 70%<sup>3</sup> of total agricultural produce exported.

Combining domestic and exports markets, Australian farmers produce enough food to feed an estimated 80 million people<sup>4</sup>.

**FIGURE 3** TOTAL MINERAL DEMAND FROM CLEAN ENERGY TECHNOLOGIES<sup>5</sup>



**FIGURE 4** FOOD CONSUMPTION (CALORIE CONSUMPTION PER CAPITA)<sup>6</sup>



**We continue to execute on our long-term ambition to double the size of our Bulk business by 2030.**

## Enterprise strategic planning

As part of our Strategy in Uncertainty 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 5).

A key component of this analysis is understanding the drivers of demand and supply for the commodities we haul. 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 updated to proactively respond to emerging market dynamics and opportunities.

## Coal

We play a significant role in Australia's coal supply chain, with approximately two-thirds of Australia's coal exports using our below rail Network and/or hauled by our Coal business. With 84% of Australian coal production exported<sup>7</sup>, it is global seaborne trade markets that drive current (and future) demand for Australian product. Australia holds a 61% share of the seaborne metallurgical coal market and 22% share of the seaborne thermal coal market<sup>8</sup> (figure 6). In FY2022, 90% of Australian coal exports were destined for Asia<sup>9</sup>. Although metallurgical and thermal coal are similar in terms of the method of extraction and preparation, the different properties of the two coal types mean that there are distinct markets and, therefore, drivers of future demand.

## Future of seaborne metallurgical coal

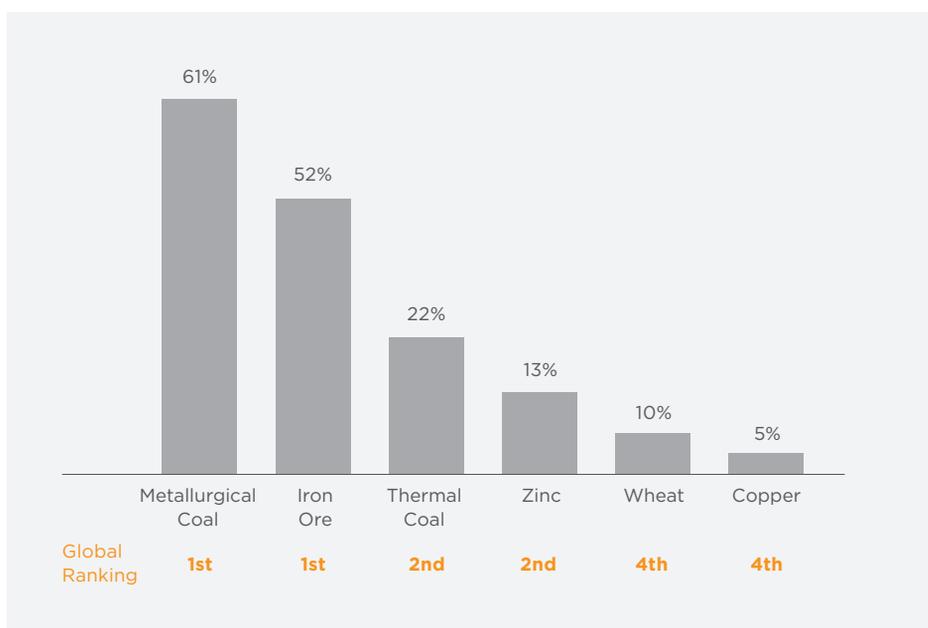
Driven by urbanisation and associated infrastructure development, India and South-East Asian nations have the opportunity to increase steel usage, as measured on a per capita basis. Crude steel production has grown by 4.8% per annum in India over the past decade, driving demand for metallurgical coal (figure 8).

Steel-intensive growth in India is expected to be the largest driver of seaborne trade demand over the coming decades. Despite already being the world's second largest steel producer (behind China), India is considered to be at an early stage of development.

FIGURE 5 STRATEGY IN UNCERTAINTY AUSTRALIAN EXPORT COAL VOLUME SCENARIOS



FIGURE 6 SHARE OF AUSTRALIAN COMMODITIES IN GLOBAL TRADE<sup>10</sup>

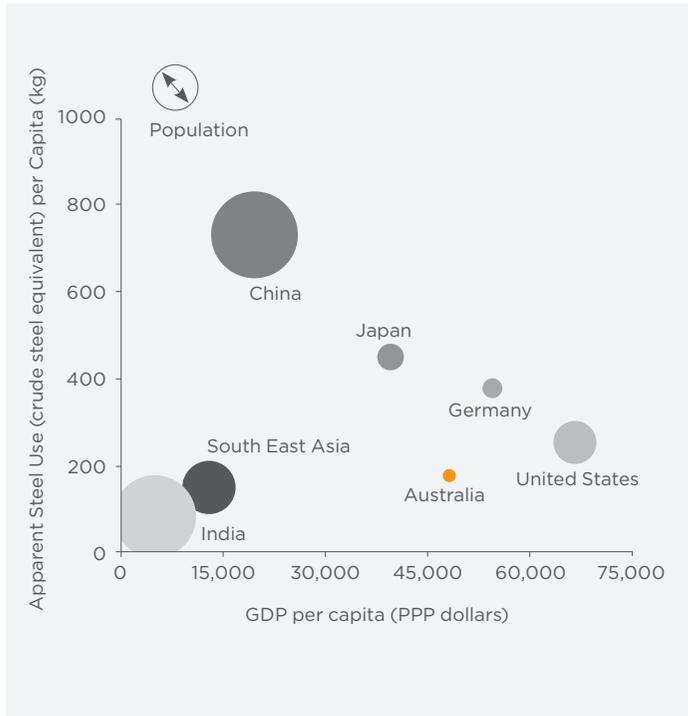


## Future of seaborne thermal coal

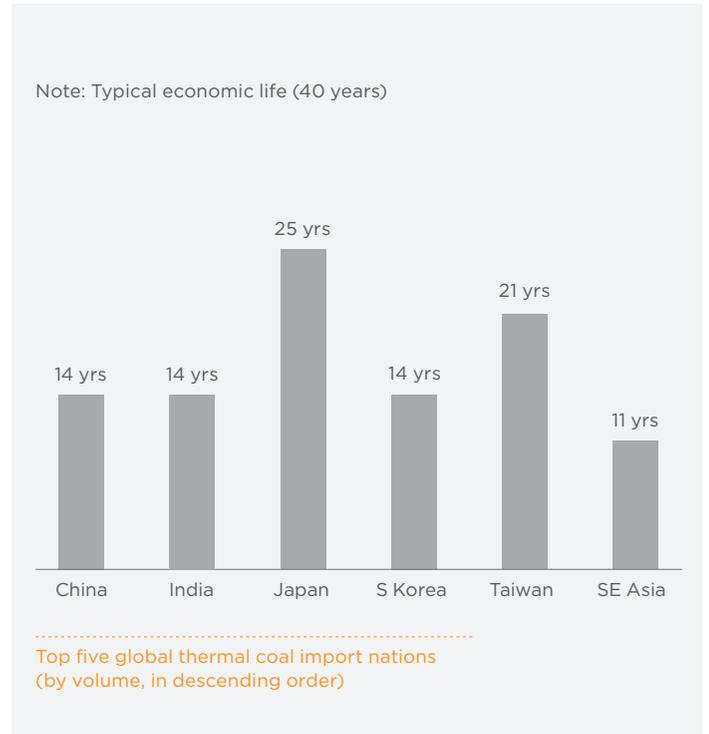
It is recognised that global consumption of thermal coal-fired power generation will reduce in the decades ahead. However, rather than global consumption, the demand for Australian coal is dependent on the seaborne trade market that is less than 16% of global consumption<sup>11</sup> and is increasingly dominated by Asian

trade, which accounts for over 84% of global seaborne import volume<sup>12</sup>. Against an expected retirement age of 40 years<sup>13</sup>, the average age of coal-fired generation capacity in Asia is just 14 years<sup>14</sup>. On average, Australia's export thermal coal has the highest energy content and relatively low ash content, when compared to most other major sources of seaborne thermal coal (figure 10).

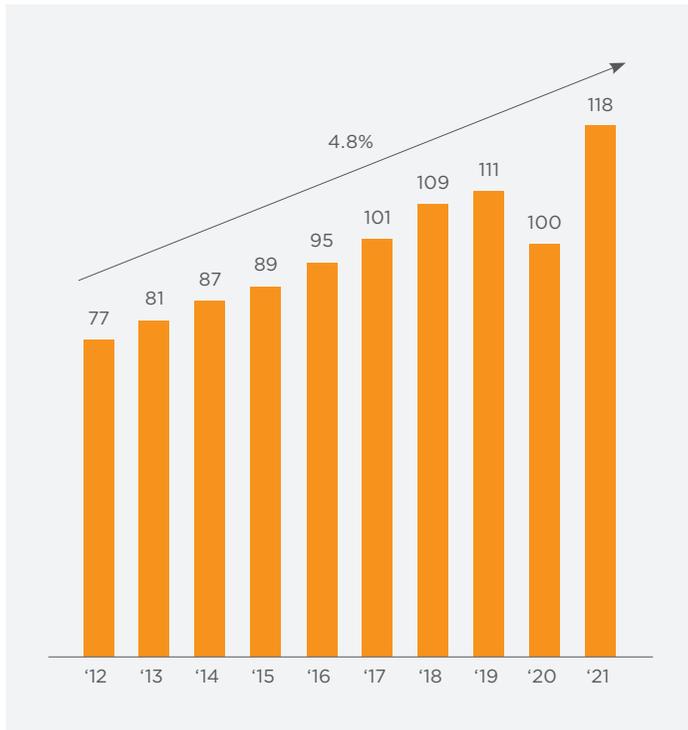
**FIGURE 7** APPARENT STEEL USE (CRUDE STEEL EQUIVALENT) PER CAPITA | GDP PER CAPITA<sup>15</sup>



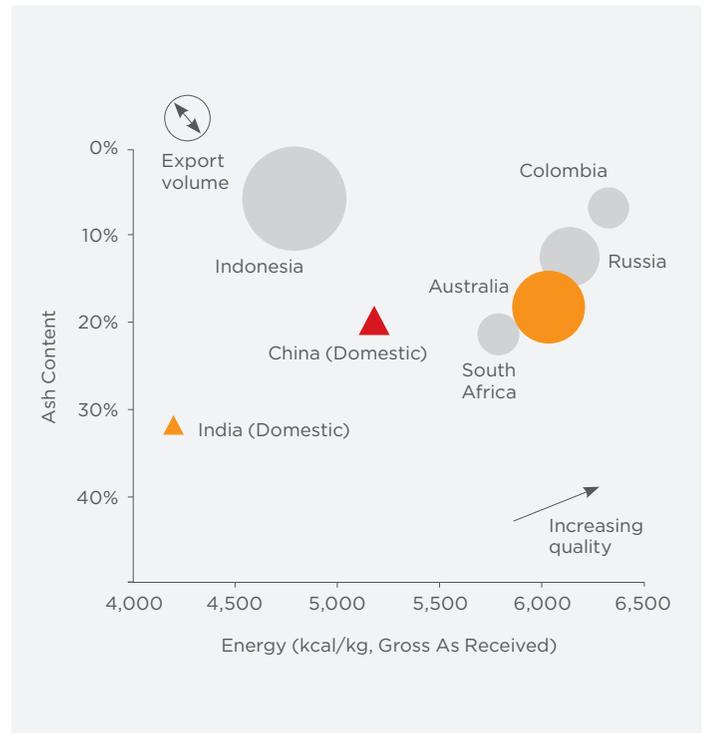
**FIGURE 9** AVERAGE AGE OF COAL-FIRED ELECTRICITY CAPACITY<sup>17</sup>



**FIGURE 8** INDIA CRUDE STEEL PRODUCTION (MILLION TONNES)<sup>16</sup>



**FIGURE 10** THERMAL COAL ENERGY AND ASH CONTENT<sup>18</sup>



## Climate change and environment

The impacts of climate change are broad and systemic. Aurizon's value chain, industry and the global economy face both 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 or is railed across our network. Acute physical risks related to extreme weather events will also continue to affect our business through supply chain disruptions. We recognise that we all have a responsibility to act on climate change – government, business, and the general community – so we can achieve an effective transition to a low-carbon future. In our annual Sustainability Report, we continue to incorporate recommendations from the Financial Stability Board's Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

Decarbonising our operations and achieving net-zero operational emissions by 2050 is being pursued through a range of initiatives and investments set out in our Climate Strategy and Action Plan (CSAP), including:

1. leveraging our existing energy efficiency capabilities and assets, such as electrified rail in the CQC
2. investing in development and adoption of low-carbon technologies through our \$50 million Future Fleet Fund
3. integrating renewable energy into our current energy mix
4. using carbon offsets through project development/investment and/or purchase where required to meet our decarbonisation goals.

To support our net-zero ambitions, we have set an interim 10% operational emissions intensity reduction target by 2030<sup>19</sup>, after reducing emissions intensity by 20% between 2010 and 2020. In FY2022, we made significant progress towards identifying our key decarbonisation levers and are putting them into action. These efforts have been supported by a dedicated Fleet Decarbonisation team and the CSAP Steering Committee.

### Rail freight policy

We contribute to developing and advocating policy positions aimed at increasing the use of rail for freight

supply chains in Australia. Since 2021, our Managing Director and CEO, Andrew Harding has been the Chair of the Freight on Rail Group (FORG), which is an industry body representing rail freight industry businesses in Australia. As part of its advocacy, FORG is engaging with governments and regulators on benefits, such as:

- **Environment:** road freight produces 16 times more carbon pollution than rail freight per tonne kilometre<sup>20</sup>.
- **Safety:** rail transport is a far safer mode of transport than road, with the freight volume carried by one freight train equivalent to the volume carried by 150 semi-trailer trucks<sup>21</sup>. Over the course of a year, the freight task carried by one train removes the need for thousands of truck journeys on our roads, thereby reducing congestion and enhancing 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.

## Safety and health

During FY2022, we have continued to embed our Safety Strategy through priorities focused on building and implementing simple systems and processes, understanding and controlling safety hazards, and building leadership and capability with a strong in-field presence. All our efforts support our goal of protecting ourselves, each other, and the communities in which we operate. Safety in Action is the core of our safety strategic approach at Aurizon. Our approach remained unchanged in FY2022, and moving into FY2023, we know that it resonates with our people and is improving safety outcomes. Safety in Action leverages three key components that enable our people to be safe at work:

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

Safety in Action adds value to our teams as we continue to focus on our safe systems of work and develop and adopt safe practices, enabling us to build a resilient operation, an adaptive workforce, and agile systems of work to deliver safer outcomes.

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1 Group revenue pie chart: Revenue is the sum of the Network, Coal and Bulk business units (less track access for both Coal and Bulk). Coal and Bulk revenue pie chart: Revenue excludes track access. Allocation for Coal based on estimated volume split.

2 International Energy Agency, *The role of critical minerals in clean energy transition* (May 2021)

3 Department of Agriculture, Fisheries and Forestry, *Delivering Ag2030* (April 2022)

4 Department of Agriculture, Fisheries and Forestry, *Delivering Ag2030* (April 2022)

5 Total mineral demand from clean energy technologies: International Energy Agency (IEA) – *The role of critical minerals in clean energy transition*. Key minerals included: cobalt, copper, lithium, nickel and rare earth elements.

6 GDP (Purchasing Power Parity; current international dollars): World Bank (2021 data). Population: World Bank (2021 data). Food Supply: Food & Agriculture Organisation of the United Nations (kcal/capita/day, 2018 data).

7 Department of Industry, Science, Energy and Resources, Commonwealth of Australia, *Resources and Energy Quarterly* (March 2022)

8 International Energy Agency, *Coal 2021*

9 Australian Bureau of Statistics

10 Metallurgical and Thermal coal – International Energy Agency, *Coal 2021*, Iron ore – Office of the Chief Economist (2021 data, *Resources & Energy Quarterly*, March 2022 – Forecast data), Zinc & Copper – Office of the Chief Economist (2020 data, *Resources & Energy Quarterly*, March 2022 – Report, Wheat – International Grain Council (2012/13-2020/21 average).

11 International Energy Agency, *Coal Information* (July 2022)

12 International Energy Agency, *Coal Information* (July 2022)

13 International Energy Agency, *World Energy Investment 2018*

14 S&P Global Market Intelligence World Electric Power Plants Database (March 2022) as at 2022, capacity weighted.

15 GDP (Purchasing Power Parity; international dollars) – World Bank (2021), Population – World Bank (2021), Apparent Steel Usage & Apparent Steel Use per Capita – World Steel Association (*Steel Statistical Yearbook 2021*). South East Asia (Select nations): Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam

16 World Steel Association

17 S&P Global Market Intelligence, World Electric Power Plants Database (March 2022) as at 2022, capacity weighted. Australia included as reference. South East Asia excludes Indonesia. Economic life sourced from International Energy Agency, *World Energy Investment 2018*.

18 Wood Mackenzie, India Ministry of Coal (*India Coal Directory 2020-21*)

19 From a 2021 baseline on a basis of tonnes of carbon dioxide per net tonne kilometre. Target under review following on from the acquisition of One Rail in July 2022.

20 Deloitte Access Economics 2017, *Value of Rail: The Contribution of Rail in Australia*

21 NSW Government: *Consultation Paper: Clean Air for NSW*, 2016

**Unless otherwise noted, all information and figures exclude the impact of the acquisition of One Rail Australia, given this occurred on 29 July 2022.**

**This is our 2022 Concise Sustainability Report. Our full 2022 Sustainability Report is available at [aurizon.com.au](http://aurizon.com.au)**