



## 2020 | Sustainability Report

Delivering for a sustainable future

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**Note: a number of images used within this document were taken prior to the outbreak of COVID-19 in 2020. Social distancing measures have since been put in place across the Company.**

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# Aurizon's FY2020 sustainability performance

**262 million**

tonnes of commodities hauled

**\$400 million**

share buyback completed, and \$514 million paid in dividends

**58**

charities supported through our Community Giving Fund

**83%**

of our employees work across regional locations in Australia

**22%**

of our workforce is female, up from 21% in FY2019

**6.15%**

of our workforce is Aboriginal or Torres Strait Islander, up from 5.64% in FY2019

**10%**

improvement in our Total Recordable Injury Frequency Rate (TRIFR) against FY2019

**8%**

deterioration in Rail Process Safety in FY2020

**2%**

increase in total greenhouse gas emissions against FY2019 (Scope 1 and 2)

**\$1.3b**

spent with suppliers, a large percentage of which was in regional Australia



# Managing Director & CEO message

On behalf of Aurizon, I am pleased to share our seventh Sustainability Report.

Aurizon is committed to being open and transparent on the environmental, social and governance (ESG) aspects of our business, with disclosures on how we operate and manage risks. In August 2019, the Australian Council of Superannuation Investors rated our ESG disclosures as 'Leading' for the fifth consecutive year. In addition, as of June 2020, we participate in the FTSE4Good Index Series, MSCI and Sustainalytics ESG Ratings.

This will be our fourth year reporting against the Task Force on Climate-related Financial Disclosures (TCFD) as recommended by the Financial Stability Board (FSB). While our annual Sustainability Report remains the primary channel for engaging on all ESG matters, our inaugural Climate Strategy and Action Plan<sup>1</sup> sets out our actions and long-term targets in reducing our emissions, while contributing to the decarbonisation of Australia's transport supply chains.

Despite the emergence of COVID-19 this year, we have continued to provide safe, reliable services to our customers, and support the regional communities where our people live and work. As Australia's largest rail freight operator, we have a critical role in safely servicing freight and logistics supply chains right across the country. Our response to COVID-19 is anchored to our value of safety, with the health and wellbeing of employees our top priority. I am proud of the outstanding efforts of our employees during this very challenging time.

We have worked hard to build a stronger, more sustainable business in recent years. In FY2018, we simplified our business model to focus on our core capabilities of hauling bulk commodities and managing the Central Queensland Coal Network (CQCN). Aurizon is also well positioned from a funding perspective, with a strong balance sheet. These changes, together with the ongoing efforts of our employees, have supported our Company's resilience during this period of uncertainty for the national economy. We have found new and more flexible ways of working, while also benefiting from our decentralised workforce with more than 80% of our employees working and living in regional areas of Australia.

During FY2020, we delivered on several key initiatives to further drive long-term commercial sustainability for the Company, including:

- Approval of the 10-year commercial agreement with our customers who use the CQCN to transport their coal. This agreement provides greater commercial, operational and investment certainty for all users of the CQCN, and a platform for continued performance improvement across the supply chain.
- Our Bulk business has seen a very strong turnaround following its 2017-18 restructure, with new customers, extensions to existing contracts, and continued efficiency improvements. The Bulk business now has a more diverse revenue base by product, which provides a more balanced platform for the future. Bulk continues to focus on leveraging its diverse assets and facilities, utilising available capacity, and flexibly deploying its assets and people.
- Bulk has also expanded its product offering, with the \$25 million acquisition of Townsville Bulk Handling and Storage, which has been renamed Aurizon Port Services (APS). This business has a long-term lease over assets at Townsville Port that are adjacent to Aurizon-owned rail lines. We now provide storage and stevedoring services for a range of customers that transferred with the acquisition. Long term, this will also provide the opportunity to increase rail utilisation through volume aggregation and to help grow earnings for this business. These opportunities are attractive to Bulk, given the existing fragmentation in the market and the benefits of converting volumes from road to rail.

Despite the impacts of COVID-19 on global steel production resulting in a softer demand forecast for coal in the first half of FY2021, the fundamental demand drivers remain. Australian coal export growth of 1-2% per annum is forecast over the next decade, driven by infrastructure development and energy demand in Asia.

In FY2020, our safety performance results were mixed. Our Total Recordable Injury Frequency Rate, which captures the number of injuries to employees per million hours worked, improved by 10%.

However, Rail Process Safety, which includes operational safety incidents such as derailments, signals passed at danger and collisions, deteriorated by 8%.

While it is important to note that over the past decade there has been long-term improvement in Aurizon's safety performance and culture, we remain absolutely focused on driving further significant improvements. We are continuing to invest in technology, processes and people to deliver more safety and efficiency benefits. In this report, you can read more about one of our initiatives, TrainGuard, which will support improved safety outcomes for our people and continued delivery performance for our customers.

The regional communities where we operate are very important to us. We understand the significance of contributing to these communities where our people work and live. We have continued to support local charities through our Community Giving Fund by providing grants to assist a range of community initiatives.

During the year, Aurizon was pleased to become a founding member of the Regional Australia Council 2031 (RAC2031) with the aim of being able to give a greater voice and support to the future development of regional Australia.

I welcome your feedback on our 2020 Sustainability Report and invite you to send any comments to [sustainability@aurizon.com.au](mailto:sustainability@aurizon.com.au).



**Andrew Harding**  
Managing Director & CEO

# About Aurizon

**Aurizon (ASX: AZJ) is Australia's largest rail-based transport business and an ASX50 company.**

Our purpose is to grow regional Australia by delivering bulk commodities to the world.

Each year, we transport more than 250 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 and road network, traversing Australia.

We also own and operate one of the world's largest coal rail networks, linking over 40 mines with five export terminals in Queensland.

## What we deliver

As shown in figure 1, our operations primarily span Queensland, New South Wales and Western Australia. Our biggest economic footprint is in regional Queensland, where our employees support our coal haulage business, deliver bulk commodities, and ensure that the Central Queensland Coal Network (CQCN) is running safely and efficiently. Our key operational areas are broken into three business units: Coal, Bulk and Network.

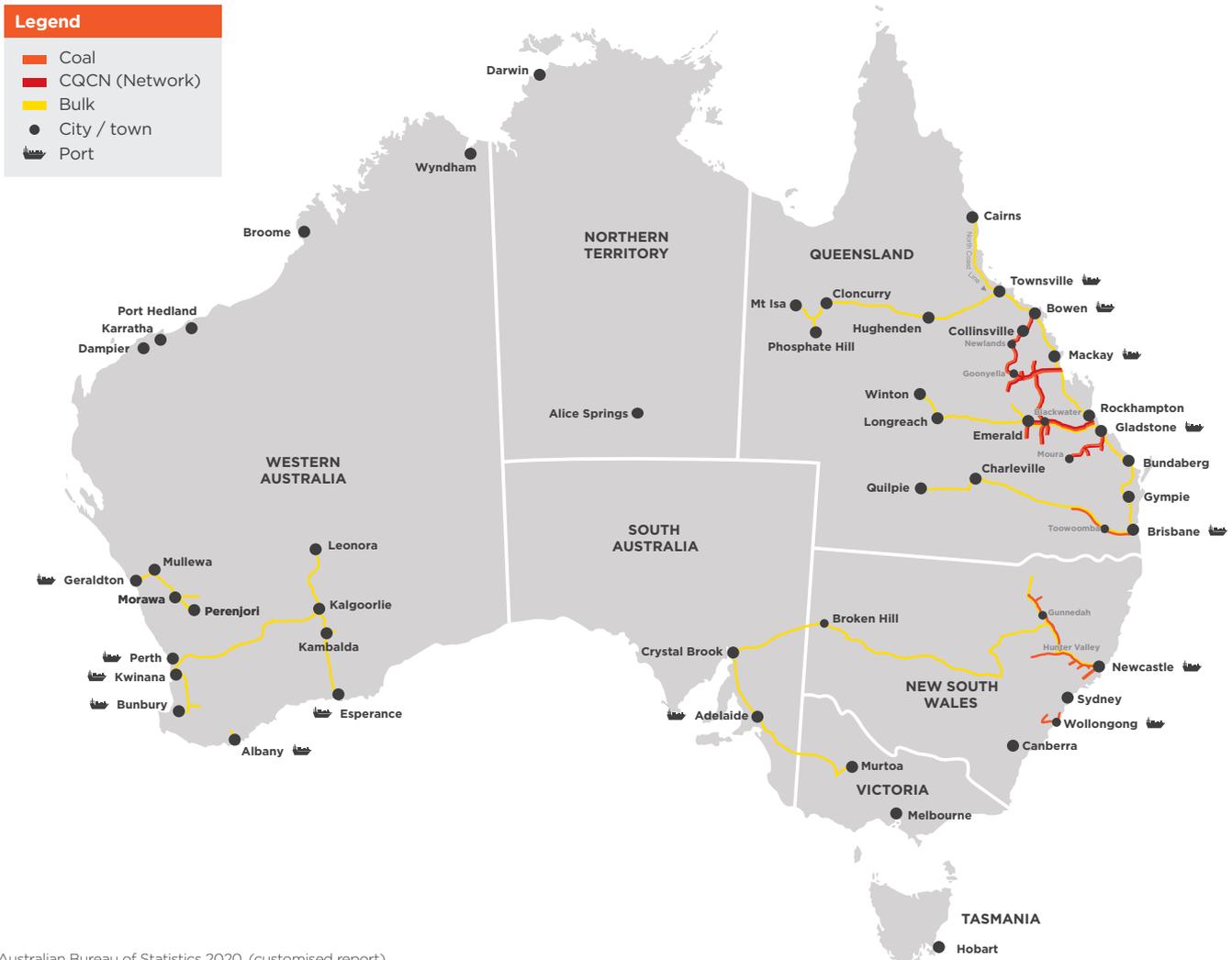
## Coal

Our Coal business provides a critical service to Australia's \$55 billion<sup>2</sup> export coal industry, the nation's second largest source of export revenue in FY2020. Through this business, we employ more than 1,800 people, with a large majority of

these employees living and working in regional communities in Queensland and New South Wales. The Coal business has a large fleet of locomotives and wagons, with total assets in excess of \$3 billion.

As a supply chain partner for our customers, we transported 214 million tonnes of metallurgical and thermal coal in FY2020, connecting mines in the Newlands, Goonyella, Blackwater, Moura and West Moreton systems in Queensland, and the Hunter Valley and Illawarra coal systems in New South Wales, with domestic customers and coal export terminals. We haul around half of Australia's export coal volume. Approximately 10% of the coal we haul is for domestic use, contributing to Australia's energy generation.

Figure 1 - Aurizon's operations



2 Australian Bureau of Statistics 2020, (customised report).

**Bulk**

Our Bulk business includes haulage of a range of bulk commodities, such as iron ore, bauxite, alumina, base metals, grain and livestock. During FY2020, our Bulk business delivered 48 million tonnes of commodities. The business also provides supply chain services to customers, including ballast cleaning, hook-and-pull, and handling and stevedoring services.

In Queensland, we service the North West Minerals Province from Mount Isa to the Port of Townsville, as well as the central and south-west regions of the state. The acquisition of Townsville Bulk Storage and Handling (renamed Aurizon Port Services) during FY2020 has expanded our supply chain capability in North Queensland. To support Western Australia's strong export industry, we deliver our customers' products to the ports of Geraldton, Esperance, Fremantle, Kwinana, Bunbury and Albany.

**Network**

We operate and manage the CQCN under a 99-year lease arrangement with the Queensland Government. The CQCN connects over 40 mines to five export terminals, as well as to domestic customers (see figure 2).

The CQCN is a critical part of the supply chain for Queensland's coal industry and delivers around half of all global seaborne export metallurgical coal. This 2,670-kilometre multi-user track network comprises four major coal systems: Newlands, Goonyella, Blackwater, and Moura. The Goonyella Abbot Point Expansion (GAPE) is the connecting system 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). Because the network is a regulated asset, network access charges are approved by the QCA at a level designed to compensate the business and shareholders adequately, reflective of the risk environment in which we operate and to ensure safe and efficient operations.

Together, our Coal and Bulk haulage businesses are referred to as 'above rail', while our Network business is referred to as 'below rail'.

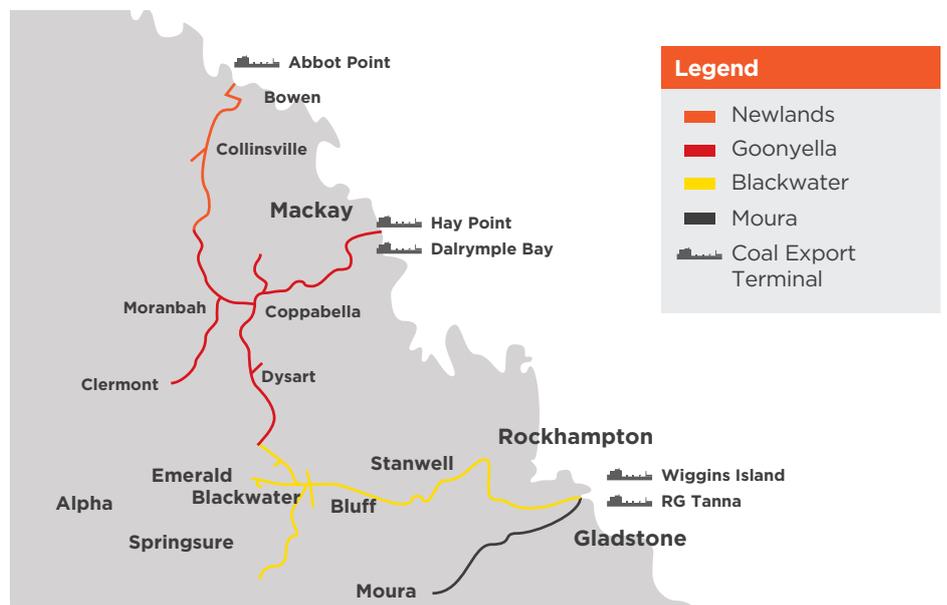


A loaded Bauxite train in Western Australia



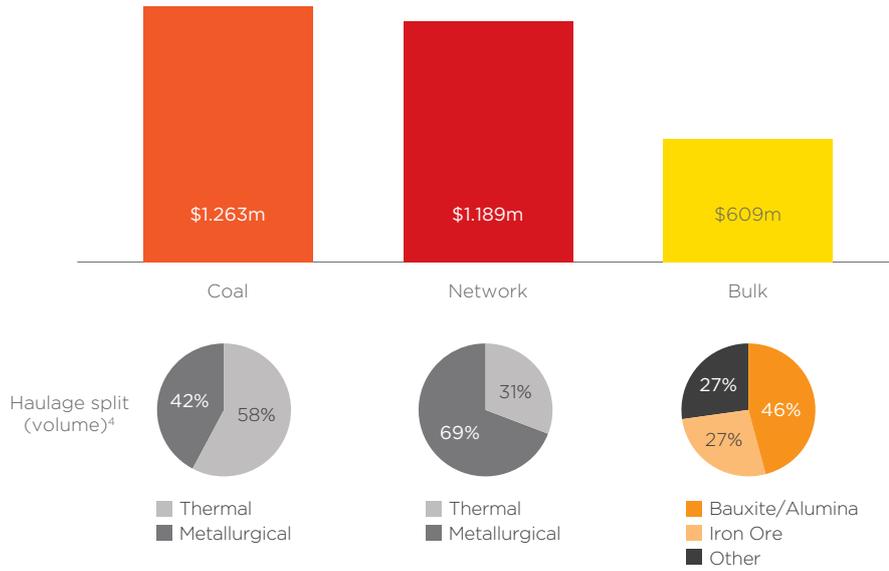
Loading of a cattle train in Julago, Townsville

**Figure 2 – Aurizon's Central Queensland Coal Network**



As shown in figure 3, approximately 80% of our revenue relates to coal (Network and Coal businesses), with our Bulk business contributing around 20%.

Figure 3 - Aurizon's FY2020 revenue<sup>3</sup> by major segment



### Our strategy

Our strategy is defined by our purpose, vision and values. Our values are the behavioural principles that underpin how we deliver safely and improve the business every day. Activities that are linked to our values are identified throughout this report.

Our three strategic levers (*Optimise, Excel, Extend*) continue to provide a framework to guide the short- and long-term focus areas for our business, aligned with these goals (see figure 4).

Figure 4 - Aurizon's Strategy in Action



<sup>3</sup> FY2020 Revenue: Coal (Total revenue less track access), Network (Total revenue), Bulk (Total revenue).

<sup>4</sup> Haulage split by volume is based on Aurizon analysis.

**FY2020 overview**

We are focused on strengthening our core business primarily through *Optimise* and *Excel* programs and initiatives. In FY2020, we have delivered several key milestones, for example, we have:

- Substantially de-risked the near-term coal contract book, with only 13% of contracted volumes expiring in the next 3 years, and 58% having a duration of greater than 7 years (an increase of 9 percentage points against FY2019).
- Continued the implementation of our Access Undertaking (UT5), delivering greater commercial and operational certainty to our Network customers.
- Continued to progress our Precision Railroading program in the Moura and Blackwater corridors, which will raise productivity and increase capacity across our CQC operations.
- Completed a sale of our rail grinding business.
- Implemented our optimised legal and capital structure to enable greater capital efficiency and increase the funding capacity in our above rail operations.
- Completed a \$1.3 billion debt refinancing, and issued a \$500 million Network bond, providing significant liquidity and funding certainty during the COVID-19 crisis, with no debt maturities until 2023.

We continuously monitor our execution against our strategy, our long-term goals and external factors, and adjust our focus and initiatives in our strategic levers



accordingly. A key example is our Bulk business, which has executed a strong turnaround from an Earnings Before Interest and Taxes (EBIT) loss of \$14 million in FY2017, to a \$90 million EBIT contribution in FY2020. We are now well advanced in switching Bulk's focus from transformation to growth, so we can better meet the evolving needs of our customers and the markets we serve.

Beyond Bulk, we are continually scanning the market for opportunities to grow and enhance our business, including exploring investments that enhance our core

operations and supply chains to be more efficient for our customers.

**How we create stakeholder value**

Through our business model, we create tangible and sustainable value for our primary stakeholders, including our employees, investors, customers, and communities. Table 1 outlines the value created in FY2020.

**Table 1 – Aurizon's value chain**

PRIMARY STAKEHOLDERS	HOW AURIZON CREATES VALUE	VALUE CREATED IN FY2020
<b>Investors</b>	Our integrated business model provides a defensive stream of earnings from our regulated track infrastructure (the CQC), while our rail haulage business is largely leveraged to Australia's metallurgical and thermal coal exports and other bulk commodities.	<ul style="list-style-type: none"> <li>➤ \$514 million has been returned to investors through dividends.</li> <li>➤ \$400 million buyback completed, increasing shareholders' effective interest by approximately 4%.</li> </ul>
<b>Customers</b>	We generate business for our suppliers and convert their inputs into reliable, safe and efficient supply chain solutions for our customers.	<ul style="list-style-type: none"> <li>➤ 262 million tonnes of bulk commodities transported at an estimated value of over \$30 billion for our customers<sup>5</sup>.</li> </ul>
<b>Employees</b>	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 style="list-style-type: none"> <li>➤ More than 4,900 people employed.</li> <li>➤ \$792 million in wages and benefits paid.</li> </ul>
<b>Community</b>	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 style="list-style-type: none"> <li>➤ More than 80% of our employees reside in regional areas.</li> <li>➤ \$408 million in taxes collected and paid<sup>6</sup>.</li> <li>➤ \$1.3 billion spent with suppliers.</li> </ul>

<sup>5</sup> Estimated value of customers' product, as calculated by Aurizon.  
<sup>6</sup> Excludes PAYG income taxes included in wages and benefits paid.

# How we operate

## Our approach to sustainability

### Our approach to reporting

We keep stakeholders informed of our corporate governance and financial performance via announcements to the Australian Securities Exchange (ASX) and our website. Investors can access copies of announcements to the ASX, notices of meetings, annual reports, policies, investor presentations, webcasts, and transcripts of those presentations on our website.

In addition to the above disclosures, we take a direct approach to reporting environmental, social and governance (ESG) disclosures to stakeholders with the publication of our annual Sustainability Report. This report is prepared with reference to the Global Reporting Initiative's (GRI) standards to provide investors with comparable information relating to ESG performance. Our approach considers the GRI's principles for defining report content that cover stakeholder inclusiveness, sustainability context, materiality and completeness.

We recognise that our climate change disclosures are one of the key interests to stakeholders. Since 2017, we have aligned our climate change-related disclosures to the Task Force on Climate-related Financial Disclosures (TCFD) recommended by the Financial Stability Board<sup>7</sup>. This framework enables consistent climate-related financial

risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders. Our response to climate-related risks is outlined within the *Governance and risk* chapter of this report. In addition to the Sustainability Report, in 2020 we will publish our Climate Strategy and Action Plan that will communicate our plans to decarbonise our operations and provide direction for our long-term climate change strategy.

### External participation and recognition

With a focus on direct disclosures to stakeholders, we take a selective approach to participation in external initiatives. With an estimated 600 ESG ratings globally<sup>8</sup>, we consider each opportunity for participation with a view to actively participate only where such initiatives significantly add value for our stakeholders.

As at June 2020, Aurizon actively participates in the FTSE4Good Index Series, MSCI, and Sustainalytics ESG Ratings<sup>9</sup>.

In August 2019, Aurizon maintained a 'Leading' rating for the fifth consecutive year by the Australian Council of Superannuation Investors (ACSI) for corporate sustainability reporting in Australia<sup>10</sup>. Having received this rating for four or more consecutive years, Aurizon has again been considered a 'Leader' by ACSI.

### Material priorities and relevant stakeholders

Understanding our material impacts is necessary for developing our strategy and operating sustainably. Addressing these impacts is key in creating sustainable value for our stakeholders.

We strive to ensure that our Sustainability Report reflects significant economic, environmental and social priorities that may influence strategic decision-making. As such, we continuously assess the material issues that affect our business, our stakeholders, and our operating environment.

As part of our process this year, we engaged an independent party to engage directly with a selection of our key stakeholders (see figure 5) to determine their perspectives on the most important sustainability issues for our business to manage. Our engagement with stakeholders confirmed that the existing categories of material priorities that we have been reporting against remain inclusive of the key issues identified by stakeholders.

Aligned with our existing reporting, the engagement highlighted our stakeholders' continued interest in themes such as:

- Our position on climate change, our strategy for setting emissions reduction targets, and our ongoing resilience in a global low-carbon economy.
- Our strategy for regional economic impact, including investment through local spend, local procurement, and opportunities for community employment.
- Our approach to promoting safety culture in the way we manage our safety performance across our operations and supply chain.
- Our approach to promoting supply chain transparency and ethical procurement.

These issues continue to be considered within report content, informed by our material priorities, as outlined in table 2. These priorities are listed in order of appearance in this report.

## United Nations Sustainable Development Goals (SDG)

The United Nations General Assembly's 2030 Agenda for Sustainable Development includes the Sustainable Development Goals (SDGs)<sup>11</sup>. The 17 goals and related targets act to address significant ESG issues across the globe. We began mapping our operations against the SDGs in our 2018 Sustainability Report. Acknowledging that our business contributes to some SDGs more than others, we have continued to focus on the five goals that are most aligned to our business, our values and our operational environment: Good Health and Wellbeing (Goal 3), Gender Equality (Goal 5), Decent Work and Economic Growth (Goal 8), Industry, Innovation and Infrastructure (Goal 9), and Climate Action (Goal 13). The links between these SDGs and our business activities are identified throughout this report.



<sup>7</sup> Financial Stability Board, *Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures*, June 2017.

<sup>8</sup> SustainAbility: *Rate the Raters 2020: Investor Survey and Interview Results*, March 2020.

<sup>9</sup> In addition, Aurizon also participates in the Workplace Gender Equality Agency (WGEA) survey, which is required to be completed each year under the *Workplace Gender Equality Act 2012*.

<sup>10</sup> Australian Council of Superannuation Investors, *ESG reporting by the ASX200*. Available: <https://acsi.org.au/wp-content/uploads/2020/02/2019-ACSI-ESG-Report-FINAL.pdf>.

<sup>11</sup> United Nations *Sustainable Development Goals Knowledge Platform*. Available: <https://sustainabledevelopment.un.org/>.

Figure 5 – Key stakeholders

Primary stakeholders		Active interests				
Employees	Investors	Industry analysts	Rail network providers	Suppliers	Financiers	Non-government organisations
Customers	Communities	Governments	Regulators	Unions	Joint venture partners	Industry groups

Table 2 – Material priorities

MATERIAL PRIORITY	DESCRIPTION	CHAPTER
Business model	How the structure of our business supports sustainable business practices and enables us to operate efficiently and effectively. How we continuously improve through technology advancements, where possible, to reduce resource use, increase productivity, and ultimately create value for the benefit of customers and shareholders.	<ul style="list-style-type: none"> <li>➤ <i>About Aurizon</i></li> <li>➤ <i>How we operate</i></li> </ul>
Customers	How we ensure that we are the first choice for our customers' bulk commodity transport solutions by delivering innovative, efficient and reliable services to help our customers compete in global commodity markets. How we aim to maintain collaborative engagement with our customers to provide competitive solutions.	<ul style="list-style-type: none"> <li>➤ <i>How we operate</i></li> </ul>
Regulation and policy	How we continue to manage our operations and deliver value through regulatory processes, and advocate for policy improvements in areas such as energy and emissions policies, and rail versus road access pricing.	<ul style="list-style-type: none"> <li>➤ <i>How we operate</i></li> </ul>
Business integrity and transparency	How we operate with integrity and conduct business ethically through our governance structure and Code of Conduct. How we remain transparent in our interactions with internal and external stakeholders. How we promote transparency and sustainable procurement practices with our direct suppliers across our supply chain.	<ul style="list-style-type: none"> <li>➤ <i>How we operate</i></li> <li>➤ <i>Governance and risk</i></li> </ul>
Governance and risk	How our Board provides oversight and strategic direction to sustainability through our clear governance structure. How we manage risk within our strategic framework, including identification and mitigation of contemporary and emerging risks, and low-likelihood, high-impact risks.	<ul style="list-style-type: none"> <li>➤ <i>Governance and risk</i></li> </ul>
Climate change	How we manage the climate-related risks to our business in alignment with the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) recommendations, including our efforts towards decarbonisation of the freight supply chain.	<ul style="list-style-type: none"> <li>➤ <i>Governance and risk</i></li> <li>➤ <i>Climate change and environment</i></li> </ul>
Safety	How we manage the safety and mental wellbeing of our employees, contractors and communities, through promoting safety culture, avoiding workplace fatalities and injuries, and ensuring public safety, recognising the key role that our safety performance plays in building and maintaining trust with our stakeholders.	<ul style="list-style-type: none"> <li>➤ <i>Safety</i></li> </ul>
Future of coal	How we continually monitor and evaluate the demand for and supply of Australian coal and key market drivers to test the resilience of our business under divergent and plausible long-term scenarios, which in turn are used to inform strategic planning.	<ul style="list-style-type: none"> <li>➤ <i>Future of coal</i></li> </ul>
Environment	How we effectively manage our environmental performance by maintaining clean air, avoiding or offsetting impacts on native biodiversity, and minimising waste to landfill.	<ul style="list-style-type: none"> <li>➤ <i>Climate change and environment</i></li> </ul>
People	How we promote a diverse and inclusive workforce across all management levels, strengthen organisational capability and talent acquisition and retention, career mentoring, and invest in knowledge transfer from long-standing employees.	<ul style="list-style-type: none"> <li>➤ <i>People</i></li> </ul>
Community	How we focus on growing regional Australia through our economic contributions and local procurement, and our role in long-term community investment. How we manage our impacts on the communities in which we operate through prioritising community employment opportunities and transparent and collaborative community engagement.	<ul style="list-style-type: none"> <li>➤ <i>Community</i></li> </ul>

## Aurizon's response to COVID-19

In response to the COVID-19 pandemic, we put several initiatives in place to ensure the safety of our employees, communities and customers, while maintaining the continuity of our operations. Recognising the ongoing health challenge, we continue to monitor and adjust our response, guided by advice from the Australian Government and respective state governments through this period of uncertainty.

### Crisis Management Team

In response to the fast-developing situation and the potential impact on our operations, including demand for our customers' products, the Crisis Management Team (CMT) was assembled in early March 2020. This team included the Managing Director & CEO, Executive Committee, Chief Medical Officer, and Head of Risk & Assurance.

The team is responsible for assessing the threat to our operations, and developing appropriate and coordinated responses to ensure the continued reliability of the supply chain, aligned with community and customer expectations. Our Market Intelligence team developed a dashboard identifying key, short-term market indicators relating to commodity demand, enabling scenario planning for our business units.

The CMT has also guided contingency planning in key areas, such as employee health and wellbeing, supply and

procurement, information technology, and core corporate processes.

### Managing the safety of our workforce and communities

In addition to increased staff awareness on personal hygiene and enhanced cleaning protocols, early decisions by the CMT included:

- Revising workplace protocols for business continuity, including separation of business-critical teams such as Deployment, Critical Train Control, and Payroll
- Revising rosters, schedules and labour contingency plans
- Ceasing all non-essential travel and training courses
- Bringing forward inventory procurement should supply chains be disrupted
- Transitioning to work from home arrangements for employees not in operational or business-critical roles
- Establishing a COVID-19 leave entitlement of 10 days paid leave to support impacted employees
- Establishing a COVID-19 hotline (24/7) for our employees.

A significant change to our work environment altered the nature and volume of work for many employees during FY2020. Employees who were not in operational or business-critical roles transitioned to working from home arrangements. At a corporate level, our previous move to a flexible working

space meant that our IT infrastructure was already set up for remote working, enabling the shutdown of our Brisbane office with little impact. Although the office reopened at reduced capacity, the majority of our employees continue to work remotely. In developing working from home rosters, we have considered adopting a sustainable approach to flexible working that can be maintained longer term. We will continue to enhance flexible ways of working at Aurizon in FY2021.

Recognising this changing environment, we also extended a range of resources to support the mental health and wellbeing of our employees. Aurizon's Mental Health Peer Support Group is a new network of Aurizon employees who are qualified Mental Health First Aiders and can confidently support their peers in times of need. Our Health & Wellbeing team also rolled out a series of webinars designed to inform and support employees.

With these measures, we are supporting social distancing, and safely contributing to proactive steps that help contain the spread of the virus, maintain the safety and wellbeing of our workforce, and provide continuity of service for our customers in regional communities across Australia. We recognise the situation continues to evolve, and we will continue to learn and adapt our approach as developments occur.

Our priority remains the safety, health and wellbeing of our employees.

## Support for COVID-19 vaccine development

In April 2020, we announced a donation of \$250,000 to help in the development of a COVID-19 vaccine by the University of Queensland (UQ) using its breakthrough Molecular Clamp technology.

The work is being done with research partners - the Doherty Institute and the CSIRO - and aimed at fast-tracking a vaccine for the virus. Our funding will help the University bring on extra researchers, equipment and resources, and expand partnerships with other globally recognised institutions on this important work.



Image credit: University of Queensland



Social distancing at our operations in NSW



Workplace hand sanitiser station

### Supporting regional communities through COVID-19

We continued to work with our customers to offer flexible services throughout the COVID-19 pandemic. Working with our Bulk customer Linfox Logistics, we continued to safely deliver food and other essential goods for regional Queenslanders and thousands of other Australians. Additional capacity was added in March and April, lifting the number of weekly intermodal services by more than 20 per cent above normal levels to meet surging consumer demand.

The increased collaboration with Linfox came after the two companies celebrated one year since Linfox's successful acquisition of our Queensland Intermodal Business, incorporating the transfer of employees, freight forwarding, pick-up and delivery assets as well as rail wagons to Linfox.



Loading Linfox freight on to an Aurizon train

**Our customers**

We strive to be the first choice for our customers' bulk commodity transport solutions through the delivery of efficient, reliable and flexible services, while always maintaining our focus on safety. Our ability to design, build and operate rail infrastructure enables us to effectively manage our customers' supply chains and interfaces between port and mine. We provide technological innovation and significant haulage experience for our customers each day to support the delivery of commodities.



**We strive to be the first choice for customers.**

Contract updates from our Bulk business during the financial year include:

- South32 Cannington: Executed an 11-year contract extension out to 2032 for services on the Mt Isa corridor
- Aurizon Port Services: Acquired Townsville Bulk Storage and Handling to extend supply chain services for Bulk customers in North Queensland
- Incitec Pivot: New contract commenced in January 2020 for the haulage of acid and fertiliser on the Mt Isa corridor
- BGC: New contract commenced in June 2020 hauling cement products on the Kalgoorlie Freighter
- Rio Tinto: The commencement of the contract for the operation and maintenance of Rio's ballast cleaning machine on its Western Australian Pilbara network in February 2020
- Mineral Resources: The commencement of the contract for the lease of rollingstock, provision of mainline crew and Esperance yard operations during FY2020.

In addition to commodities needed to build infrastructure, exposure to growth markets of fertilisers and batteries will unlock opportunities for our Bulk business. For batteries, the global uptake of electric vehicles (EVs) is expected to drive demand for commodities such as nickel, cobalt, copper and lithium.

This is supported by State Government-led initiatives. In December 2019, the Queensland Government announced a \$13.8 million *New Economy Minerals Initiative* to encourage exploration for minerals, such as copper, nickel and rare earth minerals, used in emerging technologies, including EVs and renewable energy products<sup>12</sup>. Western Australia's *Future Battery Industry Strategy* also outlines the state's plans to become a globally competitive producer and exporter of battery minerals through more exploration, innovation and investment<sup>13</sup>.

**Above rail portfolio**

Our Bulk business has made strong progress on its turnaround plan with a focus on continuous improvement. Our goal includes a focus on growth markets, strategic partnerships, and better operational performance.

**Aurizon invests in North Queensland**

In March 2020, we completed the acquisition of Townsville Bulk Storage and Handling, which operates bulk transport, handling and stevedoring services in North Queensland. The acquisition included all assets, equipment, existing customer contracts and long-term leases at the Port of Townsville, with bulk storage warehouses and handling facilities adjacent to Aurizon-owned rail lines. The business has been rebranded as Aurizon Port Services.

The acquisition provides our Bulk business with the opportunity to extend supply chain services beyond our core rail capability. Aurizon Port Services will be complementary to our existing operations, because it sits at the end of the Mount Isa rail line connecting the Port of Townsville to the commodity-rich North West Minerals Province.

Most importantly, we have been joined by over 100 employees with specialist port and transport capability who form the basis of Aurizon Port Services. We are delighted to have a team of passionate and highly skilled employees join our Bulk business.



Port of Townsville

<sup>12</sup> Queensland Government Department of Natural Resources, Mines and Energy: *New Economy Minerals*. Available: <https://www.dnrme.qld.gov.au/mining-resources/initiatives/new-economy-minerals>.

<sup>13</sup> Government of Western Australia Department of Jobs, Tourism, Science and Innovation: *Future Battery Industry Strategy*. Available: [https://www.jtisi.wa.gov.au/docs/default-source/default-document-library/future-battery-industry-strategy-wa-0119.pdf?sfvrsn=ccc7731c\\_6](https://www.jtisi.wa.gov.au/docs/default-source/default-document-library/future-battery-industry-strategy-wa-0119.pdf?sfvrsn=ccc7731c_6).

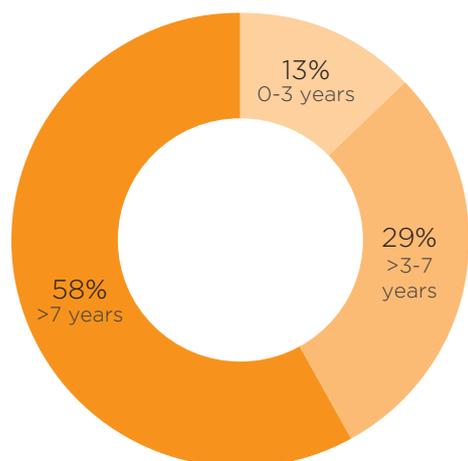
Our Coal business continues to provide a customer-aligned service. We are investing in our fleet and technology with strategic investments in asset performance and utilisation. The Coal business’s engagement with current and prospective customers on innovative commercial and operational solutions continues to support evolving customer needs. Our priority is the continuation of operational efficiency improvements supporting contracted volume growth.

During FY2020, we had the following updates for our Coal business:

- BlueScope: Commenced railings in April 2020 installing Aurizon into the Illawarra region
- Peabody: Commenced railings in July across the CQCN and NSW under new contracts
- Coronado: Contract variation with additional volumes and term extension for the Curragh mine.

Our contract portfolio forms an important part of our efforts to operate our business sustainably. Our above rail contracts are long-term, particularly in our Coal business, with 58% of the portfolio having a remaining contract life of >7 years (see figure 6). The long-term nature of our 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.

**Figure 6 – Coal contract portfolio expiry profile (as at 30 June 2020)<sup>14</sup>**



<sup>14</sup> Announced contract tonnages may not necessarily align with current contract tonnages. Incorporates contract extension options where applicable. Includes immaterial variations to volume/term not announced to market.

<sup>15</sup> United Nations, *Universal Declaration of Human Rights*. Available: <https://www.un.org/en/universal-declaration-human-rights/>.

### Our suppliers

Our suppliers play a critical role in creating value and enabling a sustainable future for our customers, investors, employees and communities. As such, we want to engage with like-minded businesses.

#### Working sustainably with our suppliers

We understand the importance of managing ESG considerations with our suppliers. During 2020, we published a Supplier Code of Conduct that outlines our commitment to five key principles: Safety; Business Integrity; Labour and Human Rights; Communities; and Environment. At a minimum, all suppliers to Aurizon will agree to our Supplier Code of Conduct when onboarded to our systems. If the supplier is onboarded as a result of a formal sourcing process, they will also be assessed against these five key principles. The Code of Conduct is available in the supplier portal on our website.

#### Modern slavery and human rights

Given that our business forms a key part of our customers’ supply chains, we recognise the importance of responsible procurement, not only for our business, but for our customers’ operations as well.

We commit to supporting and respecting the protection of internationally proclaimed human rights, as set out in the *Universal Declaration of Human Rights*<sup>15</sup> and *The Ten Principles of the United Nations Global Compact*<sup>16</sup>. In accordance with legislation, we have published our first *Modern Slavery Statement* in 2020, which describes the modern slavery risks in our operations and supply chains, and the actions taken to address those risks. A copy of the statement can be found on our website.

We have adopted a principle-based corporate governance framework designed to promote responsible management and conduct of our Company across a range of disciplines.

We understand our responsibility to respect human rights and commit to providing transparency on our slavery risks and how they are being addressed.

<sup>16</sup> United Nations Global Compact, *The Ten Principles of the UN Global Compact*. Available: <https://www.unglobalcompact.org/what-is-gc/mission/principles>.

<sup>17</sup> Supply Nation is an organisation that works to connect verified Indigenous businesses with paid corporate, government and not-for-profit members in every state and territory in Australia. Available: <https://supplynation.org.au/>.

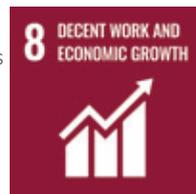
### Local procurement

Our supplier relationships extend from local operators through to international suppliers.

This gives us the flexibility to match supplier solutions to the specific needs of operational requirements or a project. Through local procurement, we can generate employment opportunities and provide economic benefits at all levels of the community.

Inclusion at Aurizon goes beyond what we do internally as an organisation. Our ability to create greater social value is reflective of who we are. Our operations primarily span Queensland, New South Wales and Western Australia and, given the regional nature of our business, we recognise the importance of contributing as partners in the communities where we operate. In FY2020, we spent an estimated \$1.3 billion with suppliers, a large percentage of which was in regional Australia. See our *Community* chapter for more information.

Increasing our spending with Indigenous businesses is one way that we can create greater social value impact and support for the communities in which we operate. As a part of our commitment within our Reconciliation Action Plan (RAP), we have committed to increase our procurement spend year-on-year (from a nominated baseline of approximately \$2 million) with Aboriginal and Torres Strait Islander-owned businesses in order to improve economic outcomes for those organisations and Indigenous Australians. We achieved this in FY2020 with an overall spend of \$5.38 million, an increase of \$1.29 million from FY2019. Maintaining a membership with Supply Nation<sup>17</sup>, which provides us with access to Australia’s leading database of verified Indigenous businesses, is key to allowing us to achieve this commitment.



### Our future with technology

We are continuously improving our operations by developing innovative technologies for the benefit of employees, customers and shareholders. We deliver these prioritised technology investments in conjunction with people, process, and data change.



### Application modernisations (AppsMod)

AppsMod is a multi-year program to decommission more than 10 legacy systems and replace them with three platforms that can be used on multiple devices. The program will streamline and standardise business processes, introduce new functionality, and improve the visibility of real-time data and information. Our employees will be better able to make informed decisions and do their work more effectively.

We will also deliver capability to make more information directly available to our customers and network providers, so that we build the best customer experience within the rail industry. By removing duplication of effort and inefficient processes, we will increase use of assets and reduce operational losses. We will also be able to reduce costs associated with supporting multiple systems.

We have already seen benefits of this program through the delivery of key features in the first half of 2020, with the remaining functions to be released incrementally over the coming years.

### TrainHealth and TrainGuard

We continue to work on strategic technology investments designed to improve the safety and productivity of our rollingstock and people.

#### TrainHealth

TrainHealth refers to a leading-edge technology designed to be fitted to the Siemens electric locomotive fleet in the CQCN. It enables real-time monitoring of locomotive performance, making train operations safer and more efficient.

The technology monitors the condition of critical locomotive components, engine performance and train handling. Access to existing data sources, such as the event recorder, has been augmented with access to other data channels providing key indicators of locomotive health.

TrainHealth enables real-time access to this data to help improve locomotive reliability, problem diagnosis, driving techniques and operational safety.

TrainHealth is initially being installed across the Siemens electric locomotive fleet in the CQCN, with installation expected to be completed by December 2020.

#### TrainGuard

TrainGuard is a platform utilising ETCS (European Train Control System) technology to support driver decision making, particularly in relation to speed control and signal enforcement. TrainGuard will support safer and more efficient train operations with fewer rail process safety issues and improved train handling. TrainGuard is also a pathway to expanding our driver-only operations in Central Queensland. Operational demonstration of TrainGuard was completed as planned in FY2020. Following this, the business decision to proceed with deployment of TrainGuard across Blackwater and Goonyella has been communicated to stakeholders. TrainGuard's next phase is deployment on the Blackwater mainline (Callemondah to Bluff) in 2021.

### Regulation and policy

Transport infrastructure and operations are subject to policy positions and regulation from governments that significantly affect investment and the current and future use and efficiency of supply chains. We contribute to policy development processes, and engage through industry associations, including in the following areas.

#### Final regulatory approval for the Revised UT5 Access Undertaking

In December 2019, the Queensland Competition Authority (QCA) approved Aurizon Network's Revised UT5 Draft Amending Access Undertaking (Revised UT5 Access Undertaking) for the CQCN, providing long-term commercial and operational certainty for users of the CQCN. As a result of the landmark agreement reached with customers, we now have a regulatory model that delivers long-term investment certainty and promotes productivity and performance in the Queensland coal supply chain.

The key elements of the Revised UT5 Access Undertaking include:

- Extending the term of the Access Undertaking to 10 years, from 1 July 2017 to 30 June 2027, enabling improved long-term investment decisions for the CQCN



Aurizon employees in Callemondah in front of an ETCS-fitted locomotive (image taken in October 2019)

- Greater customer involvement in assessing and pre-approving strategies and annual budgets for asset renewals and replacement (capital expenditure), and maintenance expenditure
- The ability for operating cost efficiencies to be retained by our business
- An improved return that better reflects the risks of owning and operating the CQCN
- A rebate mechanism to customers if our business performs below target levels.

The QCA's approval of the Revised UT5 Access Undertaking meant that the Weighted Average Cost of Capital (WACC) that we earn increased from 5.7% to 5.9%; this increase was backdated to 3 May 2019. It will increase to 6.3% upon completion of the independent capacity assessment of the CQCN. If a capacity deficit is identified, the WACC increase to 6.3% will start when we notify relevant parties of proposed options to address that deficit.

Network's focus is now on the effective implementation of the reforms in UT5 and on continued improvement and efficiency gains. Importantly, the new body to independently assess Network capacity, Coal Network Capacity Co Pty Ltd, has been established, and work on this assessment has begun. As part of the UT5 process, we agreed that the CQCN would remain a declared service and be subject to regulation under the *Queensland Competition Authority Act 1997* for the next 20 years.

### Energy policy

As one of the largest energy consumers in Queensland, we operate the only electrified heavy-haul rail network in Australia. Reliable and affordable electricity is important for our business and our customers. We have consistently advocated for the competitiveness of electric traction and have made substantial investments for improvement.

However, the realised efficiency and environmental benefits of electric traction over the medium to longer term are dependent on clear and effective policies from the Australian and state governments. Over the last two years, policy actions aimed at reducing the price of electricity and improving the reliability of supply are welcome. Lowering electricity costs reduces the risk of the substitution of electric traction locomotives by diesel locomotives.

At the same time, a clear and consistent long-term emissions reduction policy is also

very important. Transport infrastructure and rail supply chain assets are underpinned by investments with timeframes of up to 30 years. The absence of clear, long-term emissions reduction policy settings adds to the uncertainty and difficulty for the private sector when making investment decisions. This may mean that the opportunity for more innovation to maximise future benefits of new investments is not fully realised.

It is also important that current and short-term emissions reduction policies, including the Safeguard Mechanism<sup>18</sup> and the Climate Solutions Fund<sup>19</sup>, recognise the substantial benefits of electric traction, and are flexible and responsive in allowing access to emissions reduction incentive arrangements for freight operators that use electric traction. We continue to contribute to consultation processes and to engage directly with the Australian and state governments on the need for more policy changes, including improvements to the Safeguard Mechanism.

### Rail freight policy

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

#### Benefits of rail freight

- **Environment:** Road freight produces 16 times as much carbon pollution as 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, reducing congestion and improving safety.
- **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.

Despite these important benefits, many bulk freight products, including some resources, processed minerals and agricultural freight, have increasingly been transported by heavy vehicles, even where there is rail transport available.

The reasons for this shift in freight from rail to road include different policy and

regulatory approaches to rail freight infrastructure and operations compared to road. This means that Aurizon and other rail freight operators are placed at a disadvantage when it comes to costs, infrastructure provision and regulation compared to truck operators, particularly on key regional freight corridors where rail and road compete to transport the same products.

Policy changes are needed to address a number of substantial disadvantages for rail freight compared to road, including inequity in infrastructure costs, first-mile barriers, including costly or inefficient links between production sites and rail infrastructure, and an inconsistent focus on enabling improvements and investment in the performance and competitiveness of rail freight.

Informed by these challenges, we continue to focus our policy development and engagement efforts on improving the performance and the use of rail, considering the specific circumstances and needs of different freight corridors.

This includes advocacy for:

- Targeted infrastructure investments or development incentives relating to:
  - Links between rail networks and ports, including the potential for more capacity and/or more efficient rail freight operations at ports
  - Incentives for freight customers or potential future freight customers to choose rail freight, including for the development of new production facilities.
- Working with ports to identify actions they could take to increase freight carried by rail to ports, informed by actions some have taken, including the Fremantle Port.
- Prioritising improvements to both national and, where applicable, state-based regulatory frameworks and procedures to enable more productivity and innovation in the rail freight industry.
  - Changing the remit of regulatory agencies to include improvements to rail freight productivity as a core objective.

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

18 The Safeguard Mechanism provides a framework for Australia's largest emitters to keep their emissions at or below emissions baselines set by the Clean Energy Regulator.

19 Under the Australian Government's Climate Solutions Fund (previously the Emissions Reduction Fund), we, along with other large energy emitters, are required to keep emissions within baseline levels as part of the Safeguard Mechanism.

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

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

# Governance and risk

At Aurizon, we manage risk to enhance opportunities and reduce threats to sustain shareholder value. 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. Our Board is ultimately responsible for risk management.

Figure 7 - Aurizon's committee structure<sup>22</sup>



## Effective governance for sustainability

Our Board provides oversight and strategic direction to sustainability, and is supported by the Safety, Health and Environment (SHE) Committee. The SHE Committee includes several members of the Board, including the Chairman, and the Managing Director & Chief Executive Officer.

### Continuous improvement

In February 2019, the ASX released its 4<sup>th</sup> edition of the *Corporate Governance Principles and Recommendations* (Principles). We have reviewed our corporate governance practices against those new Principles and, as at the date of this report, are confident that our practices are compliant. We have adopted the Principles, as outlined in our *Corporate Governance Statement*, available on our website.

### Political engagement and contributions

Our Corporate Affairs team manages a program of regular engagement with the Australian and state governments, federal and state Members of Parliament (MPs), including opposition MPs, and ongoing engagement with local

governments. Corporate Affairs also supports ongoing engagement by Business Units with regulators. This engagement program was implemented as planned over the last financial year, and modified to use video and/or teleconference in response to COVID-19 restrictions.

We made no financial contributions to political parties during FY2020 nor participated in any corporate observer programs, policy forums or events conducted by political parties that involved payment.

### Industry association memberships

As a member of several industry associations, we participate in some government-industry forums alongside other companies. These memberships are held 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 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 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

Our Code of Conduct embodies what it means to work at Aurizon. We expect our employees to be fit for work, work safely, act professionally, be lawful, ethical and fair, and use our systems, equipment, property and tools appropriately.

All employees are made aware of the Code before employment and are required to complete online training modules annually to ensure a thorough understanding and continuous adherence.



**We have the courage to do the right thing.**

<sup>22</sup> Other Aurizon Committees not shown include the Nomination and Succession Committee, and the Remuneration and Human Resources Committee. For more information about our committee structures, see our FY2020 Annual Report.

We want to be known for how we treat each other and foster a working environment where we have a shared understanding of respectful behaviour, and our people feel empowered to stand up for each other. Our Code of Conduct has a strong link to our values of Safety, People, Integrity, Customer and Excellence, and we set expectations for our employees to speak up when our values are not demonstrated.

We promote our Whistleblower Hotline as a confidential avenue for employees to speak up. Our Whistleblower Policy, which has been updated to reflect the latest relevant legislation, details the protections that we provide whistleblowers.

We have a strict commitment to comply with laws and maintain the highest ethical standards throughout all of our business conduct. This includes strict compliance with Australia's *Criminal Code Act 1995* (Cth) (Criminal Code), Australia's state and territory legislation, and international anti-corruption and anti-bribery standards. A copy of our Code of Conduct, 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 promote a risk-aware culture with an emphasis on frontline accountability for effective risk management. The consideration of risk features heavily in our thinking, from framing our strategy through to informing decision-making. In early 2020, we refreshed our Enterprise Risk Management Framework and Appetite to encompass culture- and conduct-related risks, among others. This latest update ensures that we continue to consider and develop strategies to manage the full scope of risks our business faces.

We have also enhanced risk reporting provided to our Board and supporting Committees. This will better facilitate early identification and proactive management of emerging risks where the impacts and opportunities are continually evolving.

The global COVID-19 pandemic has served as a pertinent reminder of the importance of effective risk management. Throughout the crisis, our Risk Management team has played a central role in formulating and supporting

crisis management and business resilience. The primary focus of all key decision-making is the welfare of our people and continuity of services to our customers. In adapting to this new landscape, our Assurance planning and activities have pivoted focus to ensure critical enterprise controls remain effective and fit for purpose. For more information on our risk management during COVID-19, see our *How we operate* chapter.

## Contemporary and emerging risks

### Data privacy and cyber security

Reducing risk and promoting resilience is at the heart of our 2020 Cyber Security Strategy. The Strategy and associated Roadmap activities focus on defending critical systems from sophisticated attacks through frequent technical control improvements, implementation of stronger governance practices to improve internal collaboration, and business continuity planning for organisational preparedness in the event of a cyber security incident. Over the last 12 months, we maintained a close working relationship with the Australian Cyber Security Centre (ACSC) and has benefited from warnings and advisories provided by the Australian Government in relation to local and global threats experienced in our industry. These warnings and advisories are valuable input to Aurizon Cyber Security Team's daily operations and their rapid response to intrusion attempts.

There are no doubt highly sophisticated and motivated groups targeting Australian organisations more frequently and unfortunately some organisations have

experienced interruptions to their operations due to cyber security incidents. We monitor such events closely and investigate the tradecraft used by the threat actors. Our learnings and observations are then used to prioritise our internal Roadmap initiatives to maintain a strong control environment against real life threats.

More recently, our focus on building and maintaining resilient technology solutions enabled us to respond rapidly to business and environmental changes. We benefited from this during the COVID-19 pandemic with employees transitioning to work from home arrangements. Our scalable technical solutions, along with our processes, enabled users to work outside the office environment without compromising our cyber security posture. Where applicable, other controls were also used to manage potential risks resulting from changing business circumstances in supplier and partner organisations. See our *How we operate* chapter for more information on our approach during COVID-19.

### Modern slavery and human rights

We understand that modern slavery and human trafficking can occur in many forms. We are committed to operating responsibly and ensuring that we have robust standards and processes to minimise and address modern slavery risks. In accordance with legislation, we have published our first *Modern Slavery Statement* in 2020, which describes the modern slavery risks in our operations and supply chains, and the actions taken to address those risks. See our *How we operate* chapter for more information.



**Managing climate change risk**

Climate-related risks affect a wide range of industries globally, with financial implications. Although our business is exposed to transition and physical risks, we are also positioned to take advantage of climate-related opportunities.



Table 3 outlines our identification of and approach to mitigating climate-related risks.

Our Board has ultimate responsibility for our Company’s consideration of climate-related risk. It is guided by our SHE Committee and Audit, Governance and Risk Management Committee (AGRMC) as part of our risk framework and broader corporate strategy and planning.

**Task Force on Climate-related Financial Disclosures**

FY2020 was the fourth reporting period that we took a risk assessment approach using the Financial Stability Board’s Task Force on Climate-related Financial Disclosures (TCFD) recommendations.

In 2020, we will publish a *Climate Strategy and Action Plan* outlining our long-term strategies and associated actions to mitigate climate risk, and take advantage of climate-related opportunities, in line with TCFD.

**Climate-related risks and opportunities<sup>23</sup>**

- **Climate-related risks:** The Task Force on Climate-related Financial Disclosures (TCFD) divides climate-related risks into two major categories:
  - **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.
  - **Physical risks** stem from the direct impact of climate change on our physical environment — through, for example, resource availability, supply chain disruptions, or damage to assets from severe weather. These risks can be chronic or acute.
- **Climate-related opportunities:** Opportunities associated with climate change include the benefits from our efforts to mitigate and adapt, such as resource efficiency and cost savings, developing new products and services, accessing new markets, and building resilience along our supply chain.



<sup>23</sup> Financial Stability Board, *Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures*, June 2017.

Table 3 – Response to climate-related risks

RISK	DESCRIPTION	RISK TYPE	POTENTIAL IMPACT TO BUSINESS	STRATEGIC PLANNING, RISK MITIGATION AND OPPORTUNITIES	METRICS
<b>Thermal coal demand</b>	Demand for thermal coal is subject to energy policy and fuel-mix decisions driven by energy costs, energy security, and regulation of GHG emissions (including carbon pricing).	Transition: Market, Policy & Legal, and Technology <b>Risk level: High</b>	Approximately a third of our Network volumes and just over half of rail haulage volumes relate to continuing demand for thermal coal. <b>Time horizon: Medium- to long-term</b>	<ul style="list-style-type: none"> <li>Continue to undertake scenario analysis by examining and evaluating possible future events.</li> <li>Continue to compare our scenario analysis with a range of external projections.</li> <li>Continue to utilise scenario analysis to test the resilience of our fleet capacity, capital investments and customer contracts.</li> </ul>	<ul style="list-style-type: none"> <li>Coal demand and supply projections and scenario analysis (refer to our <i>Future of coal</i> chapter)</li> <li>Seaborne market demand</li> <li>Australian export volume</li> <li>Capital investment in Australian coal sector</li> <li>Fleet of coal-fired generation and steel capacity in coal import nations</li> <li>Global coal quality specifications</li> <li>Competitiveness of Australian coal supply</li> <li>Development of new Australian coal mines</li> </ul>
<b>Metallurgical coal demand</b>	Demand for metallurgical coal is subject to factors such as economic development, steel-intensive growth, method of steel production (including emerging lower carbon processes), import reliance, and regulation of GHG emissions (including carbon pricing).	Transition: Market, Policy & Legal, and Technology <b>Risk level: Low</b>	Approximately two-thirds of our Network volumes and just under half of rail haulage volumes relate to continuing demand for metallurgical coal. <b>Time horizon: Long-term</b>	<ul style="list-style-type: none"> <li>Continue to advocate for the ability of Australia's metallurgical coal (and Australia's export infrastructure advantage) to underpin global metallurgical coal supply, used in steel production.</li> <li>Continue to advocate the importance of Australia's thermal coal, used for energy generation in global markets and contributing to a reduction in GHG emissions when compared to lower quality coal alternatives.</li> <li>Continue climate-related disclosures.</li> <li>Access a broad range of capital markets and diversify funding sources and/or extend tenure where possible.</li> </ul>	<ul style="list-style-type: none"> <li>Environmental planning approval timeframes</li> <li>Capital investment in coal mining capacity</li> <li>Global approvals of coal-fired generation and steel capacity</li> </ul>
<b>Access to funding, insurance and licences</b>	Investor concern over climate-related risks may result in an inability for our business, our customers and end users of coal to gain licences, funding or insurance for coal mining, transport, and coal-fired generation and/or steel production capacity.	Transition: Reputation <b>Risk level: Moderate to High</b>	A withdrawal (or reduction) of licences, funding or insurance will limit our growth opportunities. <b>Time horizon: Short-, medium- and long-term</b>	<ul style="list-style-type: none"> <li>Continue to advocate for the ability of Australia's metallurgical coal (and Australia's export infrastructure advantage) to underpin global metallurgical coal supply, used in steel production.</li> <li>Continue to advocate the importance of Australia's thermal coal, used for energy generation in global markets and contributing to a reduction in GHG emissions when compared to lower quality coal alternatives.</li> <li>Continue climate-related disclosures.</li> <li>Access a broad range of capital markets and diversify funding sources and/or extend tenure where possible.</li> </ul>	<ul style="list-style-type: none"> <li>Environmental planning approval timeframes</li> <li>Capital investment in coal mining capacity</li> <li>Global approvals of coal-fired generation and steel capacity</li> </ul>
<b>Climate change resilience and adaptation</b>	Current and future disruption arising from increased severity and/or frequency of extreme weather events (higher temperatures, strong winds, flooding and associated erosion, bushfires and others).	Physical: Acute & Chronic <b>Risk level: Moderate to High</b>	May result in loss of revenue due to extreme weather events affecting mining, transport and port activities across the supply chain. May result in higher costs associated with ensuring asset availability, or to address damage to assets. <b>Time horizon: Short-, medium- and long-term</b>	<ul style="list-style-type: none"> <li>Continue to design infrastructure to recover quickly from flooding and extreme weather events, including the positioning of inventory such as ballast, flood rock, rail and formation material.</li> <li>Reduce blanket heat-triggered speed restrictions through more localised real-time monitoring of track temperatures.</li> <li>Improve engagement with customers on the estimated recovery timelines by providing an initial range that is narrowed as certainty increases.</li> <li>Ensure an adaptive design approach to improve infrastructure resilience.</li> <li>Engage with land use planning and policymakers regarding incentivisation of low-impact transport modes and enabling infrastructure (e.g. electrified rail) to ensure consistent treatment of transport systems within policy.</li> </ul>	<ul style="list-style-type: none"> <li>Current/projected temperatures through our Network's Remote Monitoring System, the Bureau of Meteorology, and CSIRO.</li> </ul>
<b>Carbon emissions management and reporting</b>	Carbon liability under the Safeguard Mechanism Rule and potential penalties for inappropriate carbon reporting under the <i>National Greenhouse and Energy Reporting (NGER) Act 2007</i> . Increased opportunity under federal and state government energy/climate targets and policy instruments.	Transition: Policy & Legal <b>Risk level: Low to Moderate</b>	Facilities exceeding the emissions baseline may require the need to purchase Australian Carbon Credit Units (ACCUs) per tonne of CO <sub>2</sub> exceeded. <b>Time horizon: Medium- to long-term</b>	<ul style="list-style-type: none"> <li>Assess future liability under the Climate Solutions Fund's (previously Emission Reduction Fund) Safeguard Mechanism (current analysis indicates our baselines are not expected to be surpassed in the next reporting period, with provision to amend baselines or defer requirement to acquire ACCUs).</li> <li>Reduce GHG emissions through improved operational efficiency and initiatives targeting locomotive emissions intensity reduction.</li> <li>The Queensland Government's 2030 renewable energy target, if achieved, has the potential to materially reduce the emissions intensity of our electric locomotive fleet.</li> <li>Better value provided to customers and stakeholders through increasing demand for energy-efficient services.</li> <li>Monitor and engage with government climate policy agendas, and advocate for a positive policy outcome for rail.</li> <li>Identify opportunities to participate in renewable energy programs and energy efficiency initiatives.</li> </ul>	<ul style="list-style-type: none"> <li>Locomotive emissions intensity. Our historical and targeted GHG emissions intensity reduction is expected to keep us below our Safeguard baseline over the coming reporting period. Please refer to our <i>Climate change and environment</i> chapter.</li> </ul>

# Safety

During FY2020, we updated our enterprise safety strategy to focus and prioritise improvements to our safety systems and culture, and to achieve our safety goal of protecting ourselves, each other and our communities. This strategy, Safety in Action, leverages the principles of our existing programs, and incorporates various operational safety initiatives, creating a newly aligned safety focus across Aurizon.

## Safety in Action

Supporting this change is an update of our Safety Value statement to 'We know safe, we choose safe', supporting decision-making and reinforcing our personal accountability for safety.



**We know safe, we choose safe.**

The centrepiece of the strategy is Safety in Action, which identifies the three key components (see figure 8) of our work that enable us to deliver safe outcomes:

- **Well-designed, planned and resourced work:** we take the time to design and plan our work, using clear

and simple practices, with the right people and tools to deliver the work.

- **Executed by engaged and enabled people:** we take accountability, trust each other, promote curiosity and have the capability and competence to support each other.
- **Informed by risk:** we understand the risk, we manage the risk, we know if our controls are effective, and we share what we learn.

Safety in Action will drive our focus as we engage with our teams, identify and execute improvements to our safe systems of work and how we report on safety performance.

Figure 8 - Safety in Action



## Recording our Safety Performance

We record and investigate safety incidents to help us learn and improve. To support the implementation of our safety strategy, we will continually review and refine operational safety metrics, including:

- Serious Injury and Fatality (SIF) incidents, actual and potential
- Total Recordable Injury Frequency Rate (TRIFR)
- Rail Process Safety.



### Serious Injury and Fatality (SIF)

We are determined to focus on managing what matters, with a specific focus on identifying and learning from events that have the potential for SIF. The number of potential SIF incidents at Aurizon for FY2020 is shown in figure 9.

Tragically, in December 2019, one of our train drivers was fatally injured in a motor vehicle accident west of Mackay. Hans Ah Chee was a highly respected train driver working in our Coal business and based at Sarina in Central Queensland. This incident brought added focus to motor vehicle road safety, including a review of our control environment for this risk. Workplace Health & Safety Queensland has advised it has considered all issues relating to the accident and is not investigating the matter any further. Our thoughts remain with Han's family, friends and colleagues.

Figure 9 - FY2020 Potential Serious Injury and Fatality (SIF) Incidents

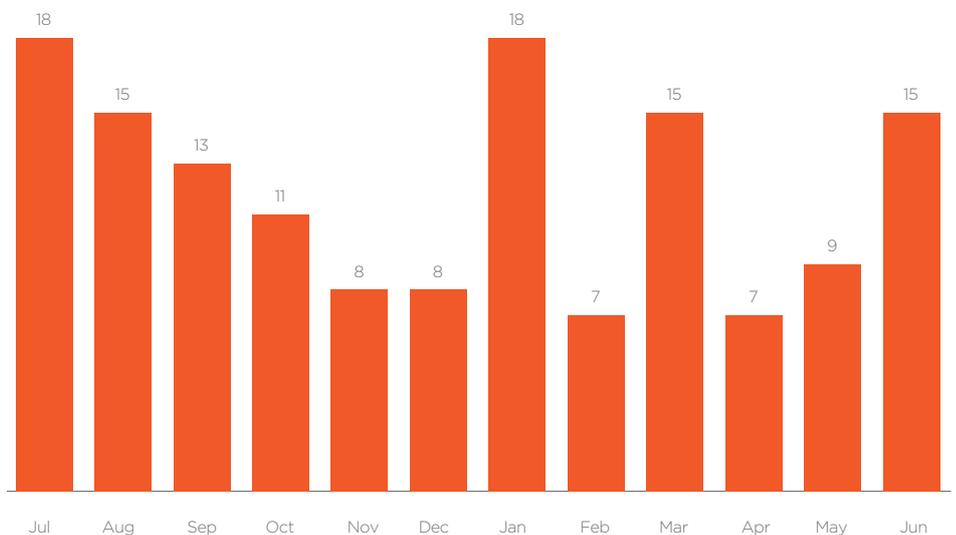
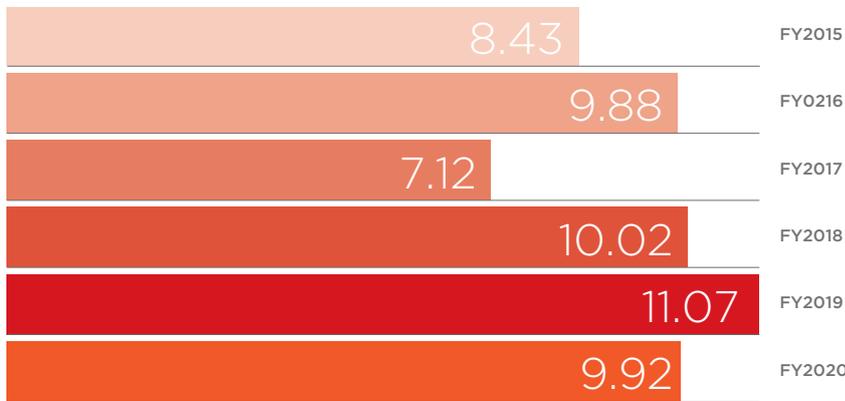


Figure 10 - Total Recordable Injury Frequency Rate (TRIFR)

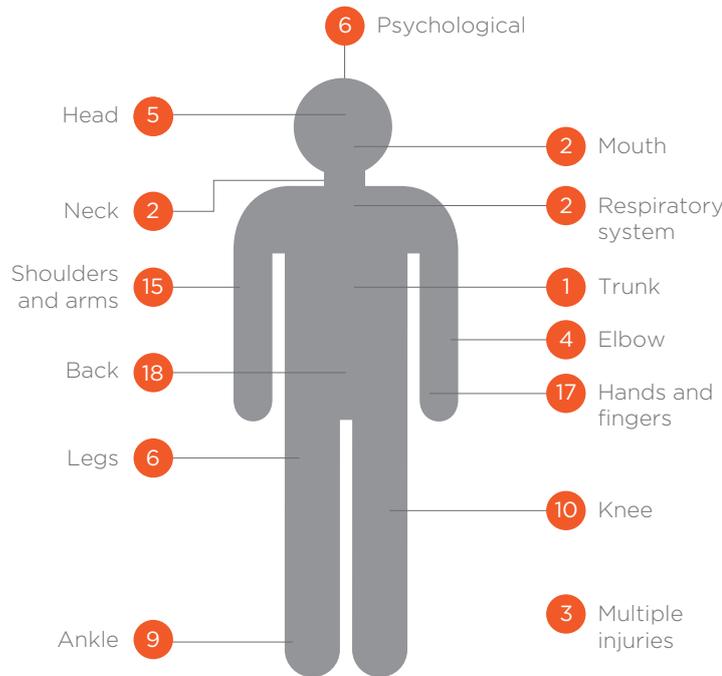


**Total Recordable Injury Frequency Rate (TRIFR)**

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

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

Figure 11 - FY2020 recordable injuries, by body part



In FY2020, our TRIFR was 9.92 injuries per million hours worked, which was an improvement of 10% when compared to FY2019 (see figure 10). Pleasingly, in addition to this improvement, the incident severity is also reducing, with soft tissue injuries being the most common. In FY2020, the Bulk business formed a Soft Tissue Injury Prevention Working Group. The group identified key standard tasks that posed considerable risk for soft tissue injury. Actions from the working group (such as soft tissue injury preventive exercises) are currently being rolled out across the Bulk business. In FY2021, we will roll out task risk assessments across the business to better understand specific soft tissue injury risks enterprise-wide.

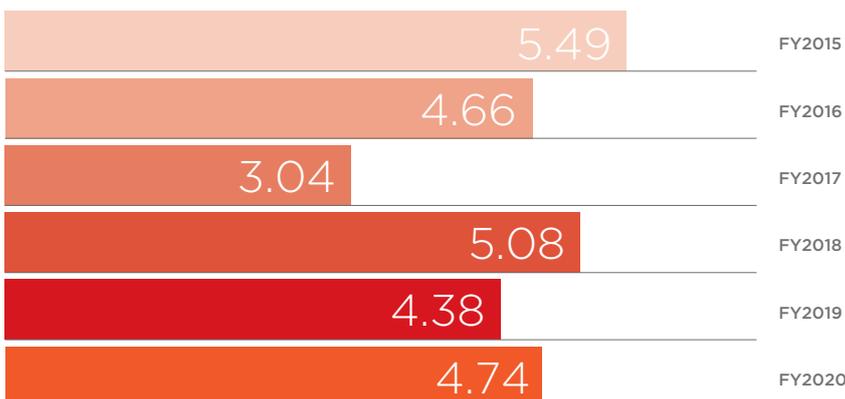
In FY2020, there were 100 TRIs versus 118 TRIs in FY2019. A reduction in the severity of employees' injuries was also seen from analysis of Workers' Compensation data. Actual injuries by body part are shown in figure 11.

**Rail Process Safety**

The metric for Rail Process Safety, which measures operational safety, including derailments, signals passed at danger, and train-to-train collisions, deteriorated by 8% — at a total of 4.74 incidents per million train kilometres travelled (see figure 12). The significant contributor to Rail Process Safety is low-speed yard derailments where rollingstock has traversed derailing devices. While these incidents are undesirable, and we are working to eliminate them, they typically do not create SIF potential.

We continue to actively participate in industry-wide efforts to help reduce signals passed at danger, such as our participation in the Rail Industry Safety and Standards Board's signals passed at danger working group.

Figure 12 - Rail Process Safety



## Safety and Performance Culture

Our safety strategy captures the initiatives that will sustainably improve our safety performance. It will be implemented through our Safety and Performance Culture program, which continues the delivery of initiatives established through our existing programs. It also integrates new culture-focused initiatives to prioritise and sequence sustainable cultural change.

The program's objective is to enhance our safety and performance culture so that our people live by our values and are engaged and enabled to do their best work. The program aligns to the centrepiece of our Safety in Action strategy by delivering the following three priority initiatives.

**To improve how we design, plan and resource work**, we are focused on building and implementing simple systems and processes.

We are implementing a new integrated system for all Safety Management activities (i.e. Risk Management, Audit & Incident Management). The overarching objective is modernising and mobilising the experience of participating in safety management for our personnel. The project will also address some current challenges in relation to user experience while interacting with safety systems, primarily in desktop environments. Getting tools into employees' hands when they need them will boost our ability to engage our workers at the most important times.

**To engage and enable our people**, we will build leadership capability and enhance our people processes.

During FY2020, we introduced a safety leadership program to our frontline leaders in operational areas, aimed at how they can effectively lead Safety in Action and continually improve safety in their teams. This program focuses on technical and soft skills, including understanding risk, facilitating accountability for safety decisions, coaching for safer outcomes, and enabling teams to identify and execute change. This program will be the priority focus for leadership development in FY2021. It will continue to be delivered to approximately 300 leaders.

**To enable our actions to be informed by risk**, we will enhance our safety risk control and assurance processes.

Preventing SIF incidents is the highest priority for our business. During FY2020, we have focused on developing an operational Critical Control Management (CCM) framework.

## Mental health

The Mental Health Peer Support Program is a new initiative that aims to establish a network of employees trained in Mental Health First Aid (MHFA). More than 160 employees raised their hand to support their workmates in times of need and join the Aurizon peer support group.

The group represents a diverse range of volunteers from all levels of and across our business who are passionate and willing to support their workmates. The MHFA are promoted across our business as the first point of contact for those struggling and wanting a confidential chat. The MHFA are not trained to resolve problems, rather they are equipped to facilitate



ways of connecting struggling peers with professional help, e.g. Employee Assistance Program (EAP), GP, or psychologist counselling when required.

To date, we have trained 62 volunteers who have attended the MHFA course in Brisbane, Perth or Newcastle. In FY2021, another 70 volunteers will be trained using the new online course or when face-to-face training recommences.

We are proud to lend support to 'Rail R U OK?' Day in April each year. 'Rail R U OK?' Day is a day when our employees are reminded to reach out regularly to ask that simple question: 'R U OK?'. Despite COVID-19 restrictions, our employees marked Rail R U OK? Day in 2020 through virtual morning teas for support teams working from home.



Callemondah crew social distancing

Analysis of our exposure to SIF incidents has guided the definition of 13 Enterprise Material Risks. Critical controls have been identified with our operational and subject matter experts. Risks and controls have been validated through benchmarking with industry peers that have already implemented CCM processes in their operations.

CCM forms part of our enterprise approach to risk management. Combined with other safety, leadership and technical processes, it ensures we apply an effective and integrated approach.

The purpose of CCM is to ensure that controls are in place to effectively prevent and/or mitigate SIF incidents in everyday operations:

- Where people play a direct role in controlling the risk exposure through the application/verification of controls
- In the interface between people and the task - the window between planning and execution.

The CCM processes will be supported by the Integrated Safety, Health and Environment (SHE) Management System.

More Safety and Performance Culture program priorities are detailed in our *People* chapter.

## Keeping our communities safe

We recognise our responsibility to improve level crossing safety for everyone in the communities where we operate. In FY2020, we continued level crossing safety upgrade and renewal projects to minimise incidents and near-misses and to prevent derailments. A total of 81 crossings have been risk assessed, with seven crossings having major renewals. In addition, 15 crossings have had signage upgrades, six crossings have been programmed for decommissioning, and 11 crossings designed for next year's renewal program.

We collaborated with the Queensland Department of Transport and Main Roads (DTMR) as part of their Safer Roads Sooner program. This is a state-funded minor capital works program that targets investment to improve the safety of the state-controlled road network. This is done through high-benefit, cost-effective engineering works at high-incident sites such as busy

public level crossings. In Central Queensland, the Capricorn Highway and Ardurad Road crossing at Blackwater has been included in DTMR's upgrade program of their road signalling systems. This level crossing, one of the top two high-incident crossings in the CQCN, caters for over 3,000 vehicles per day with more than 20% heavy vehicles.

We also worked with Anglo American and their contractor SEE Civil to upgrade the intersection of Dawson Highway and the Three Chain Road in the Moura System, the site of many near-misses and incidents. The upgrade works were completed in June 2020.

In FY2020, we worked with the Heavy Vehicle Safety Working Group, which consists of members from the National Heavy Vehicle Regulator, DTMR, Queensland Trucking Association, Queensland Police Service and other trucking companies. This group highlights all transport-related issues, including over-dimensional road load

transport and associated impacts. We raised the issue of overhead collision at major public crossings, and that message has been communicated to all trucking companies running in Queensland.

In our 2019 Sustainability Report, we reported on the increased risk from protestors on our Central Queensland rail network. We initiated a rail safety campaign to highlight the risks associated with the use of lock-on devices by anti-coal protestors and worked closely with Queensland Police.

We also supported strengthening laws to make this protest activity illegal. We advocated to the Parliament's Legal Affairs and Community Safety Committee for new legislation because of our deep safety concerns with the protest activity. Following the passage of laws through the Queensland Parliament in October 2019, the use of lock-on devices by anti-coal protestors on our rail network and our trains is now illegal.



# Future of coal

Our business is linked to the continued demand for and supply of Australian coal, almost entirely for export markets. We continually monitor and evaluate coal-related drivers to test the resilience of our business under multiple long-term scenarios.

## Importance of coal to Aurizon

Approximately 80% of our revenue relates to coal. As illustrated in figure 13, metallurgical coal is the major contributor because it represents about two-thirds of the volumes on our below rail Network, and just under half of our above rail Coal haulage volumes.

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 carried by our above rail business.

Given the quality and the cost competitiveness of Australian coal, the opportunity remains for Australia – and therefore, our business and our customers – to continue supplying the coal requirements of Asia.

Rather than global consumption, demand for Australian coal is dependent on seaborne-traded markets (see figure 14), which are increasingly concentrated in Asia (see figure 16). Although metallurgical and thermal coal are similar in terms of the method of extraction and preparation, the differing properties of the two coal types mean that there are distinct markets and, therefore, drivers of future demand.

Figure 13 – Aurizon's coal volumes (FY2020)

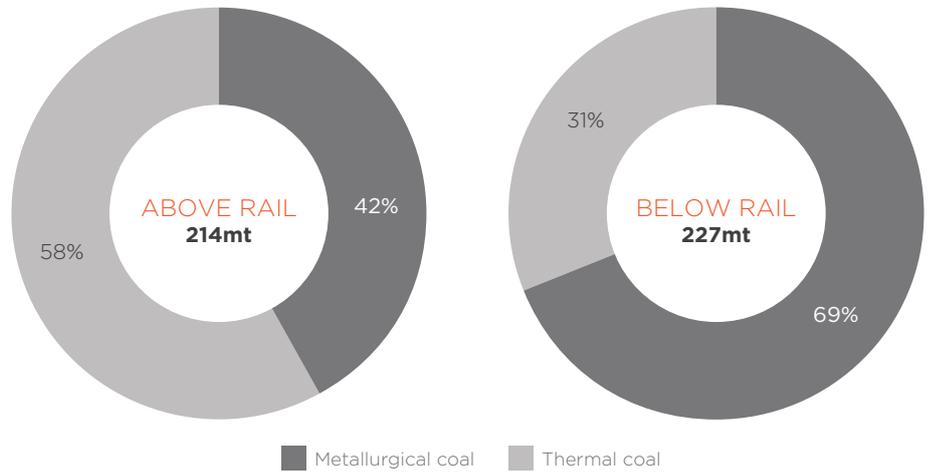


Figure 14 – Global coal production and trade (2018)<sup>24</sup>



## Coal types

➤ **Metallurgical coal** (or coking coal) is primarily used to produce steel, an integral link with economic development driving construction of urban infrastructure. Crude steel production occurs primarily via the blast furnace-basic oxygen furnace (BF-BOF) route, which accounted for 1.3 billion tonnes of crude steel production (72% of total global crude steel production) in 2019<sup>25</sup>. Although recognising early-stage

developments in alternative steel-making processes (such as hydrogen-based), the BF-BOF route remains the most economical way to produce steel. In this process, metallurgical coal currently has no economically viable substitute. Metallurgical coal is generally subdivided into coking coal, pulverised coal injection (PCI), and semi-hard/soft coal. It takes about three-quarters of a tonne of metallurgical coal to produce one tonne of crude steel<sup>26</sup>.

➤ **Thermal coal** (or steam coal) is primarily used as a heat source for energy generation, holding a 38% share of global generation in 2018<sup>27</sup>. Around 300,000 tonnes of coal equivalent are required per terawatt hour of generation<sup>28</sup>. Beyond energy generation, thermal coal is also a vital raw material in chemical and construction industries. Coal is used as a source of energy in cement production, where about 200 kilograms of coal is needed to produce one tonne of cement<sup>29</sup>.

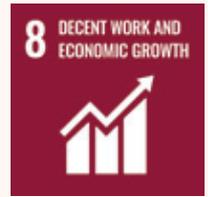
<sup>24</sup> International Energy Agency Coal Information (Data) (2020), International Energy Agency Coal Information (2019). Note: Due to rounding, the sum of the individual elements may not equal the total value.  
<sup>25</sup> World Steel Association, *World Steel in Figures* (2020).

<sup>26</sup> World Steel Association, *Steel and Raw Materials* (Fact Sheet).  
<sup>27</sup> International Energy Agency, *World Energy Outlook 2019*.  
<sup>28</sup> Based on Japan in 2018, International Energy Agency, *World Energy Outlook 2019*.  
<sup>29</sup> World Coal Association, *Basic Coal Facts*

For **metallurgical coal**, steel-intensive growth in India is expected to be the single largest driver of seaborne trade demand over the coming decades. After surpassing annual production of more than 100 million tonnes for the first time in 2017, India's crude steel production was 111 million tonnes in 2019<sup>30</sup>. The Indian Government's National Steel Policy (2017) projects annual crude steel production to reach 255 million tonnes by 2030-31.

For **thermal coal**, 99%<sup>31</sup> of Australian exports are destined for Asia (see figure 15), a region that now commands 81% of the seaborne market (see figure 16), increasing from just 35% in 1990<sup>32</sup>. It is this region (rather than global consumption) that is projected to use coal-fired generation assets for a prolonged period, in addition to increased renewables and other energy sources. Australian thermal coal export volume to South-East Asia was 25 million tonnes in FY2020<sup>33</sup>, more than double the volume from just five years prior.

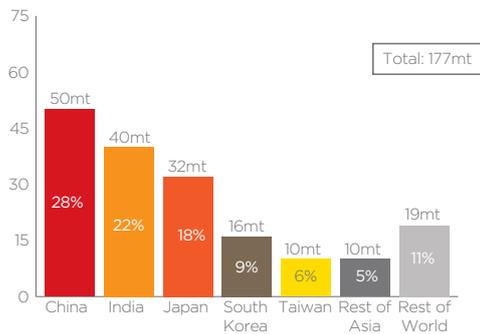
### Why is coal important to Australia?



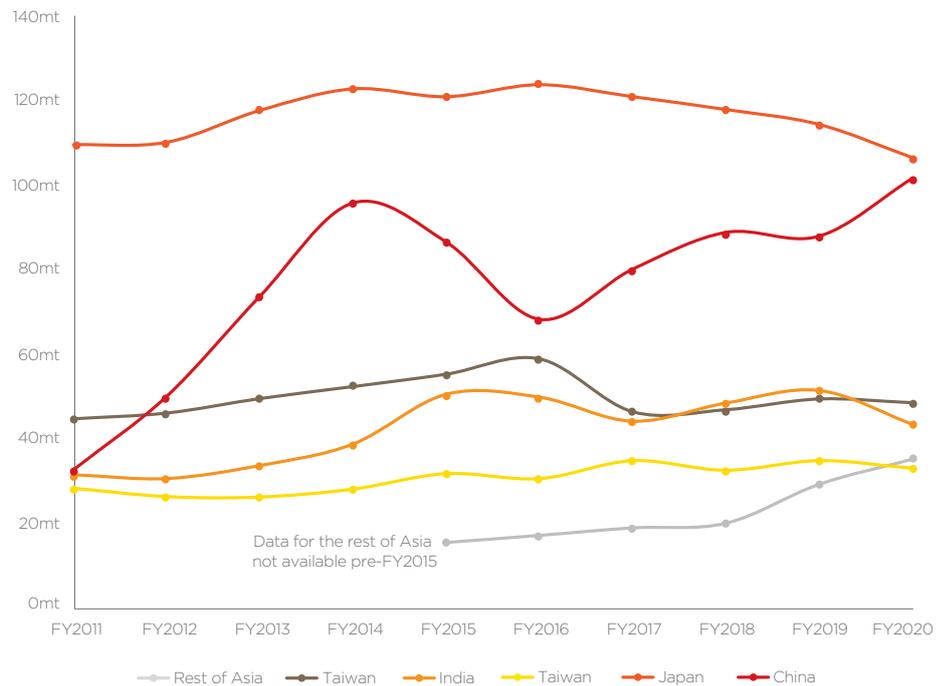
- **Trade:** Coal is Australia's second largest export industry, earning \$55 billion of revenue in FY2020<sup>34</sup>.
- **Royalties:** Coal royalty payments to the state governments of Queensland and New South Wales contributed a record \$6.3 billion in FY2019<sup>35</sup>.
- **Employment:** The coal industry directly employs more than 38,000 people<sup>36</sup> with a further 120,000 indirect jobs supported by the industry<sup>37</sup>.

Figure 15 – Export destinations for Australian coal<sup>38</sup>

#### Metallurgical coal (FY2020)



#### Total coal export volume: FY2011-FY2020



#### Thermal coal (FY2020)

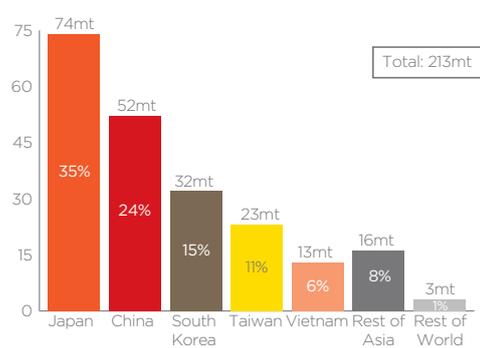
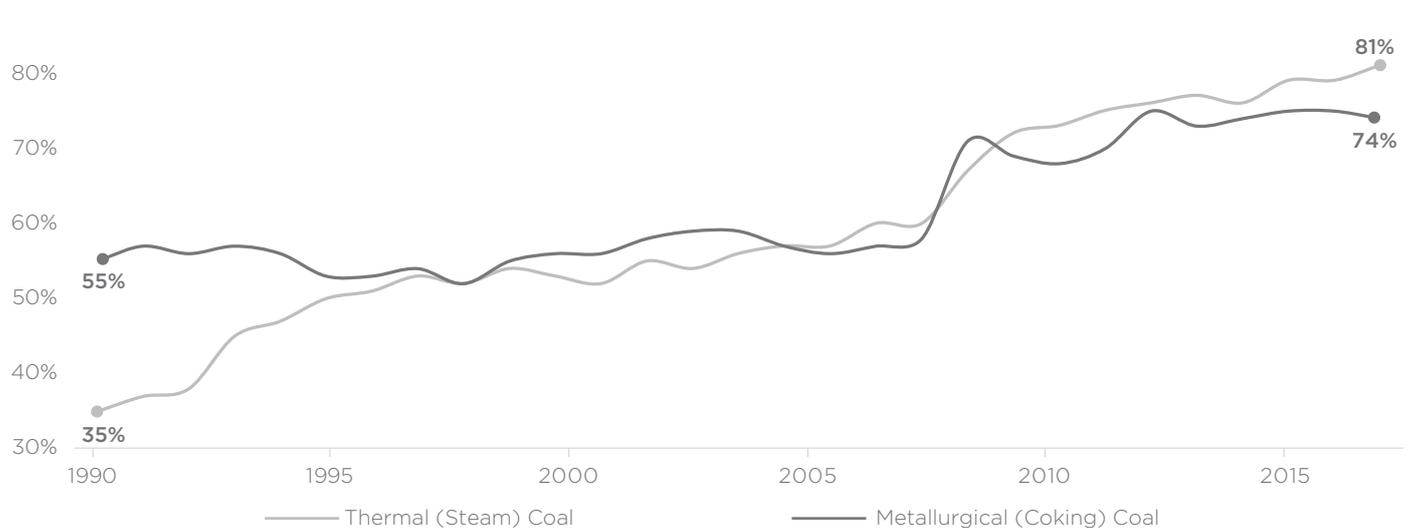


Figure 16 – Asia: Proportion of global coal import volume (1990-2018)<sup>39</sup>



30 World Steel Association, Statistics

31 Australian Bureau of Statistics (Customised report, June 2020).

32 International Energy Agency, Coal Information (Data) (2020)

33 Australian Bureau of Statistics (Customised report, June 2020).

34 Australian Bureau of Statistics (Customised report, June 2020).

35 Queensland Treasury, *Mid-Year Fiscal & Economic Review 2019-20*; and New South Wales Department of Planning and Environment.

36 Australian Bureau of Statistics, *ABS Labour Account Australia, year ended 30 June 2019* (Coal mining-filled Jobs).

37 Minerals Council of Australia, *Coal: building Australia's future*.

38 Australian Bureau of Statistics (Customised report, June 2020). Note: Due to rounding, the sum of the individual elements may not equal the total value.

39 International Energy Agency Coal Information (Data) (2020).

### Enterprise strategic planning

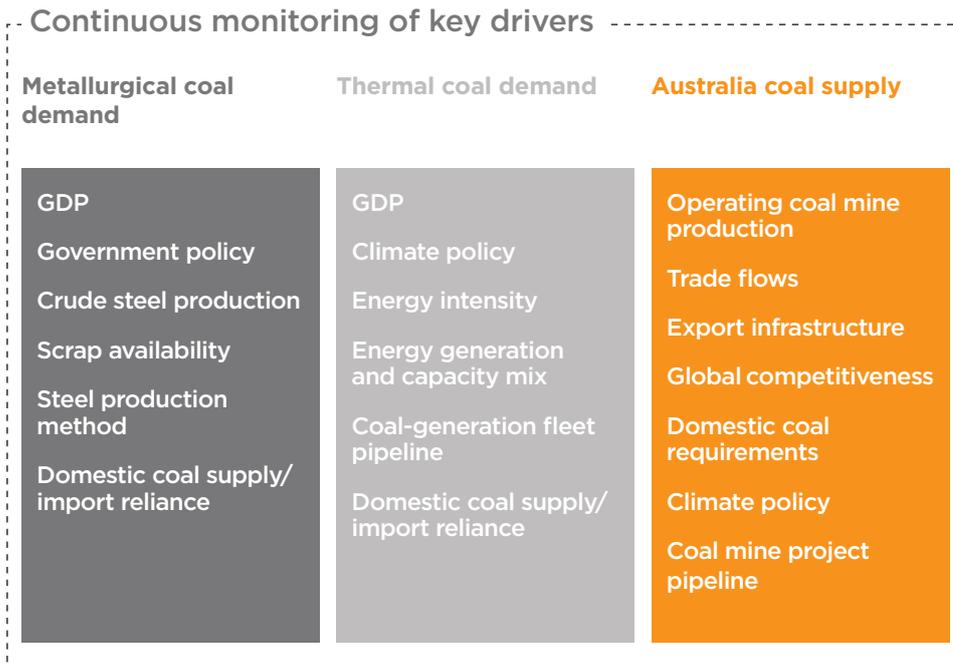
We develop our own position about the future of coal through our Strategy in Uncertainty framework, which includes scenario analysis, taking climate-related transition risks into consideration. This process considers short-term impacts as well as risks that emerge over the medium to long term, where the timing and magnitude is less certain.

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 every six months to ensure that our strategic priorities are continually updated to proactively respond to emerging market dynamics and opportunities.

### Scenario analysis

Given our customers' exposure (almost entirely) to export markets, in developing our scenario analysis we assess global seaborne demand for metallurgical coal and thermal coal driven primarily by Asian steel production and energy generation, respectively. Based on this addressable market, Australian supply is assessed considering the risks and opportunities for current and future coal production.

Figure 17 – Aurizon’s Strategy in Uncertainty framework



In constructing our scenarios, we draw upon economic indicators and projections, such as Gross Domestic Product (GDP), steel production (including method of production), energy demand (and intensity), cost effectiveness of Australian coal supply, and the current (and future) coal-fired generation fleet. We also consider more subjective factors, such as government policy and trade considerations, given their impact on seaborne coal markets. The key drivers used in our scenario analysis are shown in figure 17.

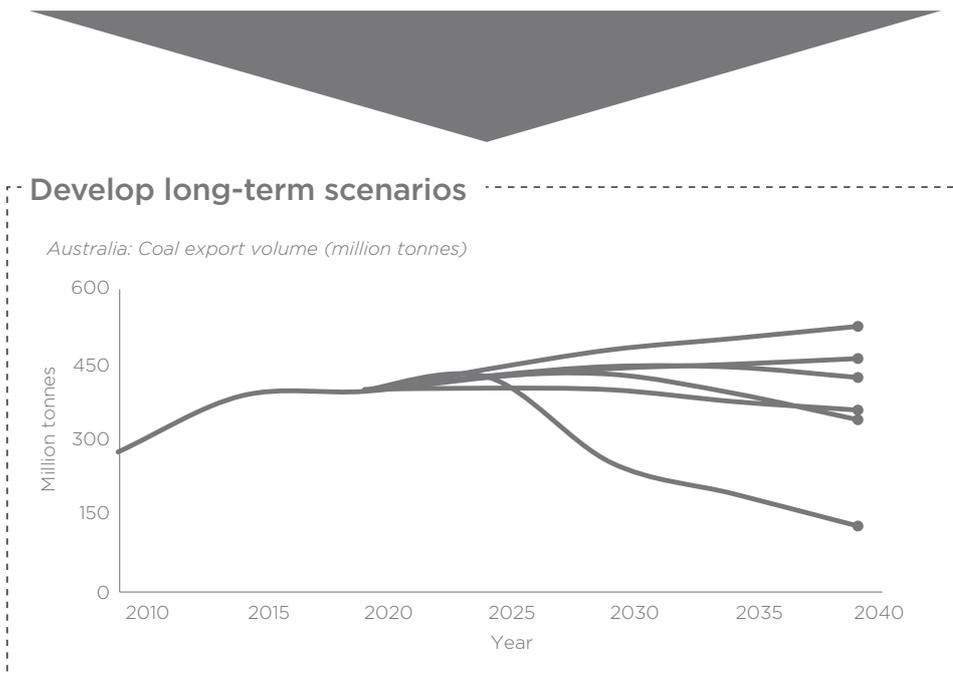
### Aurizon’s resilience under scenarios

In FY2020, six scenarios<sup>40</sup> were developed for consideration by our Board, including projections that limited Australian thermal coal export growth (resulting from an earlier shutdown of global coal-fired power generation fleet), implementation of hydrogen-based steel production, lower economic growth (and import reliance), and limited investment in new Australian coal production as a result of regulatory challenges. We then consider and assess plausible business and financial impacts these scenarios could have.

In addition to portfolio and strategic pathway considerations for our business, these scenarios are used to resilience test our fleet capacity, capital investments and customer contracts. In the instance of our locomotive and wagon fleet, the scenario testing has confirmed capacity levels are appropriate in five of the six scenarios and even in the (more extreme and lower volume) remaining scenario, surplus capacity could be redeployed into our growing Bulk business.

The following sections describe:

- the indicators we use to monitor the future of metallurgical coal
- the indicators we use to monitor the future of thermal coal
- scenario analysis based on external forecasts, which we use to compare with our own internal forecasts.



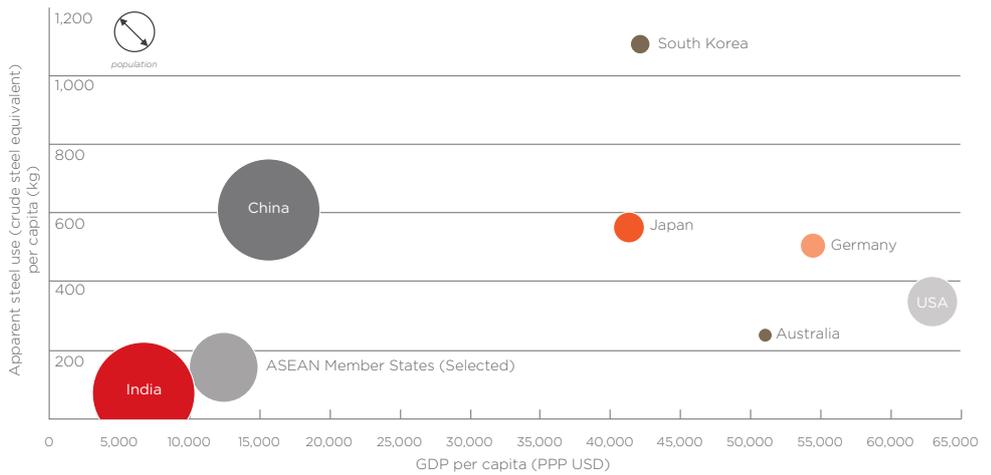
<sup>40</sup>FY2020 SIU Scenarios: Commodity Strong; Rational Economics; Carbon-Constrained Asia; Port/Mine-Constrained Australia; Regulatory-Constrained Australia; and Rapid Decarbonisation.

## The future of seaborne metallurgical coal

### Increasing demand for steel in Asia

Driven by urbanisation and associated infrastructure development, the opportunity remains for India and South-East Asian nations to increase steel usage, as measured per capita (see figure 18).

Figure 18 - Apparent Steel Use (crude steel equivalent) per capita vs. GDP per capita<sup>41</sup>



### India

Crude steel production has grown by 5.5% per annum in India over the past decade, driving demand for metallurgical coal (see figure 19). Faced with a structural deficiency of high-quality metallurgical coal<sup>42</sup>, India turns to the seaborne market to meet demand, as shown in figure 20.

Figure 19 - India: crude steel production<sup>43</sup>

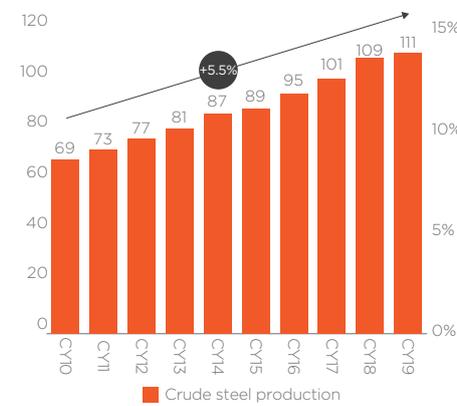
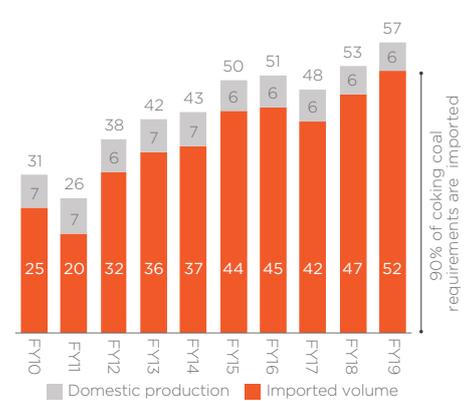


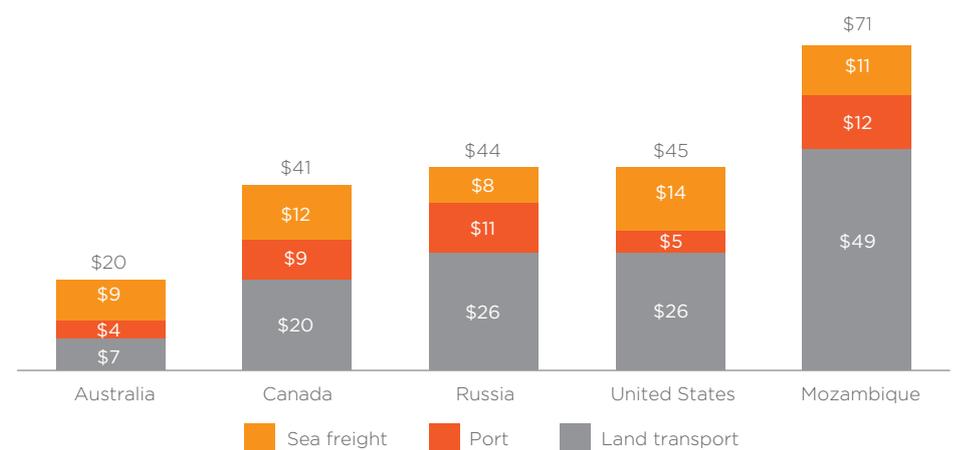
Figure 20 - India: coking (metallurgical) coal requirements<sup>44</sup>



### Australia's export infrastructure advantage

As shown in figure 21, Australia has the lowest average transportation and port costs compared to other major seaborne metallurgical coal export nations. This advantage is underpinned by the shorter distances between mines and ports, as well as significant port and rail capacity to exclusively service coal exports. We are a key contributor to the land transport (grey) component, where Australia is the most competitive nation.

Figure 21 - Land transport, port, and sea freight costs from major seaborne metallurgical coal export countries to India (USD/t)<sup>45</sup>



41 GDP (Purchasing Power Parity; international dollars) - World Bank (2018 data), Population - World Bank (2018 data), Apparent Steel Usage & Apparent Steel Use per Capita - World Steel Association (2018 data). ASEAN Member States (Selected, based on data availability): Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam.  
42 Government of India, *Coal Directory of India 2018-19* (page 8.1).  
43 World Steel Association.

44 India Ministry of Coal, *Coal Directory of India* (multiple years). Note: Financial year is April to March. Domestic production includes washed coal (only).  
45 Wood Mackenzie Coal Cost Curves (Data: August 2020, Reference Year: 2020), Wood Mackenzie Global Coal Markets Tool (Data: 2020 1H, Reference Year: 2020), Sea freight export terminal assumptions: US - East Coast, Canada - West Coast, Australia - Hay Point. Note: Due to rounding, the sum of the individual elements may not equal the total value.

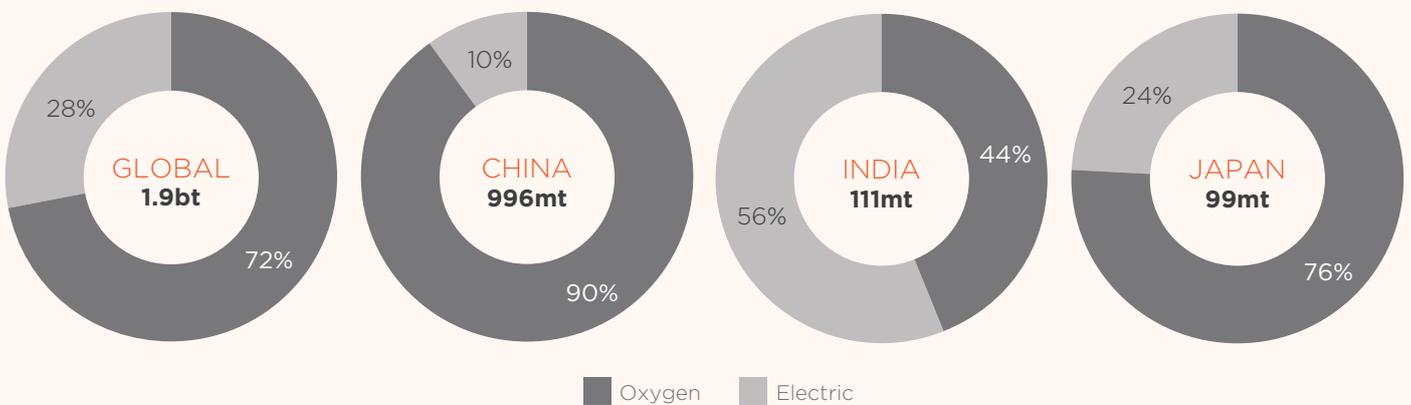
**Limited viable alternatives to metallurgical coal in steel production**

The metallurgical coal-dependent blast furnace-basic oxygen furnace (BF-BOF) method commands 72% of global crude steel production (see figure 22). This share is unchanged from a decade earlier (2009: 71%) and is 14 percentage points higher than at the start of the century (2001: 58%)<sup>46</sup>.

Steel production via the electric arc furnace (EAF) method draws upon direct reduced iron (DRI) or recycled (scrap) steel and uses less (or nil) metallurgical coal. Globally, steel production based on recycled steel is expected to increase share in future decades (2019 share: 28%<sup>47</sup>), but is limited by the availability of scrap material. Of the total global steel production in the last 120 years, over a quarter has been produced within the last decade<sup>48</sup> and the average life for steel products is approximately 40 years<sup>49</sup>.

Considered a long-term alternative, green hydrogen-based steel production, either as an alternative injection material to PCI<sup>50</sup> or as a reductant to produce DRI, is not yet operating on a commercial scale. Cost competitiveness and the requisite infrastructure are challenges for the emergent technology. To produce two million tonnes of hydrogen-based steel, McKinsey estimates<sup>51</sup> that 144,000 tonnes of green hydrogen is required, combined with 900MW of electrolysis capacity, some three times the capacity of the single largest plant currently under consideration in Europe<sup>52</sup>. Bloomberg NEF<sup>53</sup> projects that hydrogen-based steel production could be cost-competitive (in Europe) from 2030, which is in a scenario where the coking coal price is US\$310/t and the cost of renewable hydrogen falls below US\$2.20/kg.

**Figure 22 - Crude Steel Production by Process (2019)<sup>54</sup>**

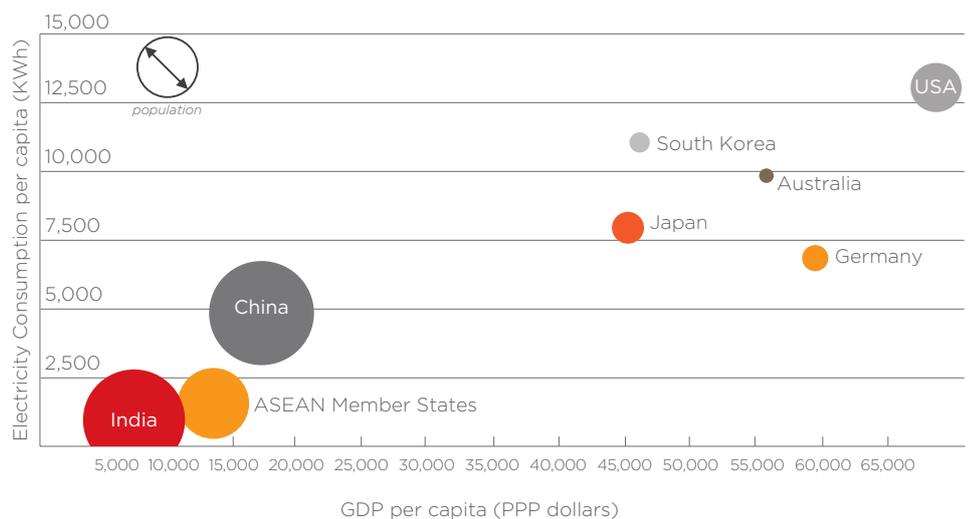


**The future of seaborne thermal coal**

**Increasing electricity demand in Asia**

Bloomberg NEF projects that South-East Asia's rapid GDP and population growth will increase energy demand by 152% by 2050<sup>55</sup>. The United Nations projects that India's urbanisation rate will increase to 40% in 2030 compared to 34% in 2018, lifting the urban population from 461 million to 607 million<sup>56</sup>. Figure 23 shows the electricity consumption vs. income for key countries (as measured per capita).

**Figure 23 - Per capita electricity consumption vs. per capita income, by key countries<sup>57</sup>**



46 World Steel Association, *World Steel in Figures, 2001, 2010*  
 47 World Steel Association, *World Steel in Figures 2020*  
 48 World Steel Association, *Crude steel production (yearly)*.  
 49 World Steel Association, *Steel Facts*  
 50 Pulverised Coal Injection  
 51 McKinsey & Company, *Decarbonisation challenge for steel* (June 2020)  
 52 250MW water electrolysis project under feasibility study by BP, Nouryo and Port of Rotterdam (as at September 2019)

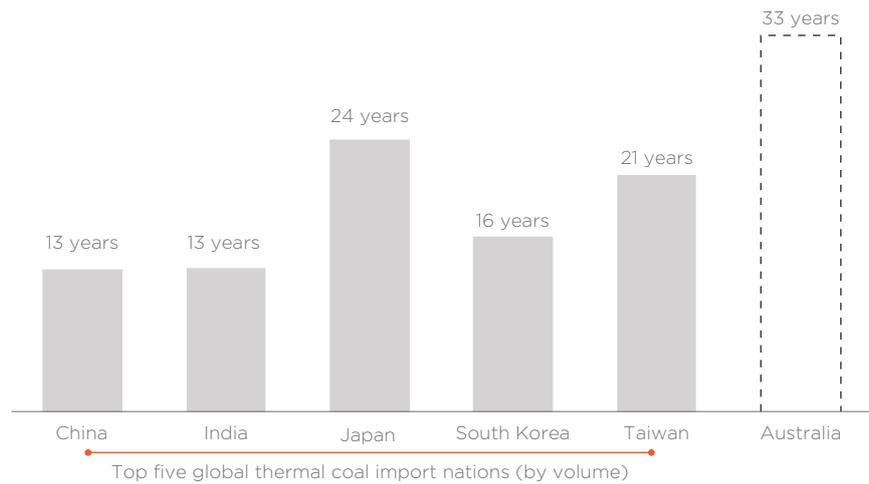
53 Bloomberg NEF, *Sector Coupling in Europe: Powering Decarbonisation* (February 2020). Bloomberg NEF Hydrogen Economy Outlook (Key messages), March 2020.  
 54 World Steel Association (*World Steel in Figures 2020*). Notes: Oxygen process refers to blast furnace-basic oxygen furnace (BF-BOF); Electric refers to electric arc furnace (EAF).  
 55 Bloomberg NEF, *World Energy Outlook 2019: Executive Summary*.

56 United Nations, Department of Economic and Social Affairs, Population Division (2018). *World Urbanization Prospects: The 2018 Revision*, online edition.  
 57 GDP (Purchasing Power Parity, current international dollars) - World Bank (2018 data), Population - World Bank (2018 data), Electricity Consumption (KWh) - International Energy Agency (2018 electricity consumption per capita data).

### Asian current operating fleet

While renewables and other cleaner energy sources will undoubtedly grow in significance, the age of the Asian coal-fired energy generation fleet provides insight into the continuing demand from operating assets. As noted in figure 24, and compared with a typical economic life of 40 years<sup>58</sup>, the average age of operating coal-fired generation capacity across the largest thermal coal import nations is relatively young.

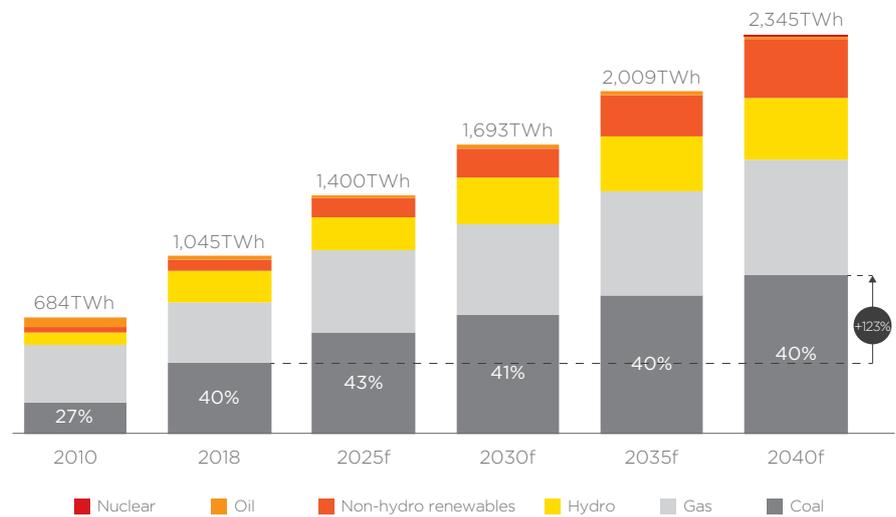
Figure 24 – Average age of coal-fired electricity capacity<sup>59</sup>



### Continued reliance on coal-fired generation in Asia

Although it is recognised that thermal coal generation will reduce as a percentage in the global energy mix, thermal coal generation in Asia is likely to be more resilient because it is driven by a relatively young existing coal-fired generation fleet and new capacity coming online in developing nations. Figure 25 shows the International Energy Agency’s (IEA) long-term projection for electricity generation in South-East Asia under the Stated Policies Scenario.

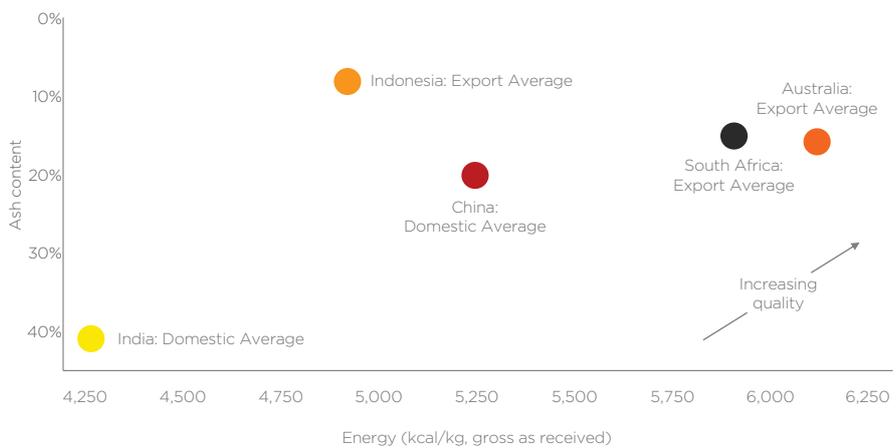
Figure 25 – International Energy Agency (IEA) outlook (Stated Policies Scenario) for electricity generation in South-East Asia, by source (TWh)<sup>60</sup>



### Importance of high-quality coal

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 (see figure 26). This environmental advantage results in lower emissions when consumed and/or lower tonnages needing to be mined. Additionally, when combined with high-quality Australian coal, ultrasupercritical technology can reduce greenhouse gas emissions by up to 50% compared to using average-quality coal from India in subcritical plant technology<sup>61</sup>.

Figure 26 – Thermal coal energy and ash content<sup>62</sup>



58 International Energy Agency, *World Energy Investment 2018*.

59 Platts UDI Electric Power Plants Database (June 2020), capacity weighted. Australia included as reference.

60 International Energy Agency: *World Energy Outlook (2019)*, Stated Policies Scenario.

61 *Independent Review into the Future Security of the National Electricity Market*, Commonwealth of Australia (June 2017).

62 Australia (Export Energy/Ash By Mine): Wood Mackenzie Coal Supply Tool (Year: 2020, Data: Q2 2020). Australia (Export Energy/Ash): Wood Mackenzie Coal Cost Curves

(Year: 2020, Data: May 2020). India (Domestic Energy/Ash): India Ministry of Coal Provisional Coal Statistics 2018-19. China (Domestic Energy): IEA Coal Medium-Term Market Report 2016. China (Domestic Ash): Wood Mackenzie ‘China Limits Coal Ash Content’ (April 2017). Indonesia (Export Energy): Wood Mackenzie Coal Cost Curves (Year: 2020, Data: May 2020). Indonesia (Export Ash): Argus (Indonesia 5,000 benchmark), Methodology & Specifications Guide, April 2020. South Africa (Export Energy): Wood Mackenzie Coal Cost Curves (Year: 2020, Data: May 2020). South Africa (Export Ash): Argus (Richards Bay 6,000 benchmark), Methodology & Specifications Guide, April 2020.

### Scenario analysis: International Energy Agency

One recommended disclosure from the Task Force on Climate-related Financial Disclosures (TCFD) is to consider different climate-related scenarios, including a 2°C or lower scenario. Although the Task Force does not recommend the use of a specific scenario, we have drawn upon the best known and most widely used scenarios produced by the International Energy Agency (IEA) in the annual release of the *World Energy Outlook*. This is used for comparison with our internal scenarios, as described earlier.

In addition to the (central) Stated Policies Scenario<sup>63</sup>, the IEA also publishes the Current Policies Scenario<sup>64</sup> and the Sustainable Development Scenario<sup>65</sup>. According to the IEA, the Sustainable Development Scenario ‘charts a path fully aligned with the Paris Agreement by holding the rise in global temperatures to *well below 2°C ... and pursuing efforts to limit [it] to 1.5°C*, and meets objectives related to universal energy access and cleaner air’<sup>66</sup>.

In the (central) Stated Policies Scenario, the IEA projects global coal trade to reduce by 7% in 2040 compared with 2018:

- For global **metallurgical coal** trade, the volume projection increases by 16% in 2040 compared with 2018, representing a compound annual growth rate of 0.7% across the period.
- For global **thermal coal** trade, the volume projection reduces by 15% in 2040 compared with 2018, representing a compound annual growth rate of -0.8% across the period.
- **Australia’s export volume** is projected to increase by 18% in 2040 compared with 2018, representing a compound annual growth rate of 0.8% across this period.

In the Sustainable Development Scenario, the IEA projects global coal trade to reduce by 62% in 2040 compared with 2018.

As the Sustainable Development Scenario (and Current Policies Scenario) do not provide country-level trade projections, we have applied market share assumptions for Australia in our analysis (see figure 27).

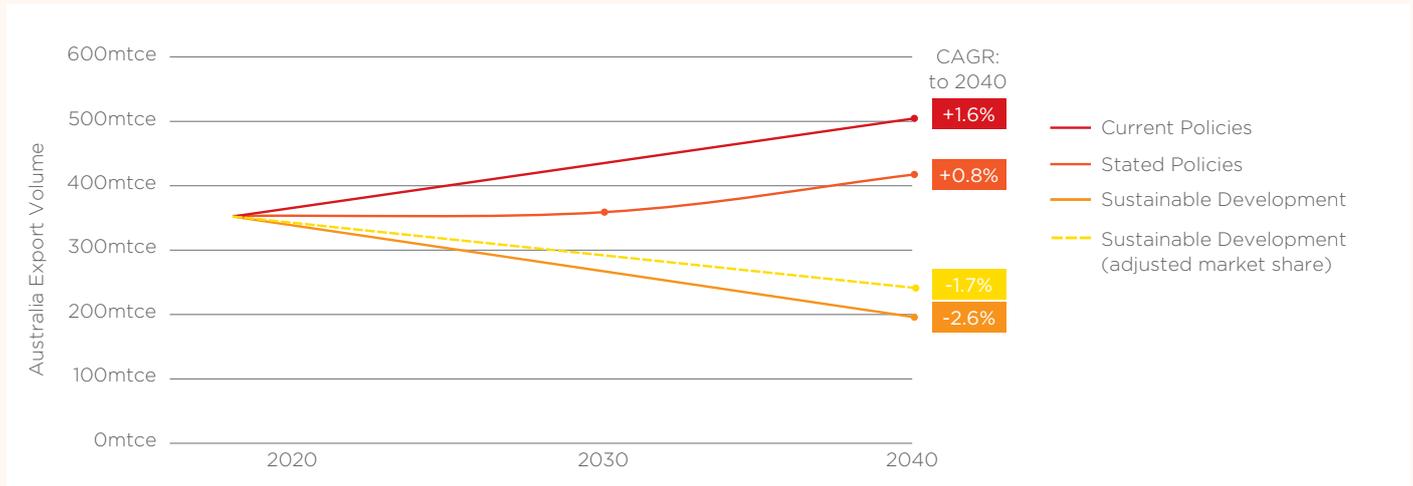
Based on Australia’s export volume in 2018 and assuming Australia’s participation in the trade market aligns with the Stated Policies Scenario (including an estimated even split of metallurgical and thermal coal export volume in 2040<sup>67</sup>), Australia’s export volume would be projected to reduce by 44% in 2040 compared to 2018, representing a compound annual growth rate of -2.6%. However, this projection for Australia takes a conservative approach, given an expected further preference for higher quality coal in such a carbon-constrained scenario.

### Aurizon’s resilience under an IEA Sustainable Development Scenario

We consider the following points when assessing the resilience of our business under the IEA Sustainable Development Scenario:

1. **Market share:** We hold the view that in a carbon-constrained environment, Australia could command a higher market share given an expected preference for higher quality coal<sup>68</sup> which Australia supplies. As such, we have modelled an increased Australian market share (+10 percentage points compared to estimated market share of both metallurgical and thermal coal from the estimated Stated Policies Scenario volume in 2040). In this projection, Australia’s export volume would reduce by 112mtce in 2040 (-32% compared to 2018). This represents a compound annual growth rate of -1.7% across the period, as illustrated as Aust exports: Sustainable Development (adjusted market share) in figure 27.
2. **Metallurgical coal:** Two-thirds of coal volumes transported across the Central Queensland Coal Network (CQCN) is metallurgical coal. Given the limited viable alternatives in steel production, the Sustainable Development Scenario projects more resilience in metallurgical coal trade (compared to thermal coal). When this figure is combined with the expectation of increased market share for Australia export volume, we can expect the CQCN to be resilient in a scenario of reduced global coal demand.

Figure 27 – Projected Australian export volumes under IEA scenarios<sup>69</sup>



63 The Stated Policies Scenario incorporates today’s policy intentions and targets. Previously known as the New Policies Scenario, it has been renamed to emphasise that it considers only specific policy initiatives that have already been announced (International Energy Agency, *World Energy Outlook (2019)*).  
 64 The Current Policies Scenario shows what happens if the world continues along its present path, without any additional changes in policy (International Energy Agency, *World Energy Outlook (2019)*).  
 65 The Sustainable Development Scenario maps out a way to meet sustainable energy goals in full, requiring rapid and widespread changes across all parts of the energy system. This scenario charts a path fully aligned with the Paris Agreement (International Energy Agency, *World Energy Outlook (2019)*).

66 International Energy Agency (IEA), *World Energy Outlook (2019)*.  
 67 Although the coal type split of Australian export volume in 2040 is not disclosed in the *World Energy Outlook (2019)*, the IEA noted in the *World Energy Outlook (2018)* that in 2040 the split between the two coal types is roughly even.  
 68 For metallurgical coal, higher quality coal is typically considered to have low Coke Reactivity Index (CRI) results and a high Coke Strength after Reaction (CSR). For thermal coal, higher quality coal is generally considered to be high energy, low ash and low sulphur.  
 69 IEA *World Energy Outlook (2019)*, Aurizon analysis. Note: Where individual year projections are not published in the IEA *World Energy Outlook*, figures have been extrapolated (straight line).



# Climate change and environment

We acknowledge that there are several ways in which we are responsible for helping our local communities, customers and supply chains in maintaining and improving our environment while operating sustainably. We aim to effectively manage environmental risk and improve our overall environmental performance.

To manage the various material environmental and climate-related considerations relevant to our business, we adopt an evidence-based approach. Considerations include our response to climate-related risks and opportunities, avoiding or offsetting impacts on native biodiversity, minimising unsustainable resource use, and minimising environmental harm associated with emissions to air, land and water.

## Our response to climate change

The following section outlines our efforts to minimise our greenhouse gas (GHG) emissions and mitigate climate-related physical risk in FY2020. In 2020, we will publish our first *Climate Strategy and Action Plan*, which will outline our future strategy and key actions in minimising our emissions. Our plan will emphasise the role we can play in decarbonising Australia's key export supply chains while continuing to support current and future global competitiveness of our customers.

### Emissions reporting<sup>70</sup>

**Scope 1 emissions:** Direct GHG emissions released into the atmosphere as a result of an activity, e.g. emissions associated with combustion of diesel in locomotives.

**Scope 2 emissions:** Indirect GHG emissions released into the atmosphere from the indirect consumption of an energy commodity, e.g. emissions derived from consumption of purchased electricity.

**Scope 3 emissions:** Indirect GHG emissions, other than Scope 2 emissions, that are generated in the wider economy, e.g. emissions derived from extracting, producing and transporting purchased materials, such as fuel and electricity, as well as emissions associated with employee travel and commuting.

### Greenhouse gas (GHG) emissions

In FY2020, our total GHG emissions (Scope 1 and 2) were 868 kilotonnes of CO<sub>2</sub> equivalent (ktCO<sub>2</sub>-e), representing a 2% increase from the previous year (see figure 28). This increase was driven by moderately higher output in FY2020, and increased grid-based electricity emissions factors in Queensland.

We also recognise 87 ktCO<sub>2</sub>-e of Scope 3 GHG emissions. Given the nature of our business, these emissions predominantly relate to supplier activity that our business does not own or control, and is not related to products hauled for our customers. Approximately 90% of Aurizon's Scope 3 emissions are linked to fuel and energy-related sourcing and supply activities. To this end, reducing our operational Scope 1 and 2 emissions will also contribute to material Scope 3 emissions reductions.

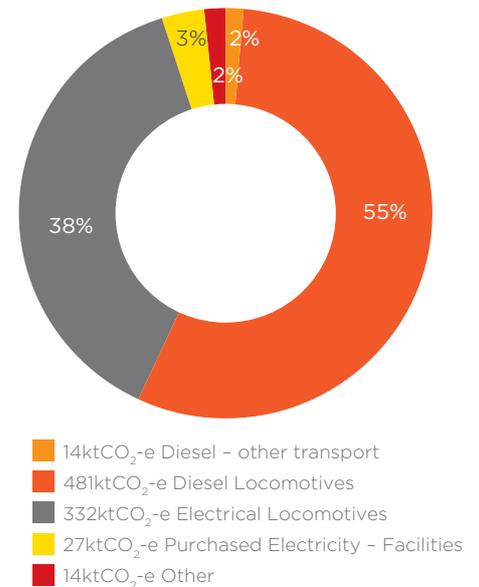
A breakdown of our calculated Scope 3 emissions is provided in our Financial, Environmental, Social and Governance Metrics table towards the end of this report. Our Scope 3 emissions reporting boundary and identification of relevant activity sources have been informed by the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard<sup>71</sup> and have received external assurance by Deloitte (assurance statement available at the end of this report).

Under the Australian Government's Safeguard Mechanism, we, along with other large energy emitters, are incentivised to keep emissions below baseline.

The Safeguard Mechanism is administered by the Clean Energy Regulator (CER), which, in March 2020, released results for the compliance period to 30 June 2019. Our four covered safeguard facilities were not required to purchase or generate offsets to meet our abatement obligations<sup>72</sup>.



Figure 28 - Aurizon's FY2020 Scope 1 and 2 greenhouse gas emissions profile



70 The Greenhouse Gas Protocol, *A Corporate Accounting and Reporting Standard*. Available: <https://ghgprotocol.org/corporate-standard>.

71 The Greenhouse Gas Protocol, *Corporate Value Chain (Scope 3) Accounting and Reporting Standard*. Available: <https://ghgprotocol.org/standards/scope-3-standard#:~:text=Released%20in%202011%2C%20the%20Scope,and%20downstream%20of%20their%20operations>.

72 Following amendments to the Safeguard Mechanism in 2019, we are in the process of transitioning our Safeguard facilities to updated baselines. The 2019 amendments to the Safeguard Rule will require Aurizon to transition three of our facilities currently on reported baselines to transitional calculated or production-adjusted baselines within a set timeframe.

**Emissions intensity performance**

In recognising the risks associated with climate change, we acknowledged our responsibility to reduce our GHG emissions intensity. In 2016, our Board endorsed a 15% reduction of the GHG emissions intensity of our locomotive fleet by FY2020 (from a FY2015 baseline). Our emissions intensity target was developed in alignment with public commitments from industry leaders in the rail and freight transportation sector at the time.

As illustrated in figure 29, since FY2015 we have reduced our locomotive emissions intensity by 7%. In total since 2010, we have reduced our locomotive emissions intensity by 20%. These improvements have been made principally through a combined approach of retiring ageing fleet, substituting fuel (moving from diesel to electric fleet) and improving fuel efficiency.

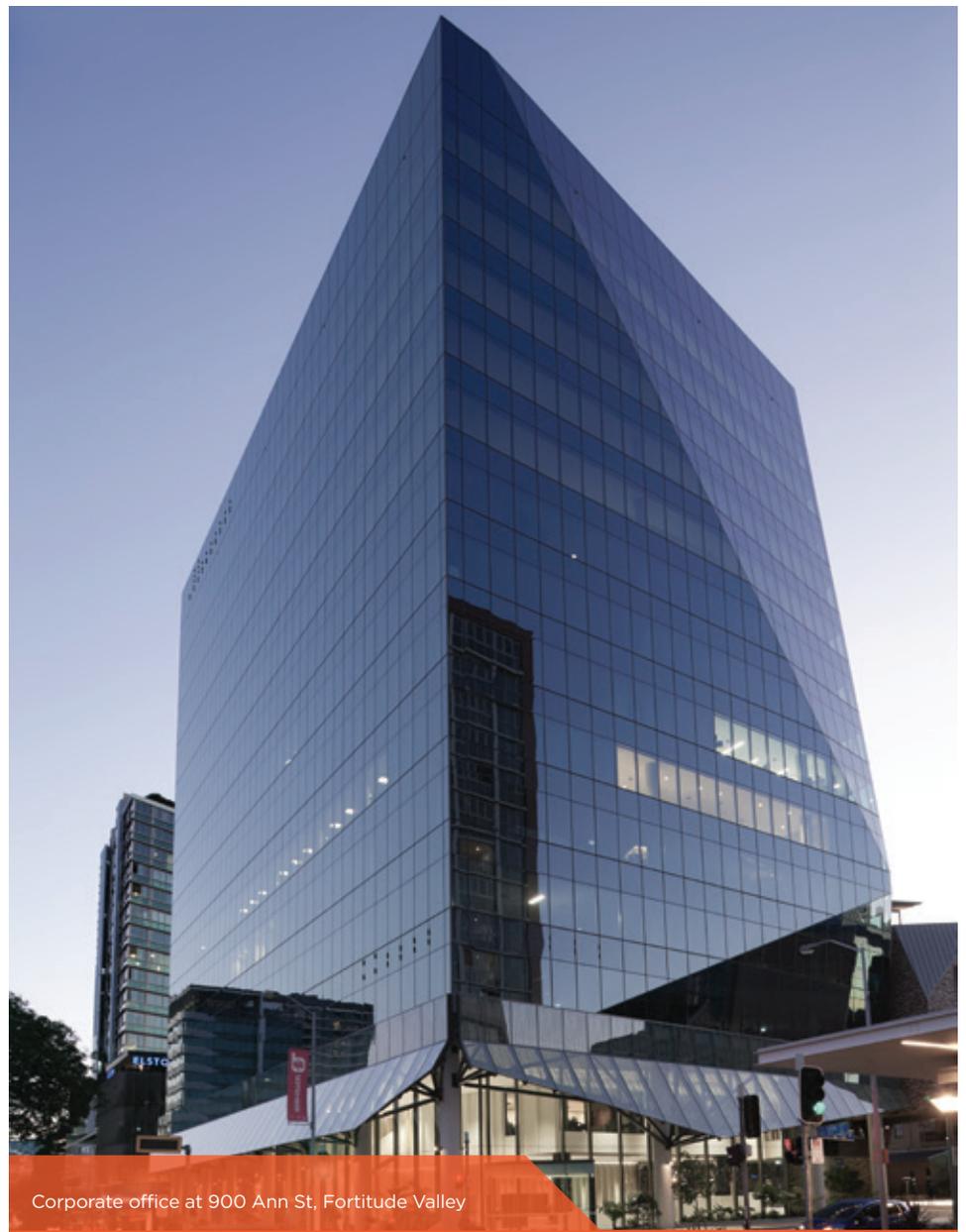
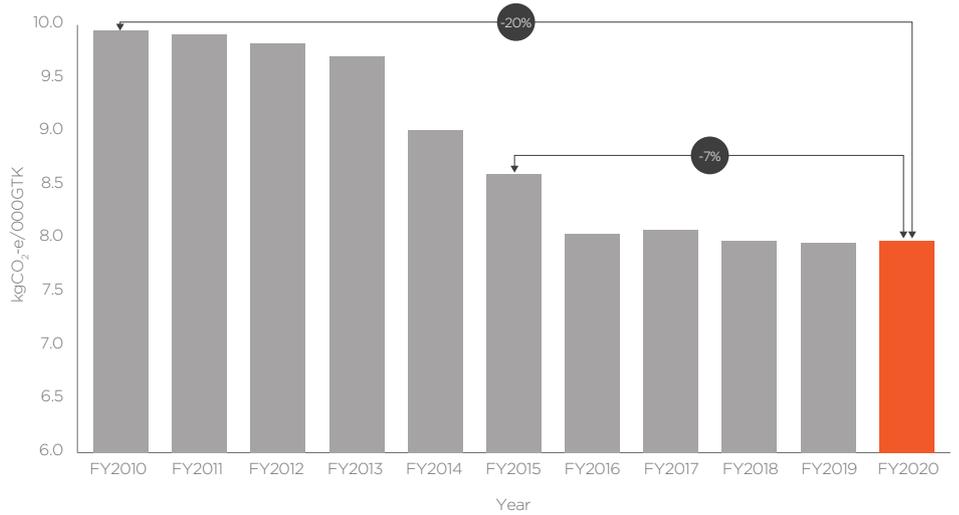
Over the past three years, our weighted emissions intensity has been affected by a shift in service mix and natural weather events. Despite significant reductions to date, we acknowledge that we did not achieve our targeted 15% emissions intensity reduction in FY2020. In response, we will provide an update on our long-term approach in managing our emissions in our *Climate Strategy and Action Plan*.

**Facilities, renewable energy and energy efficiency**

We continue to focus on reducing the energy and carbon footprint of our offices, buildings and depots. After assessing site-level solar energy feasibility of our real estate portfolio, we have progressed through design phase, the installation of a 25-kilowatt (kW) roof-mounted solar array and a 20kW on-ground solar structure at our Callemondah facility in Central Queensland. A 120kW system is in the feasibility phase at the site. When completed, these systems will reduce the Callemondah facility’s Scope 2 emissions by approximately 20% (or roughly 238 tonnes of CO<sub>2</sub>-e per year).

Our corporate office at 900 Ann Street in Fortitude Valley (where we tenant eight floors) has now achieved a 5.5-star NABERS Energy Base Building rating<sup>73</sup>. This is in addition to the building’s Green Star Rating of 5.

**Figure 29 – Emissions intensity performance**



Corporate office at 900 Ann St, Fortitude Valley

<sup>73</sup> NABERS is a national rating system that measures building performance on a scale of zero to six stars. A zero-star rating indicates that a building is performing well below average; however, a six-star rating indicates market-leading performance. The Base Building Energy Rating considers a building’s central services, including heating and cooling systems, lifts, and lobby lighting.

### Climate-related physical risk and resilience

While we continue to build capability in monitoring, managing and designing infrastructure and services to improve resilience against climate-related physical risk, we are also making incremental improvements to the way in which we capture and use weather- and temperature-related data in our daily operations.

We will continue to enhance our capability to assess physical risk to key assets and operations.



#### Case study: Remote temperature monitoring to manage rail infrastructure during hot weather

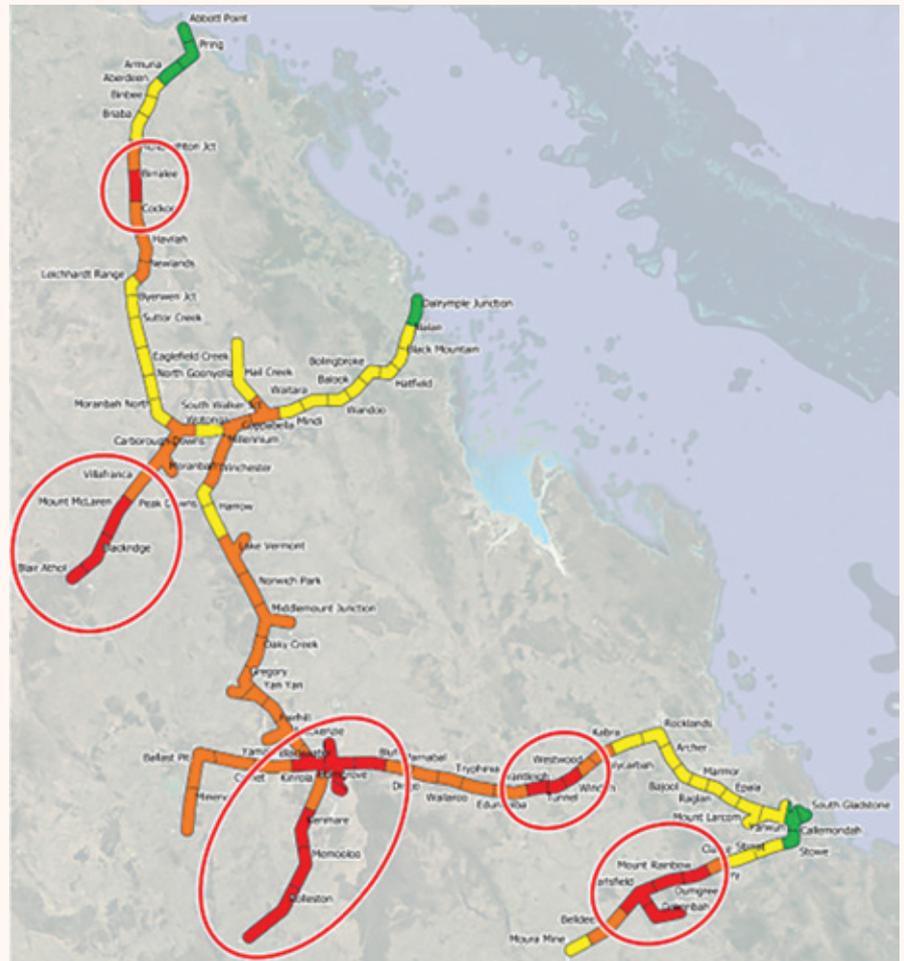
Seasonal changes leading to high temperatures in Queensland increase the risk of track buckling to our rail infrastructure.



Traditionally, this risk has been managed by inspecting misalignments and restricting rollingstock speed when certain temperature thresholds are exceeded. Until recently, this temperature information was derived from weather stations that are 96 kilometres apart, on average, or from single observations using handheld devices.

During the summer of FY2020, our Network business trialed a continuous stream of localised temperature data through the installation of remote autonomous temperature-monitoring devices (installed about 20 kilometres apart) throughout our Central Queensland Coal Network (CQCN). Each device is capable of relaying ambient and rail temperatures at high frequencies. It enables temperature data to be summarised into a series of automated alerts and live dashboards, so inspections or speed restrictions can be targeted to only where they are needed (see figure 30). This increased the visibility and granularity of the weather conditions in the CQCN, resulted in fewer restrictions during extreme conditions, and maintained appropriate management of our below rail assets.

Figure 30 - Regional summer heat gradient (CQCN)



CQCN autonomous temperature monitoring

## Diesel locomotives

We continue to take a proactive approach in reducing our locomotive diesel emissions. As a rail freight operator with a large diesel locomotive fleet, we acknowledge our responsibility to reduce any impact we have on Australia’s world-leading regional and metropolitan air quality.

Key stakeholders, including state and national government agencies, have recognised the efforts of rollingstock operators (led by Aurizon) in developing the Rail Industry Safety and Standards Board Code of Practice (CoP) on the Management of Locomotive Diesel Emissions<sup>74</sup> For example,

- The introduction of legislation by the New South Wales Government, requiring rollingstock operators to apply for Environmental Protection Licences (EPLs) in 2020, adopted requirements set out in the CoP when establishing acceptable thresholds for locomotive diesel emissions. Throughout the industry consultation process, our reputation enabled effective input into the Environmental Protection Authority’s approach for EPL implementation.
- The exemption of off-road diesel transport, including rail freight, from the introduction of national standards for the regulation of off-road engines<sup>75</sup> recognised the actions of the rail freight industry (led by us) through introducing the CoP. This is a significant industry outcome because it reduces regulatory oversight and cost.

As we continue to implement the CoP standards across our diesel locomotive fleet, we have committed to reporting on our progress annually through the Australian Railway Association’s website<sup>76</sup>.

## Coal dust

We work collaboratively with our supply chain partners across our operations to minimise coal dust emissions from our coal haulage. As part of this approach, we focus on maintaining world-leading solutions tailored to suit the unique needs of each coal supply chain.

### Central Queensland Coal Network (CQCN)

The CQCN supply chain has continued its concerted long-term focus on minimising rail-related coal dust emissions by

implementing key controls outlined in the *CQCN Coal Dust Management Plan* (CDMP), first published in 2010.

In FY2020, Network updated the document, showing that actions originally documented as needing to be done in 2010 have been implemented as standard operating practices for at least the past five years. The update involved extensive consultation with the CQCN supply chain (i.e. mines, rollingstock operators, port terminal operators and the Queensland Resources Council) over eight months. The 2020 version of the CDMP does not lessen, reduce or amend any requirements in the 2010 version, and is publicly available on our website.

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.

We continue to monitor opacity (a measure of air quality) on each of the four rail systems in the CQCN, and actively track opacity trends, including investigating any exceedance of the Department of Environment and Science’s agreed 5% opacity threshold. In FY2020, the number of validated exceedances recorded on the CQCN fell by 67%, from 48 (FY2019) to a record low of 16 (FY2020). This represents less than 0.04% of approximately 43,000 coal train movements in FY2020.

We note that external factors can affect opacity. Opacity exceedances tend to coincide with the onset of warmer months (September – January) and corresponding drier weather, before declining with the

onset of extended periods of rain and cooler weather (February – June). We are pleased to again see a further downwards trend in the small proportion of trains that exceed the opacity threshold (figure 31).

### South-West System (Queensland)

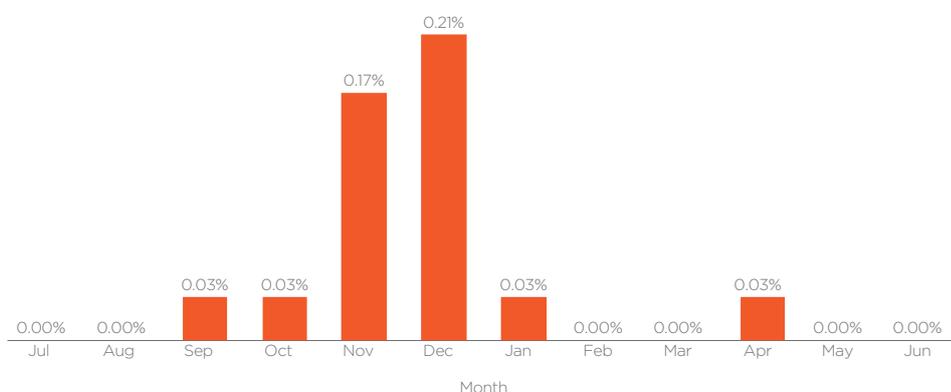
We continue to work with the South-West System Users Group (SWUG) to implement the controls outlined in the South-West Supply Chain Coal Dust Management Plan (CDMP).

The results of monitoring on behalf of the SWUG by the Department of Environment and Science continues to demonstrate rail transport (including coal haulage) along the system to comply with air quality criteria (PM2.5, PM10, TSP and dust deposition). The Queensland Department of Health has concluded that dust levels along the system are unlikely to result in any adverse health effects<sup>77</sup>. The supply chain has a long-term commitment to demonstrate ongoing compliance with air quality criteria along the South-West System.

### Hunter Valley (New South Wales)

We collaborate with the Hunter Valley coal chain and our respective stakeholders to continually improve environmental performance. Through continued involvement in industry forums such as the Hunter Valley Steering Group on Rail Corridor Air Quality, we proactively lead and support industry investigations into potential environmental improvement initiatives. A summary of studies and initiatives implemented by the Steering Group can be found on the New South Wales Minerals Council website<sup>78</sup>.

**Figure 31 – Percentage of valid Aurizon train services exceeding 5% opacity on the CQCN (FY2020)**



74 Rail Industry Safety Standards Board (2018), *Code of Practice – Management of Locomotive Exhaust Emissions*, Available: <https://www.rissb.com.au/products/code-of-practice-management-of-locomotive-exhaust-emissions/>  
 75 Further information about the Australian Government’s evaluation of non-road diesel engine emissions is available as follows: <https://www.environment.gov.au/protection/air-quality/national-clean-air-agreement/evaluation-non-road-diesel-engine-emissions>.  
 76 Australian Railway Association, *Management of Locomotive Exhaust Emissions*. Available: <https://ara.net.au/key-issues/management-locomotive-exhaust-emissions>.

77 Queensland Government, Department of Information Technology, Science, Innovation and the Arts (2013), *Western-Metropolitan Rail Systems Coal Dust Monitoring Program, Final Report*. Available: [https://www.qld.gov.au/\\_data/assets/pdf\\_file/0033/68775/rail-coal-dust-final-report.pdf](https://www.qld.gov.au/_data/assets/pdf_file/0033/68775/rail-coal-dust-final-report.pdf).  
 78 NSW Minerals Council website, Environmental Management. Available: <https://www.nswmining.com.au/environmental-management>

A rise in Hunter Valley rail network demand by our mining customers has led to an expansion of our rollingstock fleet above the fleet assumptions that underpinned the original Hexham Train Support Facility (TSF) business case. This fleet growth created operational constraints because it was not possible to turn locomotives around at the TSF to relieve the increased network congestion. To address existing TSF constraints and the Hunter Valley network congestion, we were granted approval to build a turning angle at the TSF by the Department of Planning, Industry and Environment on 8 October 2019. We began construction in January 2020 and completed works in June 2020.

**Biodiversity**

**Invasive plant management**

The occurrence and associated impacts of invasive plants on land owned, leased or otherwise used by our business and our subsidiaries requires continual vigilance and reactive management. The CQCN is particularly susceptible to infestation by invasive plants because of its proximity to vast expanses of agricultural land and disturbed bushland, its passage across numerous waterways, and the controlled and uncontrolled movement of light vehicles along its access roads. Livestock, wind, water and vehicles also most effective at dispersing weed species.

Our employees and contractors take a range of reasonable and practical steps to prevent or minimise weed spread as a consequence of their activities. This includes active control of known infestations by direct removal and herbicide application. These steps are continuous because weed seed can remain viably dormant in the soil for more than 20 years.

Other measures to mitigate dispersal of invasive plants within our sites can include:

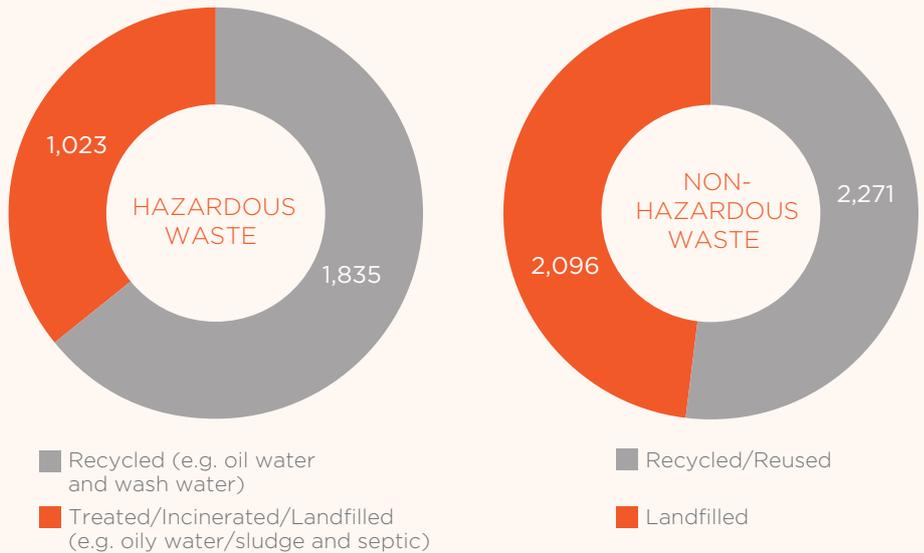
- Avoiding vehicle movements through known infestations
- Cleaning work equipment, clothing, vehicles and machinery when leaving known infested areas
- Pre- and post-work mapping of infestations to quantify any potential increase in weed coverage
- Documenting that vehicles and machinery entering a worksite are clean.

**Waste and resource management**

We recognise that landfill diversion is a waste management priority across Australia, and that recycling and plastics are high on the national agenda. We support the objectives of Australia's *National Waste Policy Action Plan*<sup>79</sup>,

published in 2019, to guide targeted investment and establish long-term national drivers for removing impediments to a circular economy for waste. At Aurizon, we continue to seek out opportunities to reduce our waste footprint. Figure 32 shows our FY2019 waste output, including landfill, recycled, treated and incinerated wastes.

**Figure 32 - Aurizon's FY2020 waste profile (tonnes)**



Before entering privately controlled land, we have established processes to determine whether a property has a specific Biosecurity Management Plan (or similar) in place, and to communicate any specific requirements to staff and contractors to prevent the spread of weeds within those properties.

**Compliance reporting**

In FY2020, we did not incur any monetary fines or sanctions for non-compliance. However, six notifiable environment

incidents were required to be reported to the regulator (see table 4). All incidents involved hydrocarbon spills, with all damaged areas appropriately remediated. Two of the incidents in Queensland were related to a common fault in locomotive componentry (which has since been rectified). None of the incidents caused ongoing harm to people or the environment, nor required ongoing remediation.

**Table 4 - Notifiable incidents in FY2020**

LOCATION	VOLUME	MATERIAL
Hexham, New South Wales	2,200 L	Hydrocarbon
Cloncurry, Queensland	500 L	Hydrocarbon
Wulkuraka, Queensland	1,300 L	Hydrocarbon
Ebenezer, Queensland	1,500 L	Hydrocarbon
Morowa, Western Australia	400 L	Hydrocarbon
Ardglen, New South Wales	5,000 L	Hydrocarbon

<sup>79</sup> The *National Waste Policy Action Plan* (2019) was developed jointly by Commonwealth, state, territory and local government agencies to provide a framework for collective national action on waste management, recycling and resource recovery to 2030.



# People

At Aurizon, our people are our greatest asset. We have more than 4,900 employees, with more than 80% living and working in regional Australia, including over a quarter of our senior management<sup>80</sup>. Our purpose of growing regional Australia by delivering bulk commodities to the world is underpinned by a workplace culture of connection. 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, partnerships and creating an inclusive workplace.

## Creating a values-driven safety and performance culture

We strive for a culture where people live our values and are engaged and enabled to do their best work. Strong leadership, culture and simplified governance lay the foundation to achieve this.

### Safety and Performance Culture

As outlined in our *Safety* chapter, our Safety and Performance Culture program is integral to delivering our safety strategy. It integrates culture-focused initiatives to prioritise and achieve sustainable cultural change. This includes a series of surveys to inform culture program priorities.

### Leadership development

Leadership capability is fundamental to creating a safety and performance culture. As a key strategic deliverable for our executive team, we progressed three core leadership programs over the last year:

- Approximately 340 leaders have participated in a Frontline Leader Program, which creates a common language and framework for leaders to influence performance and safety outcomes.
- We introduced a Safety Leadership Program that equips operational leaders with skills to effectively lead Safety in Action and continually improve safety in their teams (refer to our *Safety* chapter for more information). At the end of FY2020, a total of 42 leaders have participated. The program will be a significant focus for leadership development in FY2021.
- For leaders at all levels, we have continued to deliver a program that provides targeted development based on feedback about leadership style and the effect leaders have on team performance, along with understanding leadership team effectiveness. Approximately 150 senior leaders and middle management have completed the initial phase of this program. Out of the initial program phase, targeted and ongoing capability development will be provided.

In response to COVID-19, approaches including webinars, videos and virtual check-ins were implemented to ensure leaders remained supported and engaged in their development.

Throughout the year, we have continued to embed our Delivering through our Values Framework, one set of clear and simplified behavioural expectations aligned to our values, into our leadership practices, including performance and development. The values are the cornerstone of the culture we want to create, and these behavioural expectations are being embedded in how we go about our work.

## Simplifying our governance and compliance

During the year, we implemented a new enterprise-wide governance and compliance framework. This framework has delivered clear, simplified and streamlined business guidelines, now available to employees via an online portal.



<sup>80</sup> As at 30 June 2020. Senior management includes Group Executives, General Managers, and Heads of positions.

### Inclusion and diversity

At Aurizon, inclusion is centred on the premise that human connection enables us to deliver great outcomes. We know that our strength lies in our diversity. It's this diversity underpinned by an inclusive culture that helps us achieve better business outcomes and positively influence employee engagement.



**We seek diverse perspectives.**

We continue to increase our workforce diversity, recognising that targets are levers to generate change. Female representation has increased from 12.30% in FY2012 to 22.00% in FY2020, against a target of 22% (figure 33). A 1% increase from FY2019 is a notable achievement in a year when our total workforce numbers declined. Our Aboriginal and Torres Strait Islander representation has also increased, from 2.48% in FY2012 to 6.15% in FY2020, against a target of 5.5% (figure 34).

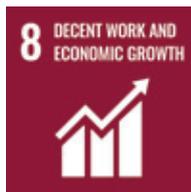
### Creating gender balance through the Gender Balance Reference Group

During late 2019, we established and launched the Gender Balance Reference Group, led by the Group Executive of our Coal business and with representation from across our Company. Our focus is to prioritise key initiatives that support attraction, engagement, retention, and closing the gender pay gap.

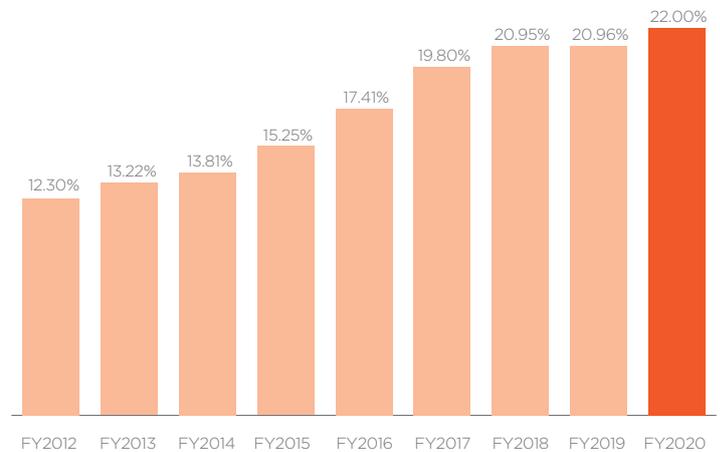
### Closing the gender pay gap

This year, we have made progress towards closing the gender pay gap. We focused on 10 key initiatives designed to improve our workforce composition and achieve gender parity. As a result, our gender pay gap (base remuneration) has improved from 6.90% in 2019 to 3.99% in 2020<sup>81</sup> (see figure 35). Our total remuneration gender pay gap improved from 12.40% in 2019 to 8.92% in this reporting period.

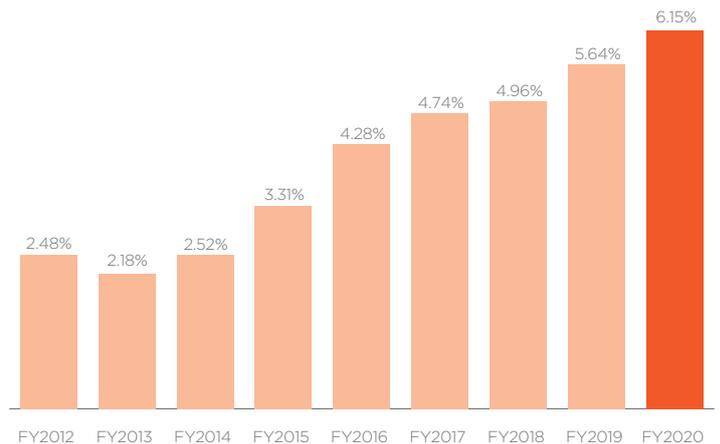
For other key data from our 2020 Workplace Gender Equality Agency (WGEA) submission, see our Environmental, Social and Governance Metrics table towards the end of this report.



**Figure 33 - Female workforce representation**



**Figure 34 - Aboriginal and Torres Strait Islander workforce representation**



**Figure 35 - Gender Pay Gap (WGEA)**

**3.99%**

#### Base Remuneration Gap

Annual earnings before tax, minus compulsory superannuation and additional benefits

\$116,224	Female
\$121,059	Male

**8.92%**

#### Total Remuneration Gap

Annual earnings before tax plus all extra benefits

\$149,752	Female
\$184,415	Male

<sup>81</sup> The data used in our Workplace Gender Equality Agency (WGEA) report this year was for the period of 1 April 2019 to 31 March 2020.

### Committing to our Aboriginal and Torres Strait Islander employees

Working across 44 Traditional Owner Groups in Australia, we have a long history with our Indigenous employees and cultural connections. We have been formally committed to our role in reconciliation since 2015 through our Reconciliation Action Plan (RAP) and partnering with Reconciliation Australia. As we continue to strive to lead our business in a socially responsible way and connect to the communities in which we operate, we understand that the role we play in reconciliation goes beyond what we do internally. Our partnership with Supply Nation, Australia’s largest national directory of Indigenous businesses, and our second year of Indigenous Future Leaders Program, are two examples of the importance in executing our RAP.



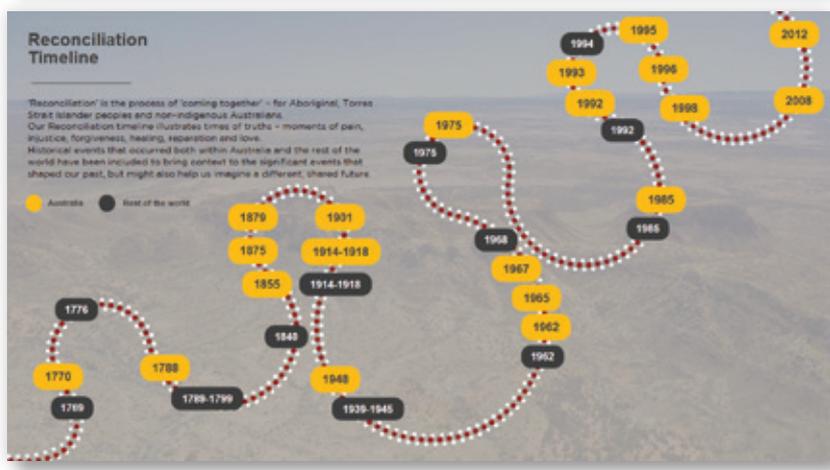
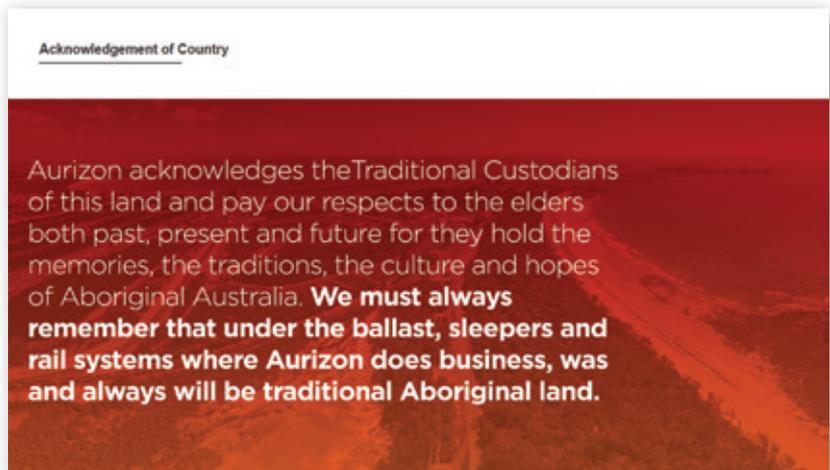
Aurizon’s Indigenous Future Leaders Program held in November 2019

### Walking together to achieve reconciliation

Fostering respect is an important pillar of our RAP. Part of our commitment included developing and rolling out an internal Cultural Awareness Online Learning Experience during FY2020.

Our vision was to create an experience beyond simply learning. For us, this was an experience that employees could engage with that didn’t involve measuring their cultural awareness. Rather, we designed a program that fosters respect, connection and understanding. The interactive learning experience uses language, messaging and tone that not only connects emotionally with people, but also stimulates curiosity and insight across our Australian depots. We knew that to create lasting change, the program should be built on themes inspired by our Indigenous Reference Group (IRG). The result – a product developed by our people, for our people. It has set a new benchmark for how we engage employees in learning.

By ensuring the IRG are the custodians of the Cultural Awareness Online Learning Experience, this helps drive the delivery and commitment of fostering respect in line with our RAP. Over 90% of the workforce took the program within nine weeks, a testament to the creative and stimulating learning experience.



Aurizon’s Cultural Awareness Online Learning Experience

## Capability and succession

### Building capability

Our workforce capability is crucial to maintaining sustainable performance through accelerating technological, social and demographic change. Harnessing the potential of our people against targeted strategic business capabilities enables us to grow the business sustainably.

Ensuring we have people with the right skills operating within a values-based culture is key to building the capability of our workforce. During the year we progressed key initiatives, including:

- Regular monitoring of our workforce capability through our enhanced Capability Hotspot Assessment Tool, providing comprehensive data-driven insights to inform workforce planning.
- A proactive focus on our future workforce, by assessing our strengths and opportunities against key capabilities needed for sustainable business performance. This has guided the design and execution of leadership programs and recruitment.
- A rollout of next-generation virtual reality technology, used in our training schools where employees learn skills of shunting and marshalling trains, to continue to produce a pipeline of highly skilled train drivers and freight operators. These training schools are led by valued employees who have extensive knowledge and experience they share with trainees.

- Our innovative approach to bringing people and technology together is reflected in key operational technology projects. See our *How we operate* chapter for more information about these initiatives.

We recognise one of our greatest assets is our collective industry knowledge, which is strengthened by our longstanding employees. Our core frameworks and programs recognise the value of this knowledge:

- Our learning and development framework strongly encourages on-the-job learning and development, recorded in our performance management system. This facilitates knowledge sharing by employees acquiring job-specific skills.
- Our talent and succession framework helps us develop an internal talent pool that engages and retains valued employees, and their knowledge, while reducing external recruitment costs.
- Many of our internal development programs are co-facilitated by internal subject matter experts; on-the-job learning is coached by managers and support functions to ensure sustainability of learning.

### Employee relations

During the year, we implemented the Queensland Coal Enterprise Agreement. We also completed the renegotiation of the Queensland Bulk Enterprise Agreement, concluding the recent round of Enterprise Agreement negotiations across the country, with bargaining now complete for all seven Enterprise Agreements.

This recent round of negotiations typified our current employee relations environment. The negotiations were protracted and adversarial. We wanted to challenge this status quo and establish a 'better way' of managing our relationships with our employees, to create a more progressive and contemporary employee relations environment.

A dedicated project has been established to enable us to develop a long-term employee relations strategy that supports the achievement of Strategy in Action, aligns with our values, and enables a safety and high-performance culture. The project has identified some key strategic themes, underpinned by various initiatives. We will begin to implement these initiatives in FY2021.



# Community

## Regional focus

With an operational footprint that primarily spans Queensland, New South Wales and Western Australia, we recognise how important it is that we contribute to our communities not just as a business, but as a genuine partner in the areas where we operate.

More than 80% of our employees and their families live and work in regional Australia. By providing job opportunities to people in these regions and engaging with local business and suppliers for products and services, we can help to create a more economically sustainable community.

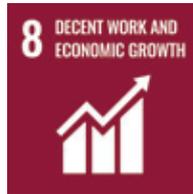
### Regional Australia Council 2031

During FY2020, we became a founding member of the Regional Australia Council 2031 (RAC2031), with other leading Australian companies<sup>82</sup>, to give a greater voice and support to the future development of regional Australia. Established by the Regional Australia Institute (RAI), RAC2031 aims to use the collective knowledge and influence of the Council and corporate members to help transform the regions. The Council's work will focus on four pillars – jobs, population, liveability, and people/leadership.

We are already well invested in regional Australia, but there is more potential to unlock for the benefit of local communities and the Australian economy. We know, for example, that recruiting and training people locally means a greater connection with the local community and likelihood to stay. This also builds a talent pipeline of future leaders who live and work close to home and their communities.

## Spending in our communities

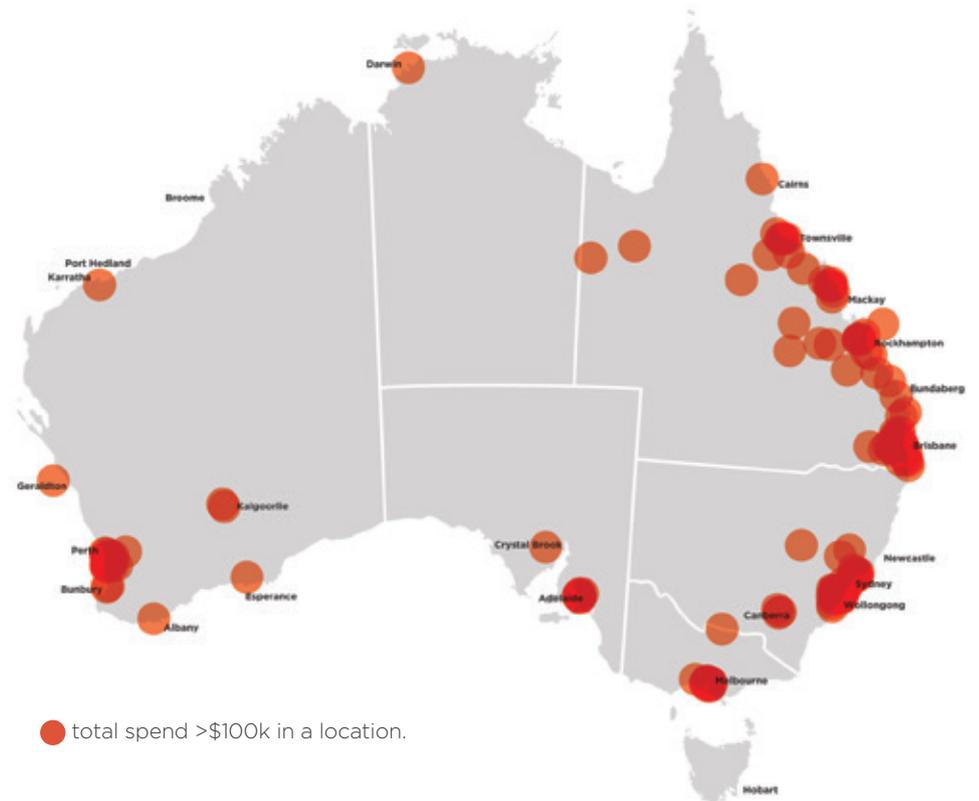
We continue to develop and improve our regional facilities. We focus on providing employees with the equipment and capabilities needed to support efficient supply chains services for customers, in a safe workplace. In FY2020, we invested approximately \$52 million to upgrade and improve facilities in regional Australia. Our regional investment projects included building new wagon and locomotive overhaul facilities in Jilalan,



upgrading our Network depots, a project to improve energy efficiency at Callemondah and Jilalan, and upgrading the provisioning shed at Stuart in Townsville.

As a national company with a large regional footprint, we work with many different product and service suppliers to help the everyday running of our business. This, in turn, means we are allocating funding to spend within local communities related to our operations. In FY2020, we spent an estimated \$1.25 billion with suppliers across the country (as part of our total supplier spend of \$1.3 billion). A large percentage of this spend has been outside our capital cities (see figure 36). These figures, however, do not consider the further economic impact of our employees and their families who also live and work in these areas.

Figure 36 – Aurizon’s FY2020 regional spend



82 Telstra, KPMG, NBN, Prime Super, Expedia Group, Bendigo Bank, Commonwealth Bank, APPEA (The Australian Petroleum Production & Exploration Association) and TransGrid.

## Working together

At Aurizon, we are committed to continuing to build on our history of working with our local communities to ensure we are considered an active and contributing member of these communities. Our multi-faceted approach to achieving this is based on the following:

- Ensuring we uphold the highest standards of safety, and that our communities understand safety is our number one priority. As a result, as part of COVID-19 pandemic, we have taken decisive action to introduce health and safety protocols at all regional locations and for all employees (see our *How we operate* chapter).
- Continuing to build and maintain good long-term relationships with community stakeholders through mutual understanding.
- Establishing an ongoing dialogue to ensure we can focus on continuously improving our performance.
- Upholding our corporate responsibility for all legislative and regulatory obligations.
- Engaging with local, state and Australian governments to inform them of our work with local communities, and to understand and help where we can support the priorities of local communities, including through our Community Giving Fund.

We understand that our operations can directly affect our communities. We are committed to continuing to work with local stakeholders to ensure we give voice to community concerns.

We seek to engage with genuine and honest intent. We encourage our communities to engage directly with us on any concerns so we can work together on solutions.

We provide feedback channels through our website and social media platforms so that members of our communities can easily contact us. We aim to respond consistently and in a timely manner.

## Your community is our community

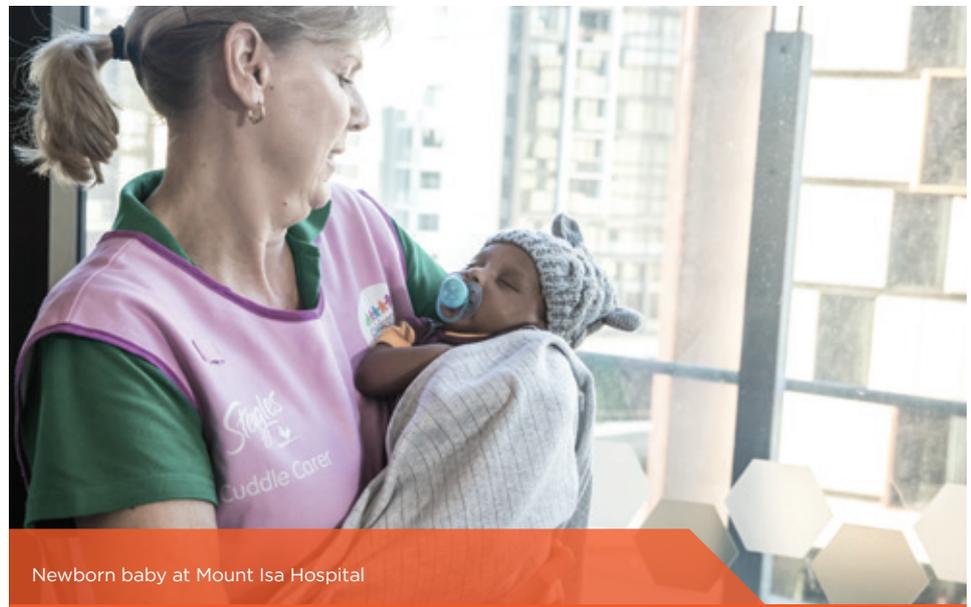
Our Community Giving Fund provides grants to help a range of local initiatives across the areas where we operate. Since 2011, we have now funded over 400 initiatives and are proud to continue to support organisations and projects across our communities. During FY2020, we supported 58 charities through the fund.

Some examples of the types of recipients from our FY2020 funding include:

### Mount Isa Hospital, Queensland: Children's Hospital Foundation, Kanmed BabyWarmers

The Mount Isa Hospital is responsible for the delivery of all births in North-West Queensland (excluding very high-risk births). Mothers travel sometimes hundreds of kilometres to have their babies. This is a vital and essential service for any community, but especially so for such a remote area of Australia.

Funding from our Community Giving Fund was allocated by the Children's Hospital Foundation to supply the Mount Isa Hospital with four Kanmed BabyWarmers. These warmers improve clinical care for newborn babies by providing radiant heat, which lowers their risk of short- and long-term complications, and improves support closer to home.



Newborn baby at Mount Isa Hospital

### Kalgoorlie, Western Australia: Share the Dignity, Dignity Vending Machine Project

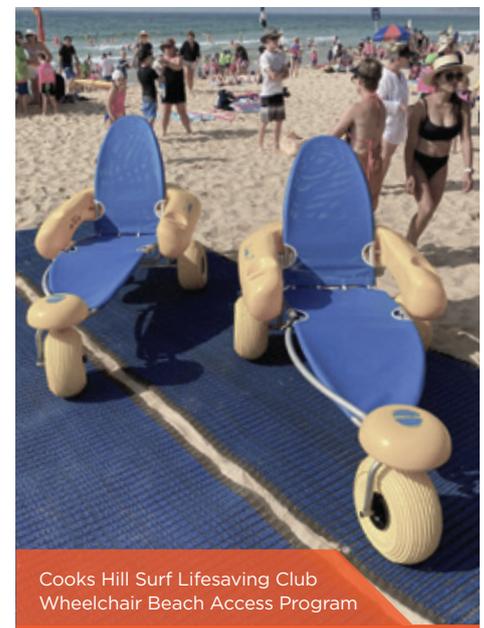
Share the Dignity are a Queensland-based organisation supporting women across Australia through several different programs. One such program – their Dignity Vending Machine Project – installs and maintains a vending machine that dispenses free packs of feminine hygiene products to women in need. The aim of this project is to offer a reliable, immediate response to all women experiencing homelessness by offering free sanitary items to give these women a sense of dignity.

Through a grant from the Community Giving Fund, Share the Dignity were able to produce and install a vending machine for vulnerable and at-risk women in Kalgoorlie in Western Australia.

### Cooks Hill Surf Life Saving Club, Newcastle: Tiralo Beach Wheelchairs

The Cooks Hill Surf Lifesaving Club at Bar Beach in Newcastle was established in 1911. Each summer, the club has over 800 children in their nippers program. They have also established a Wheelchair Beach Access Program to enable people with a disability to enjoy time on Bar Beach and in the surf.

Our Community Giving Fund was able to support this wonderful disabled access program with funding to buy two Tiralo Floating Wheelchairs. These wheelchairs are designed to offer a better experience for people with a disability and/or special needs, their carers, and volunteers who help them. They are easier to manoeuvre on the sand and in the water.



Cooks Hill Surf Lifesaving Club Wheelchair Beach Access Program

# Tax at Aurizon

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

Aurizon continues to voluntarily adopt the Tax Transparency Code, demonstrating our commitment to paying our fair share of tax.

## Taxes paid and collected

We pay various taxes to the Australian and state governments, and collect various tax payments on their behalf.

As demonstrated in figure 37, Australian corporate income tax represents the largest

component of taxes we pay. Corporate income tax is payable in instalments throughout the income year, with a balancing payment made in December following the end of the income year to reflect the final income tax liability for that income year. The corporate income tax represented in figure 37 reflects taxes paid in respect of the income year, rather than taxes actually paid during the income year.

As demonstrated in figure 37, Pay As You Go Withholding taxes collected in respect of employees' salary and wages represent the largest component of taxes we collect (on behalf of the Australian Government). Figure 37 excludes a number of taxes that are considered immaterial for our business, including (but not limited to) stamp duty, 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.

## Tax strategy, tax policy and governance

Our tax strategy focuses on:

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

This strategy is implemented through our Board-approved Tax Policy and our broader Enterprise Risk Management Framework.

Our Tax Team has primary responsibility for implementing our tax strategy, with oversight by the Chief Financial Officer (CFO), the Audit, Governance and Risk Management Committee, and the Board.

## Accurate and timely tax compliance and reporting

Our 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 and the Board.

## Enhancing shareholder value through principled tax planning

Our tax strategy aims to enhance shareholder value through principled tax planning. Broadly, principled tax planning includes:

- ensuring operations, transactions and funding are tax efficient
- utilising tax concessions, where available
- ensuring we make appropriate tax elections when given a choice under the tax law
- ensuring tax positions adopted by our Company are in accordance with parliamentary intention and guidance provided by the ATO, and do not breach published safe harbour limits.

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

Tax positions adopted by our business are considered by at least two qualified tax professionals, with material positions verified with external independent advice.

## Building a transparent relationship with the ATO

We actively manage our relationship with the ATO to foster transparency, taking a 'no surprises' approach, and ensuring the ATO is aware of all significant tax positions and transactions.

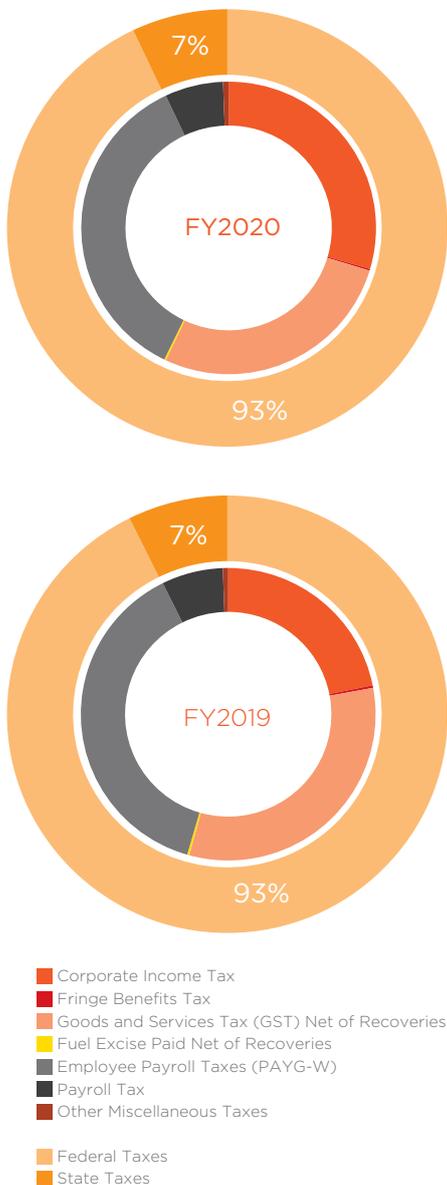
## Income tax

The following information has been derived from the audited financial statements prepared for our business for FY2020. Our financial statements reflect our Australian corporate income tax position (applying the 30% corporate tax rate). Any income tax attributable to overseas operations is negligible.

Australian tax law and Australian accounting standards have different rules in respect of the timing of recognition of income and expenses. Under the accounting standards, differences between accounting and tax rules are classified as:

- Temporary differences – these differences reverse over time

**Figure 37 – Taxes collected and paid by Aurizon**



- Non-temporary differences – these are permanent differences that do not reverse over time, or temporary differences that do not meet the recognition criteria under the accounting standards.

The accounting standards require us to calculate income tax expense, which includes a current tax component and a deferred tax component. The current tax component represents the expected tax liability for the income year. The deferred tax component represents taxes to be paid, or deductions available in future income years.

The deferred tax component is recognised as a net deferred tax asset (future deductions available) or a net deferred tax liability (future tax payable) on the balance sheet.

### Reconciliation of accounting profit to income tax payable

Table 5 provides a reconciliation of our accounting profit/(loss) before tax to income tax expense and income tax payable. Income tax expense is calculated as the accounting profit/(loss) before tax, multiplied by the applicable tax rate, and adjusted for non-temporary differences.

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

The key adjustment in our tax calculation is for temporary differences arising from the different accounting and tax treatment of fixed asset-related costs. This is because we are a capital-intensive business, with a significant portion of our asset base comprised of Property, Plant and Equipment.

### Effective income tax rate

The Australian accounting standards define 'effective tax rate' as the income tax expense for the income year, divided by the accounting profit/(loss) before tax. Our effective income tax rate is outlined in table 6.

Our effective tax rate for FY2020 of 30.1% is more than the 30% Australian corporate tax rate. This is primarily due to the derecognition of the deferred tax asset in respect of net capital losses.

**Table 5 – Reconciliation of accounting profit to income tax payable**

(\$m)	FY2020	FY2019
Current Tax	187.7	126.1
Deferred Tax	77.5	74.7
Total Income Tax Expense	265.2	200.8
Underlying Profit/(Loss) Before Tax	773.2	688.7
Significant Items	107.9	(11.4)
Statutory Profit/(Loss) Before Tax	881.1	677.2
Tax at Australian Tax Rate of 30%	264.3	203.2
Tax effect of amounts that are not (taxable) deductible in calculating taxable income:		
- Research and Development	0.0	0.0
- Capital Losses Not Recognised	1.1	3.6
- Other	2.4	(5.8)
- Adjustments for tax of prior periods	(2.6)	(0.2)
<b>Income Tax Expense/(Benefit)</b>	<b>265.2</b>	<b>200.8</b>
Temporary Differences:		
Provisions / Accruals	(2.6)	(12.6)
Customer Contracts	(7.3)	(7.4)
Property, Plant and Equipment	(58.4)	(69.5)
Other	(10.3)	16.3
<b>Income Tax Payable</b>	<b>186.6</b>	<b>127.6</b>

**Table 6 – Aurizon's Effective Income Tax Rate (for continued and discontinued operations combined)**

	FY2020	FY2019
Underlying Profit Before Tax (PBT)	\$773.2m	\$688.7m
Significant Items	\$107.9m	(\$11.4m)
Statutory PBT/(LBT)	\$881.1m	\$677.3m
Statutory Income Tax Expense/(Benefit)	\$265.2m	\$200.8m
Statutory Effective Tax Rate	30.1%	29.7%
Underlying Income Tax Expense	\$232.8m	\$208.6m
Underlying Effective Tax Rate	30.1%	30.3%

## Environmental, social and governance metrics

FINANCIAL RESULTS	UNIT	FY2020	FY2019
Total Revenue	\$m	3,064.6	2,907.6
EBITDA	\$m	1,467.6	1,371.6
EBIT	\$m	909.0	829.0
Income Tax (expense)/benefit	\$m	(229.1)	(208.6)
NPAT	\$m	531.4	473.3
Earnings per share <sup>83</sup>	cents per share	27.2	23.8
Return on invested capital (ROIC) <sup>84</sup>	%	10.9	9.7
Operating Ratio	%	70.3	71.5
OPERATING METRICS	UNIT	FY2020	FY2019
Above Rail Revenue/NTK <sup>85</sup>	\$/'000 NTK	25.2	24.5
Labour costs <sup>86</sup> /Revenue	%	26.4	26.0
Above Rail opex/NTK (excluding access)	\$/'000 NTK	20.9	20.3
Above Rail NTK (Coal)	billion	50.0	50.5
Above Rail Tonnes	million	262.0	258.9
Below Rail Tonnes	million	226.9	232.7
SAFETY	UNIT	FY2020	FY2019
Total Recordable Injury Frequency Rate	TRIFR	9.92	11.07
Rail Process Safety	Incidents per million train kilometres travelled	4.74	4.38
COMMUNITY	UNIT	FY2020	FY2019
Total estimated spend with suppliers	\$b	1.3	1.2
Taxes collected and paid <sup>87</sup>	\$m	408	357
Number of supported charities	#	58	54
PEOPLE	UNIT	FY2020	FY2019
Full-time equivalent employees	#	4,883	4,728
Wages and benefits paid	\$	792	810
Regional workforce representation	%	83	80
Senior management regionally based	%	26	27
Female workforce representation	%	22	21
Female appointees into manager roles	%	40	26
Parental leave uptake	#	Managers: 16 Non-managers: 156	Managers: 12 Non-managers: 168
Aboriginal and Torres Strait Islander workforce representation	%	6.15	5.64
Females in senior leadership roles			
Board	%	38	33
Executive leadership team <sup>88</sup>	%	22	22
General managers <sup>89</sup>	%	17	19
Senior leadership team <sup>90</sup>	%	41	35

83 Calculated on weighted average number of shares on issue.

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

85 Above Rail includes both Coal above rail revenue and Bulk freight transport revenue.

86 FY2020 excludes \$16.0m redundancy costs (FY2019 excludes \$21.4m redundancy costs).

87 Excludes PAYG income taxes included in wages and benefits paid.

88 Includes Group Executives and direct reports to Group Executives. Excludes executive/administrative support.

89 Includes General Manager or Head of position titles only.

90 Direct reports to Head of or General Manager.

ENVIRONMENT	UNIT	FY2020	FY2019
<b>Emissions<sup>91</sup></b>			
<b>Total GHG emissions (Scope 1 and 2)</b>	<b>Metric tonnes of CO<sub>2</sub>-e</b>	<b>867,863</b>	<b>847,603</b>
<b>Direct GHG emissions (Scope 1)</b>	<b>Metric tonnes of CO<sub>2</sub>-e</b>	<b>509,775</b>	<b>482,780</b>
Diesel Locomotives	Metric tonnes of CO <sub>2</sub> -e	481,480	448,971
Road Vehicles	Metric tonnes of CO <sub>2</sub> -e	14,030	15,759
Miscellaneous fuel emissions	Metric tonnes of CO <sub>2</sub> -e	14,265	17,859
<b>Indirect GHG emissions (Scope 2)</b>	<b>Metric tonnes of CO<sub>2</sub>-e</b>	<b>358,088</b>	<b>364,813</b>
Electric Locomotives	Metric tonnes of CO <sub>2</sub> -e	331,556	337,418
Facilities (electricity purchased)	Metric tonnes of CO <sub>2</sub> -e	26,532	27,395
<b>Total indirect GHG emissions (Scope 3)</b>	<b>Metric tonnes of CO<sub>2</sub>-e</b>	<b>86,996</b>	<b>97,368</b>
Purchased goods and services	Metric tonnes of CO <sub>2</sub> -e	0.076	10
Fuel and energy-related activities	Metric tonnes of CO <sub>2</sub> -e	78,821	83,786
Waste generated	Metric tonnes of CO <sub>2</sub> -e	2,853	3,966
Business travel	Metric tonnes of CO <sub>2</sub> -e	1,351	5,761
Employee commuting	Metric tonnes of CO <sub>2</sub> -e	3,971	3,845
<b>Targets (Rail Emission Intensity)</b>			
Locomotive GHG emission intensity	Metric tonnes of CO <sub>2</sub> -e per 1000 Gross Tonne Kilometres	0.007976	0.007960
GHG emissions intensity target	% of progress towards target	7	8
<b>Energy</b>			
Total direct and indirect energy consumed within the organisation	Megawatt hours	2,454,935	2,364,210
Total direct energy consumed	Megawatt hours	2,012,203	1,907,694
Diesel (used for locomotives)	Megawatt hours	1,897,094	1,768,995
Diesel (other) <sup>92</sup>	Megawatt hours	108,337	129,761
Natural gas	Megawatt hours	0	7
Other fuels (propane, gasoline, kerosene, stove oil, furnace oil)	Megawatt hours	6,772	8,931
Total indirect energy consumed - electricity	Megawatt hours	442,732	456,516
Energy intensity	Megawatt hours per million \$AUD of rail freight revenue	1000	813
Fuel efficiency	GTKs per '000 Litres of fuel consumed	314,545	324,131
Fuel efficiency savings	\$ million	0	0
<b>Effluents and Waste</b>			
Total weight of waste generated	Metric tonnes	7,225	7,523
Total hazardous waste generated	Metric tonnes	2,858	3,169
<b>Disposal methods</b>			
Sent to landfill (non-hazardous)	Metric tonnes	2,096	2,438
Recycled	Metric tonnes	4,107	3,969
Incinerated/treated/landfilled (hazardous)	Metric tonnes	2,096	2,438
<b>Water</b>			
Water consumption	Million litres	193	357

91 Aurizon's Scope 1 and 2 emissions are reported in accordance with the National Greenhouse and Energy Reporting legislation. Aurizon's identification of relevant Scope 3 emissions activity sources is informed by the GHG Protocol Corporate Value Chain (Scope 3) Standard and includes: purchased goods and services (paper purchased and water consumption), capital goods, fuel and energy-related activities (including consumption and upstream transportation and distribution), waste generated in operations, business travel (air and ground-based travel and accommodation), employee commuting, and upstream leased assets. The reporting boundary for the Scope 3 emissions data for the FY2020 period includes the categories listed above, with the remaining activity sources excluded due to current data availability issues. Scope 3 emissions from employee commuting, which represent -4% of the total reported Scope 3 emissions, have been excluded from the limited assurance over this dataset, however will be considered for inclusion in future reporting period once the methodology for calculation has been strengthened/formalised.

92 FY2019 Diesel (other) and Other fuels figures have been updated to reflect the inclusion of additional GHG data.

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

### Conclusion

We have undertaken a limited assurance engagement on Aurizon Holdings Limited's 'Subject Matter Information' disclosed in the 2020 Aurizon Holdings Limited Sustainability Report detailed below for the year ended 30 June 2020.

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that, the 'Subject Matter Information' is not prepared in all material respects, in accordance with the 'Reporting Criteria' detailed below for the year ended 30 June 2020.

### Subject Matter Information and Reporting Criteria

The 'Subject Matter Information' and 'Reporting Criteria' for our limited assurance engagement for the year ended 30 June 2020 is as follows:

Sustainability Performance Indicators ('Subject Matter Information')	Reporting Criteria
Total Scope 1 and 2 GHG emissions (tCO <sub>2</sub> -e)	The National Greenhouse and Energy Reporting Act 2007 ('NGER Act'), the National Greenhouse and Energy Reporting Regulations 2008 ('NGER Regulations') and the National Greenhouse and Energy Reporting (Measurement) Determination 2008 (collectively referred to as the 'NGER Legislation')
Total direct and indirect energy consumption (MWh)	NGER Legislation
Basis for the selection of Scope 3 GHG emissions sources (reporting boundary and identification of relevant activity sources), which include:	
<ul style="list-style-type: none"> <li>• Purchased goods and services: paper purchased and water consumption</li> <li>• Capital goods</li> <li>• Fuel and energy related activities, including consumption and upstream transportation and distribution</li> <li>• Waste generated in operations</li> <li>• Business travel: air and ground-based travel and accommodation</li> <li>• Employee commuting</li> <li>• Upstream leased assets</li> </ul>	The Greenhouse Gas ('GHG') Protocol Corporate Value Chain (Scope 3) Standard

## Sustainability Performance Indicators (‘Subject Matter Information’)

## Reporting Criteria

Scope 3 GHG emissions (tCO<sub>2</sub>-e), which are comprised of:

- Fuel and energy related activities
- Business travel (air and car hire)
- Waste generated in operations
- Paper purchased

The Greenhouse Gas (‘GHG’) Protocol Corporate Value Chain (Scope 3) Standard and Aurizon’s Scope 3 Emissions Basis of Preparation

### 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.

### Management’s Responsibilities

Management is responsible for:

- a) ensuring that the ‘Subject Matter Information’ is prepared in accordance with the ‘Reporting Criteria’;
- b) confirming the measurement and evaluation of the underlying subject matter against the ‘Reporting Criteria’, including that all relevant matters are reflected in the ‘Subject Matter Information’;
- c) 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
- d) the electronic presentation of the ‘Subject Matter Information’ and our limited assurance report on their website.

### Our Independence and Quality Control

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

### Assurance Practitioner’s Responsibilities

Our responsibility is to express a limited assurance conclusion on the Aurizon Holdings Limited’s ‘Subject Matter Information’ as evaluated against the ‘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’ is not properly prepared, in all material respects, in accordance with the ‘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' has been properly prepared, in all material respects, in accordance with the 'Reporting Criteria'.

Our procedures included:

- 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 ended 30 June 2020
- 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 2020 Aurizon Holdings Limited Sustainability Report.
- 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 2020 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.

### **Restricted use**

The applicable criteria used for this engagement was designed for a specific purpose of assisting the directors and management report on the 'Subject Matter Information' presented in the 2020 Aurizon Holdings Limited Sustainability Report, as a result, the 'Subject Matter Information' may not be suitable for another purpose.

This report has been prepared for use by the directors and management for the purpose of reporting on the 'Subject Matter Information' presented in the 2020 Aurizon Holdings Limited Sustainability Report.

We disclaim any assumption of responsibility for any reliance on this report to any person other than the directors and management or for any purpose other than that for which it was prepared.

*Deloitte Touche Tohmatsu*

DELOITTE TOUCHE TOHMATSU

*Chi Mun Woo*

Chi Mun Woo  
Partner  
Sydney, 25 September 2020

# Glossary

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

<b>Above Rail</b> Includes the business unit segments of Coal and Bulk	<b>CCM</b> Critical Control Management	<b>ESG</b> Environmental, social and governance
<b>ABS</b> Australia Bureau of Statistics	<b>CDMP</b> Coal Dust Management Plan	<b>EV</b> Electric vehicles
<b>ACCUs</b> Australian Carbon Credit Units	<b>CFO</b> Chief Financial Officer	<b>FSB</b> Financial Stability Board
<b>ACSI</b> Australian Council of Superannuation Investors	<b>CMT</b> Crisis Management Team	<b>FY</b> Financial Year ended 30 June, as the context requires
<b>ACSC</b> Australian Cyber Security Centre	<b>CO<sub>2</sub></b> Carbon dioxide	<b>GAPE</b> Goonyella Abbot Point Expansion
<b>AGRM</b> Audit, Governance and Risk Management Committee	<b>CO<sub>2</sub>-e</b> Carbon dioxide equivalent	<b>GDP</b> Gross domestic product
<b>AppsMod</b> Application modernisations	<b>Coal</b> The Above Rail coal haulage operating division of Aurizon Holdings Limited	<b>GHG</b> Greenhouse gas
<b>APS</b> Aurizon Port Services	<b>CoP</b> Code of Practice	<b>GRI</b> Global Reporting Initiative
<b>ASX</b> Australian Securities Exchange	<b>CQCN</b> Central Queensland Coal Network	<b>GTK</b> Gross tonne kilometres
<b>ATO</b> Australian Taxation Office	<b>Derailment</b> Derailment occurs where one or more rollingstock wheels leave the rail or track during railway operations	<b>HCC</b> Hard Coking Coal
<b>AUD</b> Australian dollar	<b>DRI</b> Direct Reduced Iron	<b>IEA</b> International Energy Agency
<b>Aurizon</b> Aurizon Holdings Limited (ABN 14 146 335 622) and where the context requires, includes any of its subsidiaries and controlled entities	<b>DTMR</b> Queensland Department of Transport and Main Roads	<b>IPO</b> Initial Public Offering
<b>Below Rail</b> The business unit segment of Network	<b>EA</b> Enterprise Agreement	<b>IRG</b> Indigenous Reference Group
<b>Board</b> The Board of Directors of Aurizon Holdings Limited	<b>EAF</b> Electric Arc Furnace method of steelmaking	<b>IVMS</b> In-Vehicle Monitoring System
<b>BF-BOF</b> Basic Furnace – Basic Oxygen Furnace method of steelmaking	<b>EAP</b> Employee Assistance Program	<b>kg</b> Kilograms
<b>Bulk</b> The Above Rail freight haulage operating division of Aurizon Holdings Limited	<b>EBIT</b> Earnings Before Interest and Taxes	<b>kWh</b> Kilowatt hour
<b>CAGR</b> Compound Annual Growth Rate, expressed as a percentage per year	<b>EBITDA</b> Earnings Before Interest, Taxes, Depreciation and Amortization	<b>L</b> Litres
	<b>EPL</b> Environmental Protection Licenses	<b>LTI</b> Lost Time Injury
	<b>ETCS</b> European Train Control Systems	<b>m</b> Million
		<b>MD &amp; CEO</b> Managing Director and Chief Executive Officer

**MHFA**

Mental health and first aid

**MPs**

Members of Parliament

**mt**

Millions of tonnes

**mtpa**

Millions of tonnes per annum

**MW**

Megawatts

**Network**

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

**NGER**

National Greenhouse Energy Reporting

**NGER Act**

*National Greenhouse Energy Reporting Act 2007* (Cth)

**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

**PCI**

Pulverised Coal Injection

**PPP**

Purchasing Power Parity

**QCA**

Queensland Competition Authority

**RAC2031**

Regional Australia Council 2031

**Rail Process Safety**

The cumulative number of SPAD, derailment and rollingstock-to-rollingstock collision incidents, per million train kilometres, over a given recording period

*Note: Infrastructure Caused SPADs have been removed from the SPAD element of Aurizon's Rail Process Safety metric*

**RAP**

Reconciliation Action Plan

**ROIC**

Return on Invested Capital

**Rollingstock**

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

**SDGs**

United Nations Sustainable Development Goals

**Share**

A fully paid ordinary share in Aurizon Holdings

**SIF**

Serious injury or fatality

**SHE**

Safety, Health and Environment

**SPAD**

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

**SWUG**

South-West System Users Group

**TCFD**

Task Force on Climate-related Financial Disclosures

**Tonne**

One metric tonne, being 1,000 kilograms

**Tonne kilometres**

The product of tonnes and distance

**TRI**

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

**TSF**

Train Support Facility

**Turnover**

Total number or rate of employees who ceased employment with Aurizon during a specified period

**TWh**

Terawatt hour

**UQ**

The University of Queensland

**USD**

United States dollar

**UT5**

Aurizon Network fifth Access Undertaking

**WACC**

Weighted Average Cost of Capital, expressed as a percentage

**WGEA**

Workplace Gender Equality Act



