

# Delivering for the Long Haul. FY2015 Sustainability Report



# MD & CEO message



Aurizon's FY2015 Sustainability Report (Report) outlines a year of achievement for our business. It was also a year of great tragedy due to the deaths of two Aurizon employees and a contractor in a road accident near Stanwell in October 2014. This terrible loss remains front of mind and will serve as a constant reminder that safety and the pursuit of ZEROHarm must be central to all of our endeavours.

While the Stanwell incident will forever mark our recent history, we have also reached some significant milestones. Foremost are the continuing results of our enterprise transformation. In FY2015 we delivered on our ambitious goal of achieving an Operating Ratio of 75%, we successfully negotiated our Queensland and Western Australia Enterprise Agreements and we continued our drive towards a more diverse workforce. This past year also saw us positioning our company for the future. Our Board appointed a new Chairman, Tim Poole, and we refreshed our corporate strategy, one embodied by the simple phrase: **We Deliver**. This new strategy ensures our customers are positioned at the heart of our business, and that we find innovative solutions to continue to deliver for them into the future.

Reflective of this customer focus and our ongoing pursuit of **ZERO**Harm, we recently received Woolworths' '*Carrier of the Year*' award and were Lost Time Injury free for the first three months of the current financial year.

In addition to our company achievements and strategy, in this year's Report you will see an ongoing articulation of how we treat sustainability at Aurizon. To Aurizon, sustainability requires an understanding of the global supply chains in which we operate, as well as a focus on the efficiency of our business. It's about our **customers**, our **communities** and the future of the **commodities** that we haul.

I would like to direct your attention to two important chapters in this, our second annual Sustainability Report. Firstly, the Future of coal chapter (page 15), in which we pay close attention to the trends that will influence long-term demand for the products we haul and provide distinction between the drivers of metallurgical and thermal coal. Secondly, the Regulatory environment chapter (page 40), in which I share my perspectives on Australia's infrastructure needs and the policy developments that will best reinforce Australia's future competitiveness and establish a level playing field between road and rail

Since the release of our inaugural report in November 2014 we've generated a lot of conversation with our customers, investors, employees, governments and communities. I welcome this engagement and view it as a yardstick for our success. We've also been recognised on the Dow Jones Sustainability Index (Australia), and received the highest available rating for corporate sustainability reporting from the Australian Council of Superannuation Investors.

I look forward to continuing discussions with stakeholders about the content of this year's Report. I encourage you to take the time to provide your comments and ideas to us at sustainability@aurizon.com.au.

Railways involve capital-intensive long-term investments. By focusing on business resilience, and by monitoring long-term trends, we can help to ensure that Aurizon is *DELIVERING FOR THE LONG HAUL*.

#### Lance Hockridge

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### Sustainability at Aurizon

#### WELCOME TO AURIZON

Aurizon is a top-30 ASX listed company, with over 6,900 employees, offering rail freight transport and infrastructure services across Australia.

Every day we move more than 700,000 tonnes of coal, iron ore and other minerals, as well as agricultural and general freight, across Australia and on to export markets.

As a rail network operator, Aurizon is also responsible for providing, maintaining and managing access to our 2,670km Central Queensland Coal Network and associated rail infrastructure.

#### **OUR SUSTAINABILITY COMMITMENTS**

Our aspiration to deliver world leading performance is underpinned by our three sustainability commitments:

- We are committed to building a long-term > sustainable business that delivers lasting value for our shareholders, customers, employees and communities
- We aim to take the safest, most efficient and least resource-intensive approach to the services we provide
- We apply a balanced view when assessing risk and making decisions, encompassing social, environmental and economic considerations

#### ORGANISATIONAL CAPABILITY **Building a capable and**

### engaged workforce

We successfully negotiated Enterprise Agreements for

of our employees

#### COMMUNITY ENGAGEMENT

Supporting regional communities

We contributed

\$3.28 billion to Australia's regional economies

SAFETY World-leading performance

Our TRIFR improved 4%

- -

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INTERMODAL 

DIVERSIFIED **BULK FREIGHT** 

1

#### REGULATORY **ENVIRONMENT**

#### **Driving efficiency** of development

We actively advocated on Australian infrastructure policy

COAL

#### **OPERATIONAL** EFFICIENCY

**Doing more** with less

Our opex per ntk reduced by

%

**CUSTOMER PARTNERSHIPS** 

#### We deliver

**IRON ORE** 

We reopened the Blackwater System to customers within 36 hours of Cyclone Marcia

#### **OUR SUSTAINABILITY SCORECARD**

| Metric                                       | FY2015 | FY2014 | Change          | Future Targets      | Target Year |
|--|--------|--------|-----------------|---------------------|-------------|
| Return on Invested Capital                   | 9.7%   | 8.8%   | 0.9ppt 1        | 10.5% (Avge)        | FY2016-2018 |
| Underlying EBIT (\$m)                        | 970    | 851    | <b>14%</b> ↑    | -                   | -           |
| Operating Ratio                              | 74.3%  | 77.7%  | <b>3.4ppt</b> ↓ | 70.0%               | FY2018      |
| Tonnes Hauled (m)                            | 282.8  | 286.6  | 1% ↓            | -                   | -           |
| Labour Productivity (NTK/FTE)                | 10.5   | 9.8    | <b>7%</b> ↑     | -                   | -           |
| Turnaround Time (hrs:min)                    | 25:06  | 25:24  | 1% ↓            | -                   | -           |
| Total Recordable Injury Frequency Rate       | 2.41   | 2.80   | 14% ↓           | -                   | -           |
| Signals Passed at Danger (per MTKm)          | 0.71   | 0.65   | <b>0.06</b> 1   | -                   | -           |
| Derailments (per MTKm)                       | 0.53   | 0.50   | <b>0.03</b> ↑   | -                   | -           |
| Diesel Fleet Energy Intensity (L/000GTK)     | 3.19   | 3.27   | 2%↓             | 2-4% pa (Reduction) | FY2016-18   |
| Electric Fleet Energy Intensity (kWh/000GTK) | 10.6   | 11.5   | 8%↓             | 3% pa (Reduction)   | FY2016-18   |
| Workforce Availability                       | 96.0%  | 96.2%  | 0.2ppt ↓        | > 97%               | Ongoing     |
| Percentage of Female Employees               | 15.3%  | 13.8%  | 1.5ppt 1        | 30%                 | End of 2019 |

Legend: Improvement in metric performance Decline in metric performance



### Aurizon's sustainability priorities

Sustainability is at the heart of Aurizon's mission. We are committed to building a business that delivers lasting value for our shareholders, customers, employees and communities.

#### OUR APPROACH TO SUSTAINABILITY REPORTING

In 2014 we produced our first Sustainability Report and were eager to obtain feedback on how useful it was to our stakeholders. The responses we obtained were positive, and reinforced the ongoing importance of sustainability and transparency to Aurizon. We also obtained feedback on how we can improve our reporting and have looked to address this, wherever possible, this year. This includes going further to describe the relevance of environmental and social matters to Aurizon's strategy and providing specific analysis on the future of metallurgical coal following the detailed analysis of thermal coal in our FY2014 Report.

We have prepared this Report in accordance with Global Reporting Initiative's (**GRI**) G4 'Core' Guidelines. In doing so, we have

Figure 1: Aurizon stakeholder map

described the impact of Aurizon's operations against the guideline's core elements of governance, economic, environmental and social performance. Our approach is aligned to GRI's principles for informing report content: materiality, completeness, sustainability context and stakeholder inclusiveness.

Considering sustainability issues and pursuing completeness against the GRI guidelines, we draw upon the full extent of Aurizon's operations and areas of significant influence. It is for this reason that much of the content of the Future of coal chapter discusses the impacts, both positive and negative, of the products we haul after they have been utilised in global export markets and how these impacts affect our coal related investments. We always seek to present our sustainability journey in the broader context of the local and global issues of greatest relevance to our stakeholders. Most importantly, we have sought to be inclusive of our stakeholders through broad internal and external stakeholder engagement. For more information on our stakeholders (depicted in Figure 1), and how we engage with them, please refer to page 43 of this Report.

#### MATERIALITY

At the core of the GRI G4 guidelines is the principle of materiality. Our material priorities reflect Aurizon's significant economic, environmental and social impacts or issues that substantively influence the assessments and decisions of stakeholders. In order to determine the material topics which guide this Report, we conduct an annual materiality assessment which involves consulting internal and external stakeholders to prioritise these topics and capture emerging issues.

This stakeholder engagement included a series of town halls attended by over 1,600 employees, while the formal materiality process involved issuing over 100 detailed questionnaires to representatives of our stakeholder groups, and a number of follow up one-to-one meetings. Participation in this process was voluntary and we appreciate the time invested by all parties to ensure this Report responds to the stakeholder feedback. The feedback collected from each stakeholder group was weighted equally, and the following nine priority areas were identified as material for Aurizon (refer to Figure 2):



#### Figure 2: FY2015 material priorities





#### Business model

- Future of coal
- > Operational efficiency
- Customer partnerships
- Environmental management
- Community engagement
- > Organisational capability
- Regulatory environment

We recognise three key themes which have remained of most importance to our stakeholders and continue to be vital to actively manage: Safety, Environmental Management and Operational Efficiency. Equally, three themes are perceived to have the most impact to our business: Safety, the Future of Coal and Business Model. Safety ranks as most significant under both scales, and continues to be Aurizon's core value. Although no material priorities have changed with respect to last year's Report, our stakeholders have placed a stronger importance on our organisational capability. We attribute this increase to the importance of employees to our long-term success and the enterprise agreement negotiations which occurred throughout FY2015.

#### ASPECT BOUNDARIES

In determining materiality, we've looked at both our risks and the impacts they have on our business. For each of our nine material priorities, we outline the aspect boundaries for our reporting approach in Table 1. We report on our material impacts and risks within the FY2015 report year, and wherever possible consider the potential long-term drivers which may affect, or be affected by, our business. This is key to how we do business, as railways are investments for, and in, the long term.

#### **EXTERNAL ASSURANCE**

This year, for the first time, we have obtained external assurance over our Sustainability Report's compliance with Global Reporting Initiative G4 Sustainability Reporting Guidelines. The assurance statement is provided on page 45.

In addition, Aurizon's FY2015 National Greenhouse Gas and Energy Report submission to the Clean Energy Regulator, including Scope 1 and 2 emissions, was externally assured. A copy of the assurance statement is available on Aurizon's website.



Table 1: Aspect boundaries of Aurizon's material priorities

| BOUNDARY BOUNDARY WITHIN AURIZON OUTSIDE AURIZON    |  |   |                                     |  |                                   |
|---|--|---|-------------------------------------|--|-----------------------------------|
| Aurizon<br>Corporate                                | Operations<br>& Network                                  | Our<br>customers                          | Our<br>suppliers                    | Our<br>communities                         | Australian<br>Environment         |
| Safety – Safet<br>ZEROHarm ar                       | ty of ourselves ar<br>nd putting safety                  | nd others is ou<br>at the core of         | r number one<br>everything we       | priority. We are con<br>e do.              | mmitted to                        |
| Business mod<br>partners with                       | del - Our vision is<br>customers for gr                  | to be a world<br>owth.                    | leading rail-ba                     | ased transport bus                         | iness that                        |
| Future of coal commodities                          | - Our ongoing b<br>that we carry for                     | usiness succes<br>our customers           | ss is linked to th<br>s.            | ne future demand                           | for the                           |
| Operational e<br>approach to c                      | efficiency – Auriz<br>our operations to                  | on is committe<br>deliver long-te         | ed to taking the<br>erm productivit | e least resource-in<br>zy improvement.     | tensive                           |
| Customer par<br>chains and se                       | r <b>tnerships</b> – Wer<br>ek to partner wit            | recognise the i<br>h our custome          | mportant role<br>rs and develop     | we play in internat<br>innovative comm     | ional supply<br>ercial solutions. |
| Environmenta<br>and ecosyster<br>sustainable tra    | al management -<br>ms in which we o<br>ansportation opt  | - Aurizon mon<br>perate by incre<br>ions. | itors and minin<br>easing operatic  | nises impacts on th<br>onal efficiency and | ne communities<br>offering        |
| •   | •  | •   |                                     | •  | •                                 |
| <b>Community e</b><br>communities i<br>pursue mutua | <b>ngagement</b> - Au<br>in which our peo<br>Il benefit. | rizon has a lon<br>ole live and wc        | ig and proud h<br>ork, and engagi   | istory of supportin<br>ng in an open dial  | ng the<br>ogue to                 |
| •   | •  |   |                                     | •  |                                   |
| Organisation<br>our knowledg                        | al capability - O<br>e of how to safel                   | ur greatest ass<br>y and efficient        | et is our organ<br>ly operate com   | isational capability                       | / -<br>S.                         |
| Regulatory e  | •<br>nvironment - We                                     | e seek to play a                          | an active role ir                   | n encouraging infra                        | astructure                        |

Safety

Safety of ourselves and others is our number one priority. We are committed to ZEROHarm and putting safety at the core of everything we do.

#### **OUR SAFETY PHILOSOPHY**

We outline our safety philosophy in 5 Safety Principles:

- 1. Safety is the core Aurizon value
- 2. All injuries can be prevented
- 3. Management is accountable for creating
- and maintaining a safe workplace4. We are all responsible for
- preventing injuries
- 5. Working safely is a condition of employment

Over recent years, the implementation of Aurizon's Safety Principles has resulted in a marked improvement in our safety performance. However, despite rigorous safety measures, in October 2014 we tragically lost three people - two Aurizon employees and a contractor - who were killed in a road accident on the Capricorn Highway near Stanwell. The accident involved an Aurizon vehicle being struck by a heavy vehicle. We continue to extend our deepest condolences to those affected by this tragic incident. This accident has irrevocably affected the lives of family, colleagues and friends, and reinforces the importance of our safety philosophy.

One of our 5 Safety Principles is that "All injuries can be prevented". Accordingly, Aurizon will keep safety as our number one priority, and continue the journey of safety improvement that we have pursued in recent years. Safety performance is embedded within Aurizon's Executive remuneration in order to drive continuous improvement across the business. The Aurizon Board has exercised its discretion to withhold Executive Short Term Incentive payments related to FY2015 improvements in our Total Reportable Injury Frequency Rate. The safety of our employees is our utmost priority, and Aurizon remains committed to our goal of **ZERO**Harm.

### OUR SAFETY POLICIES AND PROCEDURES

Each year, Aurizon delivers targeted initiatives to enhance the safety of our employees and our locations. Core to the delivery of these initiatives are the following policies and procedures:

- Sovernance: Tiered forums to provide clear leadership, targets and performance monitoring
- Systems: A fully-integrated Safety, Health and Environment Management (SHEM) system to support the management of incidents, hazards, near misses and safety interactions
- Culture and actions: Requiring manager/ supervisor driven action programs, including completion of individual safety plans and the introduction of individual targets for recorded safety interactions
- Accountability: Aligning safety performance with executive remuneration and employee recognition

### OUR CULTURE OF CONTINUOUS IMPROVEMENT

Over the past two years, Aurizon has worked with rail regulators and employees across Australia to develop a single safety management system. An enterprise safety management system, with a uniform set of accreditation conditions for above and below rail, road and non-rail safety requirements, is critical to improving safety and productivity at Aurizon.

One standardised and uniform safety management system removes duplicated standards, inconsistent procedures and unnecessary interfaces. This means having the same processes and controls for the same type of risk regardless of location. It also simplifies our 'Licence to Operate' administration both internally and externally, and most importantly, enables our employees who work across state and territory borders to have a consistent approach to their work.

Aurizon encourages all employees to actively identify opportunities to improve safety. One of the means by which we do this is to require conversations between employees at all levels across our organisation to identify safe and unsafe behaviours in the workplace (Safety Interactions): see Figure 4. Safety Interactions are a lead indicator of safety performance. To ensure that the opportunity to reduce risk is systematically captured and actioned, Safety Interactions are formally recorded. They focus our attention on safety as our core value, proactively acknowledge good safety practices and address and rectify unsafe behaviours.

Figure 4: What is a Safety Interaction?





Since FY2012, our recorded number of Safety Interactions per employee per month has increased 31%, as represented in Figure 5. The initiatives mentioned have been instrumental in reducing injury frequency rates.

In addition to Safety Interactions, Aurizon provides managers with tools and processes to ensure compliance with safety policies in a real-time work environment. Two of these tools are Efficiency Tests and High Consequence Activity Checks. Efficiency Tests enable workers and management to assess levels of proficiency and identify improvements, while High Consequence Activity Checks are a coaching tool for managers to raise safety concerns, identify safety issues and acknowledge good practice.

While we focus on real-time engagement, we also implement preventative measures such as 'STOP! Take Time and Switch On' interactions. The purpose of these interactions is for the worker to switch on to safety and actively look for potential hazards that could impact the worker's safety, prior to commencing a task. Once potential hazards are identified, they must arrange appropriate control measures before commencing the task. The intention of this enterprise-wide initiative is to identify and control hazards in tasks which are not routinely carried out by supplementing existing safety procedures.

FY2012

#### HEALTH & WELLBEING PROGRAMS

Aurizon understands that ensuring the health and wellbeing of our staff requires us to look beyond the scope of traditional safety programs. In order to progress work in this area, a number of preventative and responsive Health & Wellbeing initiatives were commenced in FY2015. These included the Onsite Health & Wellbeing Program, the BUPA online portal, our participation in Australia's inaugural Rail 'R U OK?' Day and the appointment of a Chief Medical Officer to lead the Aurizon Health & Wellbeing programs.

### ONSITE HEALTH & WELLBEING PROGRAM

Our Onsite Health & Wellbeing Program targets workers with intensive onsite intervention, and provides access to services and resources to enable health improvements. The program encapsulates a total of 10 geographical sites nationally, and provides onsite health care for employees – including in relation to diet, exercise and rehabilitation.

#### BUPA ONLINE PORTAL

Earlier this year Aurizon launched the BUPA online Health & Wellbeing portal. Aurizon worked in partnership with BUPA to develop this online portal for Aurizon employees and their families to access health resources that can assist users to achieve personal and family wellbeing goals. The portal also provides an online interactive tool to assess the user's current health status and assist them to maintain a healthy focus at work and at home. Users are able to access health information, health news, an online health assessment, tools, calculators and living well apps that address key physical and mental health aspects.

RAIL 'R U OK?' DAY

Another keystone Health & Wellbeing initiative in FY2015 was our participation in Australia's first annual Rail 'R U OK?' Day. This event seeks to raise awareness of suicide prevention and help support employees at work by creating a caring workplace. Employee briefings, morning teas and presentations on mental health were held at the majority of our regional sites across Australia.

Furthermore, like many of our customers, Aurizon has a ZERO drug and alcohol policy for all employees, contractors and visitors whenever they are on an Aurizon site or are performing work on behalf of Aurizon. This policy is enforced by a drug and alcohol testing program.



FY2014

FY2015

FY2013

Figure 5: Safety Interactions per employee per month improvement FY2012 to FY2015

#### FY2015 SAFETY PERFORMANCE

In FY2015, we recorded two employee Lost Time Injuries (**LTI**), being the tragic fatalities that occurred at Stanwell, and 30 Total Recordable Injuries (**TRI**). As illustrated in Figures 6 and 7, this represented a 43% and 14% improvement on the prior year.

Our LTIFR<sup>2</sup> and TRIFR<sup>2</sup> rates have improved significantly over the past five years and are now reflective of world leading performance for the rail industry, as illustrated in Figure 8.

We also acknowledge the following three operational divisions, which account for approximately 1,150 employees, recorded no TRIs in FY2015:

- > Service Delivery Bulk North;
- > Rollingstock Heavy Maintenance; and
- > Network Operations Maintenance South.

At Aurizon, we seek to analyse our safety performance data in order to ensure that we leverage every opportunity to continuously improve. To that end, we monitor injuries by type (see Figure 9), and publish safety communications advising employees of relevant risks and how to avoid them.

Figure 9: Breakdown of injury by type

```
TRI Body Parts
(FY2015 30)
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Figure 6: LTIFR improvement FY2011 to FY2015



Lost Time Injury Frequency Rate (per million man-hours worked)





Total Reportable Injury Frequency Rate (per million man-hours worked)

Figure 8: FY2015 TRIFR - Aurizon and Class 1's^



Source: Aurizon Annual reports. Class 1's Average of TRIFR of BNSF, Canadian National, Canadian Pacific, CSX, Norfolk Southern & Union Pacific. Sourced from http://safetydata.fra.dot.gov/OfficeofSafety/publicsite/Query/AccidentByRegionStateCounty.aspx.

Class 1 data based on 12 months ending 30 September.

 LTIFR and TRIFR includes employees only. Contractors are not included.

\* Class 1 FY2015 data is for the period October 2014 to June 2015 (nine months).

#### MONITORING

OPERATIONAL SAFETY We use Signals Passed at Danger (**SPAD**) as a measure to examine rail safety performance. A SPAD reflects an instance in which a train has entered a section of the track without the correct authority, for example, passing a red signal. In FY2015, we recorded an increase on FY2014 SPADs per million train kilometres (**MTKm**), from 0.65 to 0.71. We have renewed our focus on SPADs.

We also seek to continuously reduce our rate of rail incidents, such as derailments. In FY2015, our derailments/MTKm remained steady at 0.53.

#### PUBLIC SAFETY

Our rail network extends through community and residential areas. In light of this, we recognise that we have a responsibility to promote rail safety awareness in these areas. In FY2015, we collaborated with the Queensland Police Service, Queensland Department of Transport and Main Roads and industry partners to improve rail corridor safety by upgrading level crossings and working with communities and schoolchildren to raise awareness of safe behaviours.

In addition, Aurizon has launched a new video urging the community to stay off the tracks and to 'stop, look, listen and think'. We encourage you to watch this video at: www.aurizon.com.au/rail-safety and share it with your friends and family.

#### RECOGNITION

During the past year, Aurizon was pleased to receive industry recognition of our safety achievements by being named the Asia Pacific regional winner of the DuPont Global Safety & Sustainability Award. Over the last decade, the DuPont Global Safety & Sustainability Awards have become widely recognised among industrial companies as a benchmark for workplace safety and sustainability achievement.







#### Our vision is to be a world leading rail-based transport business that partners with customers for growth.

Figure 11: Key Aurizon statistics as at 30 June 2015





People: 6,958 employees across the business Locomotives: 567 active locomotives

Locations: 196

operational sites

across Australia



**Business** model

Wagons: 13,960 active wagons

#### **5 YEARS AS A LISTED COMPANY**

Aurizon is Australia's largest rail freight company, and listed on the Australian Securities Exchange (**ASX**) in 2010. Aurizon is now an ASX Top 30 company.

Since listing, we have continuously pursued operational efficiency improvements, standardised our approach across many operating regions and refined our commercial model. We set ourselves challenging goals to drive a performance-based culture, including achieving an Operating Ratio<sup>3</sup> (**OR**) of 75%. In FY2015 we exceeded that target, achieving an OR of 74.3% (see Figure 12).

Two other key metrics demonstrate our transformation journey since listing – Return on Invested Capital (**ROIC**) and Investment Return. Our ROIC is currently 9.7%, up 0.9 percentage points from FY2014 (see Figure 13). Figure 14 shows the investment return on an initial investment of \$100 in Aurizon shares from listing to 30 June 2015 (assuming dividend reinvestment).

We are committed to delivering further improvements in relation to each of our ROIC and Operating Ratio, and to implementing the strategy set out in this chapter as the platform through which investment returns can be sustainably delivered. Figure 12: Underlying Operating Ratio (%) since FY2010





10.5% Targeted average FY2016-FY2018



Figure 14: Investment return on Aurizon shares since listing

Initial investment of \$100 at 22 November 2010 \$100





3 Our OR is the cost of our operating expenses as a percentage of our total revenue, a financial metric commonly used in the rail industry

#### OUR BUSINESS STRUCTURE -ABOVE AND BELOW RAIL

Our operations fit broadly into two categories – above rail transport operations and below rail network infrastructure.

#### ABOVE RAIL - TRANSPORT OPERATIONS

Our above rail transport operations relate to the national movement of goods, such as coal (both thermal and metallurgical), iron ore, alumina, nickel, sugar and containerised freight. The revenue model for this business is based on the tonnes and distance hauled. In FY2015, our above rail operations moved 282.8 million tonnes and its revenues represented 65% of Aurizon's total revenue.

#### Our above rail coal and iron ore contracts tend to be long term in nature, thereby providing greater certainty to our future revenue streams. As at 30 June 2015, our weighted average remaining coal contract length was 7.5 years. Our freight of other bulk commodities and intermodal containers offer a range of logistical solutions across Australia. For more information on our outlook for the key commodities we haul, please refer to the Future of coal chapter of this Report.

#### BELOW RAIL - NETWORK INFRASTRUCTURE

Aurizon Network owns and operates the 2,670km of rail track, known as the Central Queensland Coal Network (**CQCN**). The open access network is the largest coal rail network in Australia. It connects more than 50 mines across one of the richest metallurgical coal basins in the world to international markets via three ports – Abbot Point, Hay Point and Gladstone.

There are multiple users of the CQCN, including Aurizon's own above rail business. Tariffs and terms of access are determined by an independent economic regulator, the Queensland Competition Authority (QCA). Approximately 90% of below rail revenue is regulated, insulating Aurizon's income from the cyclical movements in commodity markets. Certainty of future tenure in the CQCN is also secured through a 99 year lease arrangement with the State of Queensland. For information on the below rail regulatory framework, please see the Regulatory environment chapter of this Report.

#### **AURIZON'S BLUEPRINT STRATEGY**

We are working to build a sustainable platform for ongoing growth by leveraging our safety, operational and commercial transformation. In FY2015, Aurizon evolved its long-term strategic direction. Our refreshed Vision, Mission, Strategy and Values, named our 'Blueprint', is represented in Figure 15. Core to our value proposition of ensuring we deliver on what we promise, is the inclusion of Customers to our existing values of Safety, People, Integrity and Excellence.

As illustrated in Figure 16, our Blueprint strategy itself focuses on three key themes to drive value creation: customer focus, productivity improvement and growth opportunities. We will execute our Blueprint strategy by focusing on these key themes.

Figure 15: Elements of our Blueprint strategy



Figure 16: Delivery of our Blueprint strategy

#### **Our Vision**

#### what we want to be known for in the future To be a world leading rail-based transport business that partners with customers for

business that partners with customers for growth.

#### **Our Mission**

### defines who we are and our primary purposes as a business

We are an Australian rail-based transport business with a global orientation that creates value sustainably for our customers, shareholders, employees and the communities in which we operate.

#### **Our Strategy**

#### the plan for how we will deliver on our vision

To develop and operate multi-customer, rail-based, integrated supply chains. Our priority is to strengthen and grow our current business across all freight markets through a relentless focus on our customers and by improving productivity. We will diversify our portfolio by leveraging our capabilities into new bulk and general freight opportunities as appropriate in domestic and international markets.

#### **Our Values**

how we go about doing our work Safety, People, Integrity, Customer,

Excellence.



#### **OUR CAPABILITIES**

Our distinctive capabilities have enabled us to make substantial improvements in our business fundamentals over the last five years:

- Supply chain coordination Aurizon views supply chains on an end-to-end basis and has proven approaches to managing both vertically integrated rail operations and separate above rail assets – we connect customers to 14 different ports, negotiate access under four different regulatory regimes and reopened our Blackwater System within 36 hours of being hit by Cyclone Marcia.
- Disciplined and safe rail operations Aurizon operates safe, productive and reliable rail-based supply chains by deploying standardised processes and advanced technologies – over the last five years we achieved a reduction in TRIFR of 90% and reduced OR by 15.8 percentage points to 74.3%.
- Integrated project development Aurizon develops new and upgrades existing rail-based infrastructure and deploys its operating expertise during the development phase – we recently completed \$2 billion of new infrastructure projects on time and on budget (Goonyella to Abbot Point Expansion, Wiggins Island Rail Project and the Rolleston Electrification Project).
- Market understanding Aurizon has deep knowledge of global commodity markets, strong relationships with mining companies and freight owners and a track record of providing multi-customer supply chain solutions – we recently renewed a major long-term coal contract with Anglo American/ Mitsui and were awarded Woolworths' 'Carrier of the Year'.
- Stakeholder engagement –
   Aurizon engages with communities, governments and regulators to deliver outcomes that create long-term value for a wide range of stakeholders – in FY2015 we contributed \$3.28 billion to Australian regional economies and actively engaged in Australian infrastructure policy discussions.

Our capabilities will enable us to continue to focus on our customers, increase productivity and seek new growth opportunities.



### West Pilbara Infrastructure Project

#### PARTNERING WITH CUSTOMERS AS PART OF THE STEEL SUPPLY CHAIN

Aurizon has partnered with Baosteel, American Metals & Coal International and POSCO to explore development of a world leading, multi-customer, integrated supply chain linked to a 'greenfield' iron ore development in the West Pilbara in Western Australia. The first stage of the proposed project under assessment would include the development of a new deep-water port at Anketell Point and a 241 kilometre railway to support a minimum of 43 mtpa. Should the project proceed, the joint venture partners will develop mines in parallel to underpin the project and supply chain infrastructure.

Aurizon is working with its partners to help them achieve global competitiveness through certainty of supply and lower input costs over the long term. The ability to deliver a competitive overall cost position has been supported by a significant reduction in capital cost estimates. Since Aurizon's involvement in the integrated project assessment, the infrastructure capital estimates have reduced by 25%. As further technical studies are progressed, estimated operating costs are also expected to reduce by approximately 16%.

Baosteel and POSCO, the world's fourth and fifth largest steel manufacturers respectively, are proposed to be both miners and end customers. For example, iron ore extracted from the West Pilbara is intended to feed Baosteel's mills to produce high-end, high margin flat steel products to meet China's growing automotive, home appliance and electronic manufacturing industries. Aurizon's integrated project development capability has improved the Capex estimate by 25%



To support this steel production, Baosteel currently contracts up to 80% of iron ore and 90% of metallurgical coal inputs on a long-term basis. The Future of coal chapter in this Report contains further information on metallurgical coal, including its role as a key input into the steel making process.

#### STRATEGIC ALIGNMENT

The project would be complementary to Aurizon's strategy to nurture deep relationships with customers and develop integrated supply chains. It would also build on our capability to coordinate complex design and procurement solutions in partnership with global suppliers.

#### STAGED DECISION MAKING

On 11 May 2015, Aurizon announced that a new project governance timeline would be implemented to extend Aurizon's period of exclusivity for the project to mid-2016. During this time, the technical and commercial feasibility study will be further refined. Aurizon will only seek to make significant capital investments in the project once a Final Investment Decision is made in the second half of 2016.

# Future of coal



#### Our ongoing business success is linked to the future demand for the commodities that we carry for our customers.

We closely analyse the future supply and demand drivers for commodities we haul. With 62% of Aurizon's FY2015 revenue being derived from coal, the key focus of this chapter is the future of both Australian seaborne metallurgical and thermal coal.

The future of coal chapter in our FY2014 Sustainability Report initiated a great number of conversations. We used that chapter to engage with some of our most important stakeholders on the future of thermal coal. This included our investors, financiers, customers, employees and government. Their feedback directly impacted the content of this year's Report – most notably by having a greater focus on the key drivers behind metallurgical coal (as distinct from thermal coal) and the role this important commodity plays for our business.

"Our investors welcome us addressing the future of coal and stranded asset risk head on. They like our direct, fact-based approach, and look forward to the release of this, our second sustainability report." *Keith Neate – EVP, Chief Financial Officer* 

"We play an important role in the international coal supply chain. Our customers have recognised how significant it is for us to add our voice to the discussion about the future of coal. This has distinguished us from many others, and led to deeper engagement with our customers. It has also led to us being invited to participate in key industry associations." Mauro Neves – EVP, Commercial & Marketing

#### IMPORTANCE OF COAL TO AURIZON

Coal is an important commodity for Aurizon. Figure 18 illustrates how annual coal volumes have steadily increased over time, with last financial year Aurizon achieving yet another record of approximately 211 million tonnes of coal hauled by our above rail operations in Queensland and NSW.

Examining the future of Australia's coal export market, and Aurizon's contribution to it, requires two distinct areas of analysis. This is because, broadly speaking, Australia exports two types of coal:

- metallurgical coal, which is used to produce steel (relating to 38% of Aurizon revenues): and
- thermal coal, which is used to produce electricity (relating to 24% of Aurizon revenues).

Figure 19 shows further detail on how revenue is split across our above and below rail business by commodity, as well as details of the markets to which these commodities are ultimately shipped. These include the major steel producers, being Japan, China, India and South Korea and major industrial markets with large energy demand, being Japan, China, South Korea and Taiwan.

Figure 18: Aurizon above rail transport volumes 1965-2015

#### **DEMAND FOR COAL**

Metallurgical and thermal coal have fundamentally different uses, although the overarching driver of coal demand is economic development. Metallurgical coal is used to produce steel, which is part of the fabric of modern life. High-rise buildings, manufacturing plants, bridges, cars, home appliances, and electronics all require it. Thermal coal is used to produce electricity, which despite being less visible, is no less essential as it provides services for households, businesses and industry, including lighting, heating, cooling, cooking, refrigeration, communications and industrial processes.

Figure 20 demonstrates the approximate quantity of steel and electricity produced using a tonne of coal and how this could be combined to provide household refrigeration needs.



Metallurgical coal and thermal coal

Iron ore, diversified bulk and intermodal freight

Source: Aurizon and Queensland Rail Ltd Annual Reports.



See Appendix for assumptions



100 million households for a year

enough to power:

# THE FUTURE OF METALLURGICAL COAL

To understand the future of metallurgical coal, it is crucial to first understand the end use of the product. Metallurgical coal has both a higher relative energy content and lower moisture content than thermal coal, which enables it to be converted to almost solid carbon through the coke making process. Also referred to as 'coking coal', it is an essential input into enabling the production of steel. See Figure 21 for a description of the steelmaking process.

#### TYPES OF METALLURGICAL COAL

For the purposes of this Report, we consider metallurgical coal to include Semi-Soft Coking Coal (**SSCC**), Hard Coking Coal (**HCC**) and Pulverised Coal Injection (**PCI**) coal. PCI coal can also be used in thermal power generation.

Given that metallurgical coal relates to 38% of Aurizon's total FY2015 revenues, and 72% of Aurizon Network FY2015 revenues, we have expanded the 'Future of coal' chapter in this year's Report. This section now covers our view on the future of Australian seaborne metallurgical coal.

We see four key drivers for Australian seaborne metallurgical coal:

- 1. Global demand for steel
- Limited ability to substitute metallurgical coal in steel production
- 3. Scarcity of metallurgical coal
- 4. Australia's export infrastructure advantage

#### 1 GLOBAL DEMAND FOR STEEL

The International Energy Agency (IEA) predicts that global steel production will grow by 25% from 2012 levels through to 2025 (an average annual growth of approximately 2% per year)4. Aurizon's expectation is that global production of steel will increase but there will be regional variability in the rate of growth. For example, 2015 saw the stabilisation of rates of steel production in China, following an extraordinary surge of state planned and financed urban development. However, in absolute terms, the IEA predicts Chinese steel production to rise. More importantly, the broader lesson to be drawn from the Chinese experience is its central feature - urbanisation and industrialisation, rapid growth of a middle class and the associated increase in demand for steel intensive products - which remains to be played out across much of Asia.

There are still hundreds of millions of people who sit below the poverty line in Asia, most of whom live in rural areas. The transition of millions of these people from rural poverty to urbanised middle-income status will be the defining socio-economic driver of the Asian region for at least the next 50 years.

Most of the world's steel output ends up in cities. Buildings and civil infrastructure account for more than half of global steel usage. In India, the United Nations predicts that the population in urban areas will grow by 404 million people by mid-century (for example over 1,000 people every hour moving to Indian cities over the next three decades). Beyond India, several highly populated countries stand on the brink of a major elevation of socio-economic status and urbanisation. These major developing Asian economies include Indonesia Thailand, the Philippines, Vietnam, Malaysia, Bangladesh and Pakistan, with a cumulative population of over 880 million.

Figure 22: Per capita steel usage versus per capita income by key countries







4 International Energy Agency (IEA), Tracking Clean Energy Progress 2015.

Considering historical patterns of national economic growth and associated steel demand, it is evident that they are now entering a highly steel intensive period of their development trajectories, as highlighted in Figure 22. Although the extent of steel demand and ability to produce steel domestically will vary based on a country's policy environment and industrial profile, the historical trajectory is proven. As an irreplaceable input to pan-Asian urban expansion, steel will play a key and sustained role in this transition.

Beyond urban expansion, China, Japan and South Korea will also support continued steel consumption and associated demand for metallurgical coal driven by more consumerintensive manufacturing and export. For example, Japan has consistently imported more than 30 mtpa of Australia's metallurgical coal over the last two decades. Only in the last two years have China's imports of Australian metallurgical coal overtaken Japan.

#### 2 LIMITED ABILITY TO SUBSTITUTE METALLURGICAL COAL IN STEEL PRODUCTION

Metallurgical coal is, and will continue to be, a critical ingredient in the production of steel. The standard process for new steel production can take one of two routes, as illustrated in Figure 21.

The 'Basic Oxygen Furnace' (**BOF**) method represents 70% of global steel production, and is reliant on the use of metallurgical coal as a raw input. While the use of BOF is expected to reduce as a percentage share of new global steel production, it will still increase marginally in absolute terms. In India, a key growth market for steel, the use of BOF production of steel is expected to increase relative to EAF and more than double in absolute terms over the next decade, as described in Figure 23.

While the global share of EAF will increase over the next decade, it will ultimately be constrained by availability of scrap steel and its dependence on low cost and reliable electricity. As a result, resource economists Wood Mackenzie forecast that EAF share will remain fairly constant from 2025 to 2035<sup>5</sup>. Overall, metallurgical coal will therefore be required for the majority of steel production for the foreseeable future.

Figure 23: Crude steel proportion by process route globally and India (Mt)<sup>4</sup>



#### 3 SCARCITY OF METALLURGICAL COAL

Metallurgical coal is a scarce resource. While thermal coal production is spread across a dozen countries, the production of metallurgical coal is more narrowly concentrated and accounts for only 15% of global coal production. As illustrated in Figure 24, with the exception of China (which uses all of the metallurgical coal it produces), none of Australia's coal export destinations have significant marketable production of metallurgical coal. As a result, more than 30% of global demand needs are currently met through international trade, with Australia supplying more than 60% of the global seaborne metallurgical coal market. Almost all of this metallurgical coal is sourced from the Bowen Basin in Central Queensland (utilising our CQCN).

For example, India's lack of significant deposits of metallurgical coal requires it to meet approximately 85% of its needs each year from Australia. India's continued economic growth and urbanisation will therefore require increases in the seaborne metallurgical coal supply. As a result, resource economists Wood Mackenzie forecast that Indian urban development alone will "remain a key driver of global metallurgical coal trade growth over both the medium and long term."<sup>6</sup>

Australia also produces a relatively large proportion of Hard Coking Coal (**HCC**), which secures the highest prices in the seaborne export market. The premium paid for HCC relates to its ability to support higher blast furnace productivity.

Did you know? "Due to its relative scarcity, metallurgical coal attracts a higher market price than thermal (energy) coal. India has very few metallurgical coal reserves and is almost totally reliant on imports. Increased Indian steel production is likely to be based on increased coal imports."

Source: Australian Energy Resource Assessment. The Bureau of Resources and Energy Economics, 2014.





5 Wood Mackenzie Steel Market Service.

6 Wood Mackenzie website (http://www.woodmac.com/public/views/india-coal-growth). Date accessed: 11 October 2015

#### Aurizon

#### 4 AUSTRALIA'S EXPORT INFRASTRUCTURE ADVANTAGE

Whilst large reserves are important to support metallurgical coal export potential, Australia's competitive advantage lies in its simple geology, the availability of established heavy haul rail networks, proximity of mines to ports and close distance of these ports to key export markets.

As demonstrated in Figure 25, Australia also has one of the most competitive bulk commodity supply chains in the world, with the lowest average transportation and port costs compared to other significant metallurgical coal exporting nations in 2015. In addition, our close proximity to Asia, the world's premier growth region, provides easy access to end markets.

Australia also has a small number of large port terminals with interconnected rail networks that almost exclusively haul coal, allowing the flexibility to respond to changing market conditions. In comparison, many alternative exporting nations have limitations on their infrastructure due to limited storage, large distances between mines and ports, requirement for transhipment by river barge and competition for access to ports from other freight types.

The above factors will continue to be crucial in underpinning Australia's success in world metallurgical coal markets, and maintaining this advantage requires focus from Australian miners, infrastructure providers and policy makers. We discuss this further in the Regulatory environment chapter of this Report.

#### METALLURGICAL COAL SUMMARY

Metallurgical coal is a fundamental input into the modern built environment. It has a strong future in enabling steel production in the Asian region as it continues to undergo an unprecedented urban expansion in the decades ahead.

Due to the scarcity of metallurgical coal, Asia will continue to rely upon the seaborne market, in particular Australia's supply. Australia has an attractive combination of low cost export infrastructure and the capacity to service increased demand.

**Did you know?** Aurizon is well positioned to capitalise on continuing demand for metallurgical coal – our CQCN carries more than half of the metallurgical coal in the global seaborne market.



Figure 25: Transportation and port costs in major metallurgical coal export countries



Source: All countries except Mongolia, Wood Mackenzie Coal Costs Benchmarking May 2015, Mongolia: Wood Mackenzie 'Mongolian Coking Coal exports via Russia: In for the long haul', October 2013.

Thermal coal relates to approximately one quarter of Aurizon's total FY2015 revenue. In last year's inaugural Sustainability Report we focused on the future of Australian seaborne thermal coal because it generates the majority of stakeholder interest. This analysis received – and continues to receive – significant attention.

We continue to see four key drivers of Australian seaborne thermal coal:

- 1. Global electricity demand
- 2. Thermal coal's share in the
- global electricity mix
- 3. Thermal coal quality
- 4. Efficient generation technology

#### 1 GLOBAL ELECTRICITY DEMAND

According to the IEA World Energy Outlook 2014, over 60% of global electricity demand growth through to 2040 will occur in emerging Asian economies. As illustrated in Figure 26, the relative per capita electricity consumption of these economies is well below that of other key developed countries. Over time this gap is expected to narrow with the potential impact on global electricity demand amplified by the size of population. For example, whilst China currently has the largest population of any country, the combined population of India, Indonesia, Thailand, the Philippines, Vietnam, Malaysia, Pakistan and Bangladesh is over 2 billion.

Did you know? - 1.3 billion people currently lack access to electricity.

energypoverty, accessed: 22 October 2015.

THERMAL COAL'S SHARE IN

The second driver is the ongoing role of

thermal coal in fuelling global electricity

THE GLOBAL ELECTRICITY MIX

generation. Undoubtedly renewables will see the fastest growth in the energy mix over

coming decades, however this will be from a relatively low base position. While coal

will be a smaller contributor to electricity

economies, the IEA expects coal-fired power

generation growth in Non-OECD Asian

generation to increase 82% in absolute

sources combined.

terms (to 2040). Figure 27 illustrates that

under the IEA New Policies Scenario, coal is

expected to account for approximately half of all electricity generation in Non-OECD

Asia as at 2040. This is equivalent to all other

2

Source: IEA Website: http://www.iea.org/topics/

The IEA World Energy Outlook provides three scenarios for future energy demand. The key drivers of these scenarios include global technology advancements, economic development, energy prices and policies (including climate change policy), particularly those of key energy using nations. These IEA policies can be described as follows:

- IEA Current Policies Scenario current global energy and climate policy remains unchanged to 2040
- IEA New Policies Scenario assumes implementation of recently announced global policy commitments and plans
- IEA 450 or 2 Degree Scenario (2DS) assumes global policy shifts aimed at limiting global temperature rises to two degrees centigrade

Aurizon monitors all three scenarios but adopts the IEA New Policies Scenario as its primary reference point given it broadly serves as the IEA's 'baseline scenario'<sup>8</sup>.

Did you know? - Southeast Asia's energy demands will grow by 80% to 2040, accompanied by a regional economy that will triple in size.

Source: IEA, Southeast Asia Energy Outlook 2015.





See Appendix for assumptions.



Figure 27: IEA outlook for electricity generation in non-OECD Asia by source (TWh, share)

Source: IEA. World Energy Outlook 2014, New Policies Scenario.

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**PAGE** 20

8 IEA website http://www.iea.org/publications/scenariosandprojections/. Date accessed: 22 October 2015.

Apart from the IEA scenarios, Statoil and BP provide long term forecasts for global coal consumption beyond 2030. Figure 28 illustrates that they also predict an increase in global coal consumption.

As identified, climate change policy is a significant driver in forecasting global thermal coal demand.

Aurizon acknowledges the scientific consensus that climate change is occurring and that it is substantially human induced. Aurizon also accepts that the risks presented by climate change warrant global action to keep global average temperature increases within manageable limits. The present position of the United Nations Framework Convention on Climate Change, of which Australia is a party, is to limit global temperature increases to two degrees centigrade.

There is a clear need for multilateral effort to mitigate climate change. Aurizon believes that this must be balanced with the dual imperatives of economic growth and equitable access to energy. Considering the continued importance of coal in power generation, it will be imperative to ensure that Greenhouse Gas (**GHG**) emissions are minimised per unit of electricity or megawatt hour (**MWh**). Thermal coal quality presents an opportunity to reduce GHG emissions of existing coal-fired plants and efficient generation technology can provide step-change improvements for new coal-fired power generation.

#### **3 THERMAL COAL QUALITY**

Although coal is commonly thought of in singular terms there are a variety of thermal coal types available. The key determinants of thermal coal quality are its energy content, as well as its ash content. These attributes also relate to:

- GHG emissions in general, the higher the energy content the less coal is required to produce a unit of energy, resulting in less global GHG emissions per MWh.
- Particulate emissions in general, the lower the ash content, the lower the particulate emissions.

On average, Aurizon customers' coal possesses a higher energy content and lower ash content. It therefore produces fewer emissions per MWh of electricity generated than most other major sources of seaborne thermal coal. Figure 29 illustrates that the quality of Aurizon customers' coal presents an immediate opportunity to reduce GHG emissions by up to 21% per MWh where it displaces lower quality coal.

Figure 28: Global outlook for coal consumption



Source: IEA World Energy Outlook, 2014 Statoil Energy Perspectives, 2015 and BP Energy Outlook 2035, 2015.





Energy content (kcal/kg)

Source: See Appendix for assumptions.

#### 4 EFFICIENT GENERATION TECHNOLOGY

The predominant modes of coal-fired power generation from least efficient to most efficient are defined as sub-critical, supercritical and ultra-supercritical. The most efficient coal-fired power generation technology, provides substantial GHG emission reductions per unit of energy, especially when combined with high quality Australian coal. While all coal types can be used with these technologies, Figure 30 illustrates that the most efficient coal-fired power plants using Aurizon customers' coal have potential for up to 48% avoidance of GHG emissions per MWh.

An additional technology which has the potential to significantly de-carbonise coal-fired power generation is carbon capture and storage (**CCS**). In October 2014, the world's first post-combustion coal-fired CCS project was commissioned at Boundary Dam in Canada.

International investors and development banks have the ability to ensure that only the most efficient coal-fired power plants are constructed. The IEA has stated that:

"If development banks withhold financing for coal-fired power plants, countries that build new capacity will be less inclined to select the most efficient designs because they are more expensive"<sup>9</sup>

"Investors in new fossil-fuel power plants, especially coal-fired power plants, need to ensure not only the high efficiency of the plants, but also that they are, where possible, suitable for later modification to incorporate carbon capture and storage (CCS)."<sup>10</sup>

India's fleet of coal-fired generation plants is projected to expand rapidly. This expansion of coal-fired generation is an opportunity to improve efficiency.

**Did you know?** In India, "a fully ultra-supercritical coal fleet over the planned "as reported" build profile could achieve savings of 509 million tonnes of CO<sub>2</sub> annually."

This is comparable to Australia's total annual  $CO_2$  emissions reported for the year to March 2015 (-530 million tonnes).

Source: IEA Clean Coal Centre – High Efficiency Low Emissions' perspectives for selected countries September 2015.

Quarterly update of Australia's National Greenhouse Gas Inventory: March 2015.

#### THERMAL COAL SUMMARY

In summary, we see a viable future for Australian seaborne thermal coal as part of a rapidly expanding energy supply which includes increased amounts of renewable energy. In a carbon-constrained world, Australia is also well positioned to continue to supply Asia's needs of high quality coal that can be combined with new high efficiency coal-fired power plants. and industry to monitor political and macroeconomic trends that may impact the future of thermal coal. For example, we note that at the time of producing this Report, the IEA's World Energy Outlook 2015 was yet to be released. We will, as we do with reports produced by several third parties, review and interpret the IEA's energy outlooks as they are released.

We will continue to work with customers





Source: Department of Energy Resources and Tourism Australia, A Cleaner Future of Power Stations, 2013. Known assumptions: Assumes an 85% generation capacity factor in all instances. http://industry.gov.au/ Energy/Documents/sustainability-and-climate-change/DiscussionPaperCleanerFuturePowerStation.pdf Black coal refers to Aurizon customers coal. Refer to Appendix for methodology and assumptions.



# Operational efficiency

Aurizon is committed to taking the least resource-intensive approach to our operations to deliver long-term productivity improvement.

Core to our plan to deliver our Blueprint strategy is productivity improvement and operational efficiency. Table 2 sets out our FY2015 operational efficiency metrics.

#### **ENERGY EFFICIENCY**

Transportation is an energy intensive service. In FY2015, diesel and electricity used to power our fleet represented 13% of our total expenditure. Accordingly, we continue to identify opportunities to improve the energy efficiency of our operations.

We have committed to reducing our diesel consumption intensity every year, as shown in Figure 31. Driving this improvement is a shared accountability across our organisation that is embedded within the Enterprise Key Performance Indicators. In FY2015, we achieved a 2% fuel intensity reduction across our diesel fleet. This was achieved through longer trains to better utilise available power and driver training to avoid the unnecessary consumption of fuel.

In addition to our diesel reduction target, we are committed to achieving a yearon-year reduction in our fleets' electricity consumption, as shown in Figure 32. In FY2015, we reduced our electricity intensity by 8% as a result of longer trains and full implementation of regenerative braking technology.

We note that since last year's Report, we have updated our rolling three year target for diesel fuel intensity to better reflect changes in our operations and locomotive upgrade plans. Similarly, we have reset our electric intensity target of 3% year-on-year from a FY2015 baseline, after successful implementation of regenerative braking allowed us to exceed our previous FY2016 target a year early. Table 2: Key operational metrics

| Metric   | FY2015 | FY2014 | Change      |
|--|--------|--------|-------------|
| Diesel Fleet Energy Intensity<br>Litres of diesel/ thousand gross tonne kilometres (L/000GTK)            | 3.19   | 3.27   | <b>2%</b> ↓ |
| Electric Fleet Energy Intensity*<br>Kilowatts hours/thousand gross tonne kilometres<br>(kWh/000GTK)      | 10.6   | 11.5   | 8%↓         |
| Net Operating Costs (Excluding Access Charges)<br>Operational costs per net tonne kilometre (\$/000 NTK) | 21.5   | 22.8   | 6%↓         |
| Locomotive Productivity (m)<br>NTK/Active loco (monthly)   | 10.33  | 9.59   | <b>8%</b> ↑ |
| Wagon Productivity (m) NTK/Active wagon (monthly)  | 0.43   | 0.41   | <b>5%</b> † |
| Labour Productivity (m) (Enterprise-wide) NTK/FTE  | 10.5   | 9.8    | <b>7%</b> ↑ |
|  |        |        |             |

Legend: Improvement in metric performance Decline in metric performance

\* Updated from 6% in FY2015 Annual Report due to release of additional third-party data.



Figure 31: Actual and target diesel locomotive energy intensity from FY2014 to FY2018

Figure 32: Actual and target electric locomotive energy intensity from FY2014 to FY2018



#### **OPTIMISING ASSETS AND CAPITAL**

Asset productivity has been a key area of focus for our business. Significant gains in our locomotive and wagon productivity in FY2015 (8% and 5% respectively) have been driven by improvement in train configurations, reducing turnaround times and payload improvements. In FY2015, we increased payloads by an average of 268 tonnes (or 3%) across CQCN and Hunter Valley Coal Corridors. Optimising our train lengths is one way we maximised each payload path. For example, in the Hunter Valley in FY2015, an additional six wagons were added to each train. We also achieved a new milestone. trialling a 2.3 kilometre, 136 wagon train in the CQCN, which carried 11,000 tonnes of coal to the Wiggins Island Coal Export Terminal.

Asset productivity has resulted in fewer train starts and allowed for the removal of approximately 3,000 wagons and 84 locomotives over the two years to 30 June 2015. This has contributed to reductions in our labour, maintenance and storage costs and improved network capacity. Fleet rationalisation will also achieve greater fleet standardisation, with approximately half the number of wagon classes expected to be in operation in FY2018 compared to FY2014.

#### IMPLEMENTATION OF ENABLING TECHNOLOGIES

CONDITION MONITORING We use technology to ensure we have access to the right data in real-time, and can be more proactive with our maintenance. One example of this is our new rollingstock condition monitoring technology currently being implemented throughout the CQCN. The new technology automates many of the rollingstock inspection and assessment tasks currently performed manually in depots. It provides real-time information and predictive capabilities to deliver faster, more precise information on rollingstock condition in order to plan and prioritise maintenance activities.

Condition Monitoring begins with trackside monitoring structures housing multiple lasers and cameras which scan each train from top to tail analysing the condition of key components such as wheels, brake systems and doors via sophisticated machine vision algorithms (refer to Figure 33).

By analysing images of every wagon on every cycle we are able to closely monitor wear rates and move to a more predictive maintenance model in order to:

- electronically inspect and assess rollingstock condition;
- measure and assess components and predict when replacement will be required;
- alert Rollingstock Defect Coordinators via text message and email immediately for serious conditions;
- consolidate and manage all wayside detection data; and
- automatically generate maintenance work orders based on the analysis of the condition monitoring data.

It will also enable greater availability and asset productivity for a particular corridor, which is key to lowering our operating and maintenance costs.

**Did you know?** Condition Monitoring allows us to halve the frequency of physical maintenance inspections (from 21 days to 42 days).

#### ON-TRAIN REPAIR

Since October 2014, Aurizon has been trialling a new model of maintenance called On-Train Repair (refer to Figure 34). This model of maintenance removes the need to break trains and shunt wagons to depots for maintenance. The process involves keeping the train together as a block and mobilising maintenance crews to the train to conduct repairs such as wheel changes, brake block replacements and minor welding. New wheel change kits have been trialled which allow wagons to be jacked up on track and wheels placed into position under the bogies.

By using this approach, multiple wheels on the same train can be changed out simultaneously. This significantly reduces the time that wagons are out of service, from what could be several days in the depot to only a few hours on track. The process is underpinned by Condition Monitoring technology and analysis tools that provide detailed information on wheel and component condition. This enables the scheduling of the right train into the designated track at the right time so that the components, equipment and maintainers are already in place to perform the wheel change as soon as the train arrives. This approach reduces the number of yard shunts performed, eases yard congestion, reduces asset downtime and reduces the number of spare wagons required to support rollingstock maintenance activities. Overall this results in improved asset productivity and lower operating costs.

The new On-Train Repair process is currently being rolled out across maintenance depots in Queensland and New South Wales with implementation aimed to be completed across the Jilalan, Callemondah, Pring and Hexham facilities by the end of 2015.



Figure 33: Condition Monitoring representation of how the wheel view system scans wheel condition as a train passes through a site.



Figure 34: Wheel replacement taking place in the Jilalan yard as part of the On-Train Repair process.

### Freight management transformation

To embed clear accountability for performance and drive disciplined execution, Aurizon is building a world leading transportation management solution, called Freight Management Transformation (FMT). FMT will replace a collection of 18 disparate legacy systems currently used in our above rail operations for shipment, booking, planning, movement and billing. FMT will track shipment deliveries from the initial customer order through to delivery and billing, providing Aurizon and our customers with end-to-end visibility across the supply chain. The program will be rolled out in phases commencing in late 2015. The first phase will focus on the customer ordering and billing processes by introducing a new 'Customer Online' portal. Further enhancements to integrate existing systems into Customer Online and operational roll out will commence in 2016.

FMT will not only reshape how we work, but deliver the technology we need to improve Aurizon's operational efficiencies, service delivery capabilities and customer experience, making us a world leading rail-based transport business. Aurizon's investment in technology aligns our operating, commercial and financial processes in systems that are scalable, provide real-time data processing capability and will continue to enhance our ability to respond to changing operating conditions and markets.





# Customer partnerships

We recognise the important role we play in international supply chains and seek to partner with our customers and develop innovative commercial solutions.

We recently released our refreshed Blueprint strategy for the future. At its core is a simple promise that defines our broader purpose: **We Deliver**. The inclusion of Customers to Aurizon's existing values of Safety, People, Integrity and Excellence also demonstrates that we are committed to customer alignment in every aspect of our business.

From a coal-centric Queensland-based company, we have expanded nationally to carry a wide range of commodities. We provide above rail transportation services to a large number of customers across the country. We also operate and manage the CQCN. We strive to become and remain our customers' partner of choice, and have serviced a number of our customers for several decades.

### INNOVATIVE COMMERCIAL SOLUTIONS

Helping Aurizon's customers to prosper and grow is our priority. Indeed, it is essential if we are to do the same.

We have been working hard on driving changes throughout our business to enhance the customer experience and consistently deliver on what we promise. By collaborating with our customers, and taking an 'integrated supply chain' mindset, we create mutually beneficial outcomes for our customers and Aurizon.

We recognise that the current environment continues to be challenging for many of our customers due to depressed commodity prices. To address this, Aurizon has worked closely with customers throughout the year, employing a range of logistical and commercial solutions, these include:

- Maturing our service offering to more closely align to the production profile of our largest mining customers
- Ensuring we have the flexibility to provide the right services to our customers when they need them
- Utilising a portfolio approach with some of our largest customers, partnering with them to share supply chain risk where this is mutually beneficial in the long term.

#### DIVERSIFIED BULK AND INTERMODAL FREIGHT

In order to respond to lower commodity prices and greater competition from the road sector, we have placed a key focus on transforming legacy agreements to 'new form' commercial arrangements. These new form contracts usually incorporate a performance-based element, in addition to a Capacity Charge and a usage charge. These performance-based elements are just one additional way we ensure we deliver on what we promise for our customers. Our target is for 80% of bulk volumes to be under new form contracts by FY2017. In FY2015 several of our legacy agreements were transformed into new form contracts, including:

- Queensland Nickel (10 years)
- BHPB-Cannington (7 years)
- Murrin Operations Minara (10 years)

#### COAL CONTRACTS

For our coal customers, we expect 96% of contracts to be in new form by FY2018 (based on forecast contracted volumes).

This year we also reached an agreement with Anglo American and Mitsui to renew the haulage agreement for the Dawson and Callide mines on the Moura corridor, effective 1 July 2015. The 10 year agreement is for significant coal volumes, on a performance-based, new form contract, and includes a high level of commercial and operational flexibility. This new contract is a significant achievement for Aurizon as it consolidates our position with customers as the predominant haulage provider in the Queensland coal market.

#### IRON ORE

A significant fall in US\$ iron ore spot price in FY2015 has created a challenging environment for Aurizon's Iron Ore customers, who account for 9% of Aurizon's total revenue. Aurizon is having discussions with customers regarding near-term contract adjustments offset by future exclusivity and extended tenures.

#### CAPACITY CHARGES (TAKE-OR-PAY) - HOW ARE AURIZON'S CONTRACTS STRUCTURED?

For most infrastructure, there is often a tension between price. flexibility and bankability (i.e. the ability to finance the cost of developing infrastructure or assets). Aurizon operates capital-intensive, long-term assets in a market which is subject to commodity demand and supply volatility. As a result, most of our contracts include a component of Capacity Charge (also known as 'Take-or-Pay'). This Capacity Charge sets a minimum price for services, independent of actual volumes hauled, but guarantees capacity for our customer over the contract term. Capacity Charges are an essential mechanism for offering customers the most competitive price whilst ensuring Aurizon's costs are offset by stable long-term revenue.

#### WORLD LEADING SERVICE

The best way for us to add value for our customers, particularly in the context of current commodity markets, is to provide reliable, efficient and cost-effective services. FY2015 saw ongoing increases in locomotive and wagon productivity of 8% and 5%, respectively, driven through improvements in train design.

These improvements in productivity have translated into better availability and reliability of our services for customers. In the midst of these improvements, Aurizon's average coal transportation rate decreased by 5% in real terms between FY2012 and FY2015, as illustrated in Figure 35. This highlights the value of our operational efficiency measures and our eagerness to improve the cost competitiveness of the Australian supply chain for our customers.

**Did you know?** Woolworths recently gave Aurizon 100% positive feedback for customer service. This was the first time a 100% score was given for a firstyear supplier. As a result, Aurizon was recognised as the 'Carrier of the Year' at the prestigious annual Woolworths customer awards. As part of the focus on reducing average coal rate, we track CQCN coal turnaround times as an indicator of efficiency of our service delivery. This includes the time taken to deliver a service commencing upon train departure from the yard and ending at the same train's next yard departure. As illustrated in Table 3, across all systems, our turnaround time has decreased by 1% from FY2014 to FY2015.

#### FREIGHT MANAGEMENT TRANSFORMATION

The Freight Management Transformation (**FMT**) is a key component of building a world leading transportation management solution by optimising how we handle information and reporting. The FMT initiative is upgrading every aspect of how we do business with our customers in a modern IT environment. Customers can expect to see a marked change, from the way we handle orders through to the way in which they access reporting – all via the Customer Portal containing real-time reporting. FMT is due to go live with the first of three national deployments in late 2015.

#### CUSTOMER SATISFACTION

To ensure we are consistently delivering on what we promise, we regularly draw upon supply chain performance metrics to provide customer insight.

#### Figure 35: Average above rail coal rate per tonne (\$AJune 2015 real)



Source: Aurizon analysis. Nominal \$A converted into June 2015 \$A using CPI (as sourced from the Australian Bureau of Statistics).

Table 3: Turnaround time by CQCN corridor

| System      | FY2015 (hrs:mins) | FY2014 (hrs:mins) | Change        |
|-------------|-------------------|-------------------|---------------|
| Blackwater  | 31:21             | 30:53             | <b>2%</b> * ↑ |
| Goonyella   | 21:36             | 21:57             | <b>-2%</b> ↓  |
| Moura       | 22:15             | 22:24             | <b>-1%</b> ↓  |
| Newlands    | 21:54             | 22:58             | <b>-5%</b> ↓  |
| All Systems | 25:06             | 25:24             | <b>-1%</b> ↓  |

Legend: Improvement in metric performance Decline in metric performance

\*Increased turnaround times in Blackwater is due to an increase in hauls to mines more than 400km from port.

In a shift to measure customer satisfaction through direct engagement with customers, we are in the process of developing a periodic Customer Pulse survey which will measure customer sentiment. It will provide a standardised metric across our diverse customer and commodity base, enabling Aurizon to continuously improve services to customers.

#### PARTNERNING WITH CUSTOMERS FOR GROWTH

Partnering with end customers continues to be a critical part of our business, so much so that we have now embedded it into our new Blueprint strategy. We continue to actively seek opportunities to partner with our end customers; being those that are in the business of generating energy or steel. Partnering with end customers provides Aurizon with direct insight into the demand dynamics for the underlying commodity, information that will be critical to the development of greenfield supply chains.

For more information on how we are strategically aligning with joint venture partners Baosteel, American Metals & Coal International and POSCO to create a world leading, multi-user, integrated supply chain in the West Pilbara in Western Australia, please refer to the Business model chapter of this Report.

We also seek to work with customers and suppliers to contribute on matters affecting the global coal industry. We have been active members of the Queensland Resources Council and the NSW Minerals Council for many years. We have also recently joined the World Coal Association as a Corporate Member. Through this new forum we hope to actively contribute to matters affecting our industry on a global basis.

#### **BUILDING RESILIENCE**

Given that much of our network operations are located in areas subject to potential severe weather patterns, we have sought to enhance the resilience of our CQCN through the implementation of a Network Condition (**NETCON**) program.

This program invests in how we prevent, prepare, respond and recover from natural events in order to minimise disruption to our customers and the financial cost of recovery.

Recent NETCON initiatives that have been undertaken to improve the resilience of our CQCN include:

- advanced hydrology mapping to inform design to mitigate the risk associated with flooding;
- > placement of critical infrastructure above 1 in 100 year flood levels; and
- investment in new technology (e.g. temperature monitoring, flood level monitoring and embankment slip detectors) to conduct real-time asset condition monitoring.

Aurizon also undertakes extensive rail corridor vegetation management to mitigate the risks of bushfires and flooding. Table 4 provides a summary of how severe weather risks are managed.

Cyclone Marcia in Queensland has highlighted the importance of investment into the resilience of our network, and demonstrated the success of NETCON. On 20 February 2015, the Category 5 cyclone crossed the eastern coast of Australia with wind gusts of 300km/hr and rainfall in some areas of 500mm. Despite a direct hit on Rockhampton (where our network operations are based), the Blackwater System reopened within 36 hours. The Goonyella and Newlands systems continued to be controlled from Rockhampton during this cyclone.

More extensive damage on the Moura System involved recovery work across 20 major sites, including track realignment and rebuilding, working in degraded conditions and covering an extensive scope of repairs. Through the hard work and dedication of employees across the business, Aurizon was successful in reopening the Moura system on 18 March 2015 – ahead of schedule and without incident or injury. "Aurizon work teams, together with a number of contractors, have done an outstanding job in completing the recovery. The fact it was achieved in difficult conditions and without safety incident goes to the heart of the terrific capability of our people." *Executive Vice President Network Alex Kummant.* 

"Because railroad companies operate vast networks of track and facilities, changing weather patterns and increased severity and frequency of storms pose a serious risk to future operations. Rail infrastructure is vulnerable to potential climate change impacts, such as increased flooding events, erosion, and higher temperature extremes that can corrode and bend steel tracks".

"Strategies to adapt to changing climate conditions by improving the resilience of the rail infrastructure are likely to become increasingly important."

Source: Rail Transportation – Research Briefing Prepared by the Sustainability Accounting Standards Board, September 2014.

Table 4: Management of severe weather risks

| Severe weather risk | Description  | Implications  | Management methods   |
|---------------------|--|---|--|
| High temperatures   | Extreme temperatures can result<br>in buckling that compromise track<br>integrity.   | Track buckling can cause<br>derailments if not properly<br>managed which could potentially<br>close a portion of the network. | When the temperature exceeds 38 degrees<br>Celsius, additional track inspections are<br>conducted and blanket speed restrictions are<br>applied. |
| Extreme rainfall    | Increases in extreme rainfall can<br>submerge or wash away railway<br>infrastructure (e.g. ballast).                             | Track may need to be closed temporarily or repaired.  | Pre-wet season inspections of infrastructure,<br>culvert upgrades and renewals, drainage<br>clearance and hardening of bridges.                  |
| High wind speeds    | Damage caused by high wind<br>speeds can affect overhead<br>electrical infrastructure and empty<br>or double stacked containers. | Disconnection of overhead<br>electrical infrastructure or<br>derailment of trains.  | Designing overhead infrastructure to<br>withstand winds of up to 200km/h. Avoid<br>double stacking of empty containers.                          |

### Cooling Channel Bridge

The Cooling Channel Bridge is both a nationally and commercially significant part of Aurizon's rail infrastructure. It carries around 82 million tonnes of coal each year (equivalent to 20% of Australia's total coal exports) for our customers located in the Moura and Blackwater Systems. To maintain system availability and reduce maintenance cost, it was recently converted to a ballast-less track bridge in July 2015 during a 94 hour track closure. Previously, ballast on the bridge was required to be replaced every 18-24 months at a cost of approximately \$500,000. The new track slab has an expected life of 50 years and cost \$2.3 million (achieving a payback of under 10 years). This design will provide less closures and incorporates a self-cleaning drainage system.



# Environmental management

Aurizon monitors and minimises impacts on the communities and ecosystems in which we operate by increasing operational efficiency and offering sustainable transportation options.

#### **OUR ENVIRONMENTAL CONTEXT**

In line with Aurizon's aim to take the safest, most efficient and least resource-intensive approach to how we deliver our services, we regularly assess our environmental related risks through evidence based analysis in concert with continual stakeholder consultation. As well as environmental compliance and reporting, we actively manage the following three environmental priorities. These priorities pose the greatest risk to our social license to operate if left unchecked, but equally present an opportunity for cost saving through efficiency gains:

- Minimising emissions and energy consumption
- Conserving and protecting local biodiversity
- Reducing, reusing and recycling waste

Aurizon remains committed to managing its operational activities and services in an environmentally responsible manner to meet legal and social obligations. For information about our environmental engagement with local communities, please see the Community engagement chapter of this Report.

#### **COMPLIANCE AND REPORTING**

We are pleased to report that in FY2015, Aurizon did not incur any monetary fines or sanctions for any non-compliance with operational regulatory requirements or environmental conditions of our project approvals.

Environmental compliance across Aurizon is achieved through employee environmental awareness training, incident reporting through our SHEM system, periodic internal audits and monthly reporting through the Environment Community of Competence and the Central Safety Health & Environment Committee.

Notifiable incidents, which are required to be reported to the relevant regulator, are also reported to the Aurizon Board. In FY2015, we had two notifiable environmental incidents (refer to Table 5), representing a 50% improvement on FY2014. All incidents were reported to the relevant regulatory authority within the required statutory timeframes and sites were appropriately remediated, where required.

#### MINIMISING EMISSIONS AND ENERGY CONSUMPTION

CARBON EMISSIONS As outlined in Table 6, in FY2015 Aurizon's total Scope 1 and 2 emissions equalled 1,122 ktCO<sub>2</sub>e, representing a 5.8% reduction to the previous year. The reduction was driven by factors such as the Bauhinia electrification project, the sale of CRT Group Pty Ltd and a reduction in iron ore volumes in Western Australia.

As illustrated in Figure 36, approximately 92% of Aurizon's total GHG emissions relate to the operation of our diesel and electric fleet of 567 active locomotives and 13,960 active wagons (as at 30 June 2015).



Figure 36: Aurizon's GHG emission sources

#### Table 5: Notifiable environmental incidents in FY2015

| Location | Volume                             | Material                    |
|----------|------------------------------------|-----------------------------|
| Warrigal | Approximately 250 tonnes recovered | Ammonium hydrogen phosphate |
| Mt Isa   | Approximately 3,000 Litres         | Electrolyte                 |

#### Table 6: Organisational GHG emissions profile

| Emission Source               | FY2015 | FY2014 | Change         |
|-------------------------------|--------|--------|----------------|
| Scope 1 (ktCO <sub>2</sub> e) | 693    | 765    | <b>-9.4%</b> ↓ |
| Scope 2 (ktCO <sub>2</sub> e) | 429    | 427    | <b>0.5%</b> ↑  |
| Total emissions               | 1,122  | 1,192  | <b>-5.8</b> %↓ |

Legend: Improvement in metric performance I Decline in metric performance

#### MOTOR VEHICLE FLEET

As Aurizon embarks on a fleet renewal program, we have undertaken a review of the motor vehicle fleet to identify opportunities to reduce the carbon emissions generated.

Through this process we have identified and begun to implement several initiatives aimed at reducing the overall environmental impact of the fleet, including:

- Mandating four cylinders for all vehicles leased, owned or hired by Aurizon for use by employees as part of their role (excluding prime movers and heavy vehicles)
- Using an In Vehicle Monitoring System to monitor and report on driver performance to communicate positive driver behaviour and identify areas for improvement
- Providing internal monthly reporting on fuel and carbon efficiency to monitor performance and identify areas for improvement

In FY2015, Aurizon ordered over 300 new vehicles to replace existing vehicles in the fleet. Our aim was to ensure all vehicles purchased or leased were more carbon efficient than those they replaced, resulting in an average emissions improvement of 10% across all new vehicles.

#### ROAD TO RAIL GHG

EMISSIONS REDUCTIONS For long distance haulage tasks, the adoption of rail over road offers our customers improved operational, safety and environmental outcomes in addition to alleviating wider traffic congestion issues. Rail freight produces 75%<sup>11</sup> less CO<sub>2</sub> than road freight and also generates 90% less accident costs<sup>12</sup>.

To support our existing and potential customers in understanding the benefits of rail, Aurizon has developed a 'carbon calculator' which enables the comparison of GHG emissions of rail versus road transportation. Stakeholders will be able to access the calculator via Aurizon's website and enter data, including the number of containers to be transported and distance, and the calculator will provide a comparison of the carbon and safety benefits of using rail vs road.

Figure 37 on the following page displays an image of this calculator which will be presented on our website later in FY2016.

**Did you know?** The UN Centre for Regional Development<sup>13</sup> found that from "a CO2 emissions point of view, railways worldwide emit only 3.3% of the total transport sector CO2 emissions, while having a modal share of 9.3%. In contrast, road is responsible for 72.6% of worldwide transport emissions and has a modal share of 34.8%".

#### OTHER AIR EMISSIONS

Whilst research shows that train operations contribute a small proportion to global emissions, Aurizon recognises that the issue of diesel emissions is important to local communities. We focus on continuous improvement in running our fleet efficiently to manage our environmental impacts. For example, we are undertaking a number of initiatives which reduce diesel fuel consumption. These include improved driving methodologies, driver assist technology, high specification diesel, and reduced locomotive idling time including Auto Engine Stop Start.

To progressively control and reduce diesel emissions across the state, the NSW Environmental Protection Authority (**EPA**) released its Diesel and Marine Emissions Management Strategy in February 2015. Aurizon is committed to actively working with the NSW EPA and engaging with industry peers to ensure this strategy is appropriately implemented.

#### TRANSPARENCY IN REPORTING

The Carbon Disclosure Project (**CDP**) is an international, independent, not-for-profit organisation which compiles corporate climate change information for the investor community. Now in our second year of voluntary participation, we have improved our score from a 73E to an 81D (100A being the best) due to several of the emissions reduction and energy efficiency initiatives outlined above. To demonstrate our commitment towards transparency and continuous improvement, we will continue reporting in the CDP in 2015 and beyond.

#### CONSERVING AND PROTECTING LOCAL BIODIVERSITY

When planning our projects and conducting our operations, we seek to avoid adverse impacts on native biodiversity by adopting the principles of ecologically sustainable development through implementation of our Environmental Planning and Assessment Procedure.

Aurizon continues to secure vegetation offsets across Australia. In FY2015, we secured all of our outstanding vegetative offsets associated with major construction projects in Queensland, including approximately 75 hectares required as part of the Goonyella to Abbot Point Expansion and Wiggins Island Rail Project.

We are in the process of securing and ecologically enhancing approximately 53 hectares of endangered wetland vegetation on our property in NSW as part of our obligations for the development of the Hexham Train Support Facility (TSF). Aurizon recently secured the NSW Department of Planning and Environment's approval to operate the Hexham TSF, which involved the development of a detailed Operational Environmental Management Plan (OEMP). The OEMP includes strategies to manage the potential impacts to surface-water, groundwater, the adjoining Hunter Wetlands National Park, air quality and noise in order to avoid, reduce and minimise potential harm to the environment.

#### REDUCING, REUSING AND RECYCLING WASTE

In order to understand and manage our impact on the environment, we monitor how much waste we generate. We commenced measuring the volume of waste we generate in FY2014 (as set out in Table 7), and propose to report annually on our waste profile and the actions taken to minimise waste.

Aurizon is currently in the process of consolidating its national waste contracts which will provide more information about waste. Our waste management program includes recycling, through which we recover funds as we undertake numerous scrap metal recovery activities across the business, to improve both our environmental performance and drive efficiency.

Table 7: Aurizon waste and recycling data

| Waste source (tonnes)         | FY2015 | FY2014  |
|-------------------------------|--------|---------|
| Waste generated in operations | 31,307 | 31,306  |
| Metal recycling               | 23,645 | 51,574* |
| Concrete sleeper recycling    | 13,444 | 17,727  |

\*FY2014 metal recycling figures were high due to an extensive wagon disposal program.

11 See Appendix for assumptions.

13 The Environmentally Sustainable Transport (EST) Forum, Expanding Railways - A vital Means to Meet the Growing Transport Demand In Asia, 2014.

<sup>12</sup> Deloitte Access Economics for The Australasian Railway Association, The True Value of Rail, 2011.

#### Figure 37: Carbon calculator

|          | I need to transport <b>20</b> containers                                       |          |
|----------|--|----------|
|          | from Melbourne v to Brisbane v   |          |
|          | calculate  |          |
|          | Shipment Summary   |          |
|          | origin destination containers distance<br>Melbourne Brisbane 20 1,899km        |          |
|          |  |          |
|          | Estimation   |          |
|          | CARBON EMISSIONS<br>Rail emitted <b>23.92 tonnes</b> less<br>carbon than road. |          |
|          | Rail saved \$ 3,360.56 in<br>avoided accident costs<br>compared to road.       |          |
|          |  | <u>2</u> |
|          |  |          |
| <u> </u> |  | _        |

# Community engagement

Aurizon has a long and proud history of supporting the communities in which our people live and work, and engaging in an open dialogue to pursue mutual benefit.

### OUR REGIONAL ECONOMIC CONTRIBUTION

As demonstrated in Figure 38, 69% of our workforce (or over 4,500 employees) live and work in regional communities. The regional communities of Rockhampton, Mackay, Gladstone and Townsville are the major locations where we operate.

In order to understand the contribution Aurizon makes to regional communities, we commissioned Ernst & Young to develop an Economic Contribution Analysis of our activities in FY2015. This includes both our direct impacts: activities carried out by Aurizon on location, including operations, construction and maintenance; and indirect impacts: flow-on activities from our expenditure on employee salaries and their consumption of goods and services.

As illustrated in Figure 39, Aurizon's total regional economic contribution in FY2015 was \$3,280 million. This consisted of:

- \$1,710 million directly spent by Aurizon in regional communities – for example, Aurizon paid wages to its regionallybased employees
- \$620 million spent by our regional workforce on local goods and services - for example, Aurizon's regionallybased employees spend their wages with regionally-based businesses (i.e. groceries)
- \$950 million spent by Aurizon's suppliers on regionally-based goods and services - for example, Aurizon engages a company to manage vegetation along a rail corridor. That company then purchases equipment from a regionally-based hardware supplier to perform the services.

**Did you know?** Local suppliers play an important role in the success of our operations. During FY2015, Aurizon purchased goods and services from over 770 different businesses located in Central Queensland. If you supply materials or provide services that we require, then we invite you to register your interest via the Supplier Database on our website. Figure 38: Aurizon workforce by location as at 30 June 2015



#### **REGIONAL ECONOMIC CONTRIBUTION**

The regional communities included in Aurizon's Economic Contribution Analysis are Queensland (excluding South East Queensland), New South Wales (excluding Sydney) and Western Australia (excluding Perth).

Figure 39: Aurizon's regional economic contribution in FY2015



#### UNDERSTANDING OUR IMPACTS

Our approach to community engagement is founded on recognition that rail operations can affect communities and that we must be accessible and responsive in addressing concerns.

To facilitate effective engagement, we continue to provide an ongoing interface for our stakeholders in both regional and urban centres. Our Community Engagement Charter also provides a framework for consistent and accountable feedback mechanisms. It underpins all of our community interactions, including ongoing engagement surrounding our existing rail network, intermodal activities and project-specific engagement required for Aurizon's new greenfield investments.

In FY2015, we received a total of 284 community complaints, as shown in Figure 40. This represents an increase of 32% on the prior year. A key influence in this increase has been a deliberate and successful campaign to increase community awareness around how to make a complaint.

The issues of most frequent public concerns were:

- Noise (including "wheel squeal")
- > Air quality related issues
- > On-road driver behaviour
- Rail corridor issues (such as weed management, fencing or unauthorised access to properties)
- Construction impacts

Table 8 shows the timeline for resolution of complaints in FY2015.

Figure 40: FY2015 Community concerns



Transportation of coal is an important element of our business as set out in the Future of coal chapter of this Report. We transport coal in Queensland and in the Hunter Valley in NSW.

In FY2015, we received 12 complaints about coal dust. In seeking to address these complaints, we have implemented a number of world leading solutions to minimise our impact on local communities.

#### CENTRAL QUEENSLAND COAL NETWORK

In Queensland, we seek to minimise coal dust emissions through a combination of veneering, improved wagon loading practices and monitoring systems. While the impact of these mitigation practices is dependent to some extent on factors such as coal type and climatic conditions, the use of these mitigation practices has been shown to reduce coal dust by up to 75%.

Our below rail business, Aurizon Network, has now completed handing over the obligations to maintain and operate the profiling and veneering stations on the CQCN to the relevant mine load out operators. Agreements between Aurizon Network and mining customers require compliance with the Coal Dust Management Plan, developed by Aurizon Network and the CQCN Coal Supply Chain, and endorsed by the Department of Environment and Heritage Protection.

#### HUNTER VALLEY, NSW

We continue to work with our coal supply chain partners on coal train dust management. Improvements have been made following a wind tunnel testing report on Hunter Valley coal types and recent NSW EPA coal industry audits of the Hunter Valley coal supply chain.

Aurizon is also an industry representative on the Lower Hunter Reference Group (LHR Group), which released an interim six month results report in July 2015. Data averages collected from all twelve sites were well below the EPA acceptable level of deposited dust. The LHR Group will report on final conclusions after twelve months of data has been completed.

66 Noise 42 Road safety

- 39 Rail corridor
- 30 Construction
- 25 Air quality

# 15 Train ops 14 Land impacts 9 Gates left open 9 Facilities 8 Level crossings

#### Table 8: FY2015 Complaints performance

| Status<br>of enquiry | Total | 1-3 days | 4-10 days | >10 days | % of total |
|----------------------|-------|----------|-----------|----------|------------|
| Closed               | 187   | 141      | 37        | 9        | 66%        |
| In progress          | 97    | 12       | 23        | 62       | 34%        |
| Total                | 284   | 153      | 60        | 71       |            |
| % of Total           |       | 54%      | 21%       | 25%      | 100%       |

\* 3 complaints were raised in FY2014 and resolved in FY2015.

#### **MANAGING NOISE**

Wheel squeal is the noise generated by the rail wheel flange rubbing against the gauge face of the rail. The issue of wheel squeal is complex, multifaceted and cannot be addressed in isolation to the whole system.

Aurizon is collaborating with the NSW Government, track owner Australian Rail Track Corporation (**ARTC**) and customers to trial long-term solutions to railway noise. Led by the NSW Government Department, Transport for NSW, the trial aims to monitor noise in the Beecroft corridor North of Sydney (Figure 41) and identify ways in which rollingstock, the track and their interface contribute to the generation of wheel squeal. A range of solutions are also being trialled, including top of rail lubrication, gauge face lubrication and friction modification.

We are also in discussions with industry peers to develop national noise guidelines as well as closely monitor regulatory developments in this area to ensure that conditions imposed are appropriate. We will continue to engage with regulators, rail infrastructure access providers and local communities on noise pollution to seek to manage issues through consultation.

#### STAKEHOLDER ENGAGEMENT AROUND MAJOR PROJECTS

Aurizon develops specific community and stakeholder engagement plans for its major projects. As part of that process, we ensure that the baseline conditions in affected communities are captured prior to project activities commencing. This allows any associated impacts to be properly quantified and mitigated as necessary. Wherever practicable, we also look to incorporate the output of this consultation into the project development cycle in order to minimise potential impacts. As of the end of FY2015, all major capital works projects and all capital works programs had specific community engagement plans.

#### WAGON DESIGN

For more than a decade, Aurizon has addressed issues relating to the management of coal in wagons through improved wagon design. Aurizon has a number of design features that reduce coal loss during loading, unloading and transit illustrated in Figure 42:

- Reduce coal hang up on wagons allowing coal to be shed from the wagon at the loading point
- > Reduce coal loss in transit
- Minimise coal hang up at the unload point

Aurizon continues to invest in the development of coal wagons in order to address community issues through good design solutions.

#### **CULTURAL HERITAGE**

Aurizon acknowledges that all of the land on which we operate has Traditional Owners. We also acknowledge and seek to preserve the cultural heritage values of land.

Our Aboriginal Cultural Heritage Manual establishes standardised processes for the management of Aboriginal cultural heritage across all of our activities. In addition, we continue to develop cooperative relationships with Traditional Owners including the development of cultural heritage management plans.

#### **COMMUNITY GIVING**

Aurizon's Community Giving Fund was established over four years ago, as a result of feedback from employees and their desire to engage and support local charities. Every year, our Community Giving Fund provides two rounds of cash grants of up to \$20,000 per project to eligible charity groups to support projects in areas of health and wellbeing, community safety, environment and education.

Since its introduction, the fund has delivered grants to support more than 180 charities across regional and rural Australia. The support we provide our local charities helps to enhance services for the communities in which we operate and our employees live.

Figure 41: As part of the noise trial, Transport for NSW has installed modern electronic lubricators at several curve noise sites in North Sydney



Figure 42: Coal dust wagon design features



In FY2015, the fund provided grants to 33 organisations including:

- CareFlight in Geraldton,
- Western Australia received funding for their MediSim Volunteer Trauma Care workshop which focuses on mobile medical training for first response emergency and rescue teams who are often first on the scene at serious accidents in regional Australia.
- YWCA Queensland received funding for their Y Bloom program – a six week program run in Mackay and Rockhampton to support and empower local women to take on leadership roles.

#### > The HeartKids New South Wales

in the Hunter Valley received funding for their First Aid for Heart Kids project to equip parents and carers of children with Childhood Heart Disease. The program helps parents and carers in the Hunter Valley and Newcastle region respond appropriately to medical emergencies until qualified help arrives, thereby helping to safeguard children with Childhood Heart Disease and ensure they have the best chance at a healthy life. > Autism Spectrum Australia in

Hunter Valley, New South Wales received funding for two shade sails for the playground at Aspect Hunter School which delivers services to 120 students and families.

In addition to our Community Giving Fund grants, Aurizon donated a significant number of services to charities such as the Salvation Army, Red Cross, Lifeline, St Vincent de Paul, Samaritan's Purse, Food Relief North Queensland and the Anglican Diocese through its FY2015 Freight Assistance Program.

#### CareFlight Geraldton.



# Organisational capability

Our greatest asset is our organisational capability – our knowledge of how to safely and efficiently operate complex supply chains.

#### DIVERSITY

We believe that a company should celebrate the diversity of thoughts, backgrounds and experiences of its workforce. By doing so, a company strengthens its organisational capability, avoids 'group think' and ensures it reflects the broader marketplace and society in which it operates. This view is enshrined in our 2015 Diversity Strategy & Plan, and is championed by our MD & CEO, Lance Hockridge, who chairs our Diversity Council.

#### GENDER

Heavy industry has historically been a maledominated industry. But that doesn't mean that it should continue to be. To reinforce this we undertook a series of actions to challenge existing stereotypes and promote opportunities for women at Aurizon. These included:

- Announcing a bold target of increasing the number of female employees across our business to 30% by the end of 2019, off a current base of 15.3%
- Joining the Australian National Committee for UN Women as a platinum partner, and becoming a signatory to the UN's Women Empowerment Principles
- Launching the 'Aurizon Male Champion of Change Group' to encourage men to become active change agents for gender diversity

We closely examine the proportion of female employees at various levels within our business functions. These results are reported to the Executive Committee at least quarterly and the Aurizon Board annually. Our total headcount by gender and new employees by gender are set out in Tables 9 and 10.

While the number of employees within Aurizon has decreased, the number of female employees has remained steady, and the number of women hired by Aurizon as a percentage of total new hires has increased by 13 percentage points.

We consider our extensive programs to attract and retain female talent have started to "move the dial" on diversity in FY2015. But despite initial achievements, we acknowledge that we still have significant progress to make in order to deliver on our 2019 target.

INDIGENOUS EMPLOYMENT Currently, 3.3% of our employees identify themselves as being of Aboriginal and Torres Strait Island origin. This represents an increase from the 2.6% achieved in FY2014. While this level roughly mirrors the national Indigenous population, we actively pursue a greater number given that we operate in regions which generally have higher Indigenous representation.

Aurizon has committed to having at least 400 Aboriginal and Torres Strait Islander employees across our organisation and we are working with local communities to further Indigenous employment.

As a signatory to the Australian Employment Covenant, Aurizon continues to expand opportunities for Indigenous employment with 48 new indigenous recruits employed in FY2015, bringing our total number of Indigenous employees to 230.

#### Table 9: Total headcount by gender

| Gender          | FY2015<br>Headcount | FY2014<br>Headcount | Change          | FY2015 % | FY2014 % | Change    |
|-----------------|---------------------|---------------------|-----------------|----------|----------|-----------|
| Male            | 5,897               | 6,581               | <b>-10.4%</b> ↓ | 84.7%    | 86.2%    | (1.5ppt)↓ |
| Female          | 1,061               | 1,057               | <b>+0.4%</b> ↑  | 15.3%    | 13.8%    | +1.5ppt ↑ |
| Total Employees | 6,958               | 7,638               | <b>-8.9%</b> ↓  | 100%     | 100%     | -         |
|                 |                     |                     |                 |          |          |           |

Legend: Improvement in metric performance I Decline in metric performance

#### Table 10: New employees by gender

| Gender | Number of<br>FY2015 Hires | Percentage of FY2015 Hires | Percentage of FY2014 Hires | Change   |
|--------|---------------------------|----------------------------|----------------------------|----------|
| Male   | 322                       | 63%                        | 76%                        | -13ppt ↓ |
| Female | 193                       | 37%                        | 24%                        | +13ppt ↑ |

Legend: Improvement in metric performance Decline in metric performance

#### Table 11: Voluntary employee turnover rate

|        | FY2015 | FY2014 | Change    |
|--------|--------|--------|-----------|
| Male   | 5.8%   | 5.6%   | +0.2ppt ↑ |
| Female | 7.2%   | 5.4%   | +1.8ppt ↑ |

Legend: Improvement in metric performance Index Decline in metric performance

Aurizon has developed its inaugural Reconciliation Action Plan through Reconciliation Australia. Our vision is to create and provide sustainable employment opportunities and skill development strategies for Aboriginal and Torres Strait Islander people that will have a positive impact on communities across Australia.

To progress our commitment to indigenous diversity, we have established an internal Aurizon Indigenous Reference Group and signed a two year sponsorship with The Clontarf Foundation. The Clontarf Foundation is a charitable not-for-profit organisation set up to improve the education, discipline, self-esteem, life skills and employment prospects of young Aboriginal men. The Foundation has been highly successful in attracting boys to school and retaining them. It has also been successful in placing graduates in permanent full-time employment.



Aurizon's Allin Network at the annual Brisbane Pride Rally and March.



Aurizon's MD & CEO Lance Hockridge, with Clontarf Foundation CEO Gerard Neesham.



Aurizon female employees at International Women's Day 2015.

In addition to the initiatives mentioned, a variety of employment strategies (including site visits, school talks, Indigenous careers fairs and work experience) are being used to provide a pipeline into Aurizon. We have also commenced the implementation of our Indigenous pre-employment program as well as piloting a future leader's program.

#### LGBTIQ & ALLIES NETWORK

Last year, Aurizon launched its lesbian, gay, bisexual, transgender, intersex and queer network for employees and allied supporters (**Allin**). The Allin network provides resources, education and communication strategies that support building a more respectful, inclusive and innovative culture. All of our employees are encouraged to join regardless of sexual orientation. In FY2015, the Allin network undertook a number of initiatives to promote an inclusive workplace where everyone can "bring their whole self to work" and to increase awareness of LGBTIQ issues.

In FY2015, Aurizon signed an open letter of support for marriage equality in Australia. Aurizon believes that a fair and equitable society, free of discrimination, allows all employees to function at their best.

Aurizon is proud to join the growing list of companies supporting this movement.

For more information visit the Australian Marriage Equality website: http://www. australianmarriageequality.org/open-letterofsupport/.

#### LGBTIQ Organisational Memberships

- Pride In Diversity
- Diversity Council Australia

Catalyst

#### WORKFORCE AVAILABILITY

We are focused on the availability of our workforce to ensure we can respond to customer requirements. Workforce availability measures the percentage of rostered or scheduled days that employees complete, and is a key indicator of organisational culture. In FY2015, our workforce availability was 96%, a minor reduction of 0.2 percentage points from FY2014. Aurizon is targeting to improve this measure to 97%, aided by the programs described in this chapter.

#### **GRADUATE PROGRAMS**

Aurizon is investing in the next generation of railway workers through our Graduate Development Program, a two to three year career building opportunity for recent university graduates. The program offers an exciting pathway to building a career in Aurizon by becoming a future leader or technical specialist.

Aurizon graduates are involved in cross functional projects that enable them to further develop their delivery of presentations, consulting approach, project management, creativity, innovation and teamwork.

The Graduate Development Program aims to:

- attract and retain high performing graduates; and
- develop graduates into Aurizon's future operational, technical, professional and managerial specialists

#### RECOGNITION

Aurizon made its first submission on LGBTIQ inclusiveness to the Australian Workplace Equity Index in FY2015 and was awarded a Bronze Award, being one of only two heavy industry companies so recognised. In addition, we were proud to be the recipient of the diversity awards listed in Table 12. Aurizon was also recently announced as a finalist in the AHRI Gender Equality in the Workplace Award for FY2016.

Aurizon recognises the importance of acknowledging the achievements of our workforce. In recognition of their critical contribution to our recent productivity gains, Aurizon announced the award of \$2,500 in gift shares to all eligible employees. Aurizon also continues to promote the contribution of its people at its annual Employee Excellence Awards, recognising individuals and teams who go beyond expectations to demonstrate Aurizon's core values, and Vocational Excellence Awards, which celebrate those who demonstrate excellence in their vocational field.

#### **UNDERSTANDING OUR CULTURE**

Aurizon's culture is values based and performance driven. In FY2015 Aurizon undertook a series of activities to understand and improve opportunities in regards to our management practices. These activities built on the results of the Organisational Health Index (**OHI**) survey conducted in 2014.

Aurizon currently has a series of Organisational Health teams working on key management practices. These teams are cross-functional, and are focused on identifying improvement to management practices, productivity levels and customer focus. An example of one outcome of this process is the Aurizon Connections book comprising stories from team members across the company to guide employees on the positive actions and behaviours that align with our refreshed Values.

#### **EMPLOYEE RELATIONS**

In FY2015, Aurizon finalised new Enterprise Agreements (EAs) in Western Australia and Queensland, covering more than half of the workforce. Since year end, a further two EAs for Queensland employees were also finalised. As a result, all Aurizon employees previously covered by legacy EAs will be engaged under contemporary employment conditions. These new EAs will bring a range of direct and indirect benefits, including productivity enhancements, operational flexibility and cost reductions. They will also enable the next phase of Aurizon's business transformation, allowing Aurizon to provide services which better respond to the needs of our customers.

#### Table 12: Diversity awards received by Aurizon in FY2015

| Category  | Award issuer                         |
|---|--------------------------------------|
| Most Outstanding Company in Gender Diversity 2015 | Engineers Australia                  |
| Gender Equity Champion                            | Hunter Diversity Awards              |
| Workplace Diversity                               | Australian Industry Awards           |
| Diversity Champion CEO                            | Australian Human Resources Institute |
| Gender Equality in the Workplace                  | Australian Human Resources Institute |



Winners – 2014 Employee Excellence Awards & Vocational Excellence Awards for Trainees and Apprentices with MD & CEO Lance Hockridge.

# Regulatory environment

We seek to play an active role in encouraging infrastructure investment and the fair and efficient use of Australian export infrastructure.

#### AURIZON'S REGULATORY ENVIRONMENT

Aurizon operates within a highly regulated environment. As outlined in the Business Model chapter of this Report, our business can broadly be divided into **above** rail, relating to haulage services, and **below** rail, which provides access to the CQCN. Each has a differing regulatory regime:

Above rail: For haulage services, Aurizon must acquire access to the necessary rail network. In Central Queensland, Aurizon owns and operates the CQCN, however in other locations such as the Mt Isa Line, Hunter Valley or in Western Australia, access is

Legend

Figure 43: Rail infrastructure and regulatory regimes

negotiated with Queensland Rail, the ARTC and Brookfield Rail, respectively

Below rail: As the owner and operator of the CQCN, Aurizon provides open access to the network to all accredited rail operators (currently Aurizon, Pacific National and BMA Rail). The terms and tariffs we offer to customers are regulated by the Queensland Competition Authority (QCA), who sets a capped Maximum Allowable Revenue which Aurizon is entitled to earn over a given period

Transport infrastructure is of critical importance to the Australian economy. As a geographically isolated country with a dispersed population, Australia is heavily dependent on cost-competitive and efficient transport infrastructure for its economic and trade performance. For Aurizon to remain an efficient component in the supply chains which underpin this growth, we require regulatory regimes which allow for a commercial return commensurate with the risks taken. The global cost competitiveness of Australian coal supply chains driven from key infrastructure advantages is discussed in the Future of coal chapter of this Report. However, to retain this global advantage it is essential to continue investment into strategic infrastructure networks, and have a regulatory environment which supports these investments.

TOPO

Figure 43 shows the various competition regulators for the rail transport industry across Australia.

#### **CQCN ACCESS UNDERTAKING**

In our below rail business we operate under a framework called an Access Undertaking, approved by the QCA, which sets terms and conditions – including prices – for network access for our customers. Over a period of two years, Aurizon has been working with the QCA to update the existing Access Undertaking to ensure access-related issues are resolved with the agreement of Aurizon and its customers. The QCA is currently expected to issue its Final Decision on the updated Access Undertaking (UT4) on 30 November 2015.

Aurizon Network (2010 Access Undertaking) *Queensland Competition Authority* 

**Queensland Rail** (2008 Access Undertaking) *Queensland Competition Authority* 

Brisbane

Australian Rail Track Corporation (National Access Regime) Australian Competition and Consumer Commission

John Holland

(NSW Rail Access Undertaking) Independent Pricing and Regulatory Tribunal

V-Line (Victorian Rail Access Regime) Essential Services Commission (VIC)

TasRail

(National Access Regime) Australian Competition and Consumer Commission

# Infrastructure Manager (Regulatory Instrument) Regulator Darwin Pertin Vestern Australian Rail Access Regime) Economic Regulation Authority Economic Regulation Authority

Genesee and Wyoming

(Australasian Railway Access Code)

# Q&A with Lance Hockridge

Key changes to Aurizon's regulatory environment have the potential to impact our commercial performance and how we grow our business. In each case, we adopt an evidence-based, consultative approach with governments and regulators to assist in developing informed policy decisions.

Our MD & CEO, Lance Hockridge, is a regular participant in industry forums on transport infrastructure and reform, and a member of the Business Council of Australia's Efficient Regulation Policy Committee. In the subsequent Q&A with Mr Hockridge, he discusses the critical role national infrastructure policy reform plays not only in Aurizon's commercial future, but in defending Australia's trade competitiveness in a changing global landscape.

### What is the role infrastructure plays in the Australian economy?

Infrastructure is best understood as the physical capital that enables economic activity and growth. This includes railways, telecommunications and electricity grids, among other types. Given Australia's geographical size, and the key role that resources play in our economy, our resources infrastructure stock is particularly important to our national growth and competitiveness.

### Does our current rail infrastructure position us for future growth?

Whilst our nation's coal and iron ore supply chains are among the world's best, this advantage is under threat. For example, Australia faces fierce competition with the rail supply chains carrying iron ore in Brazil and coal across Mongolia. Competing countries are not standing still. I am confident of Australia's ability to rise to the challenges before it, but we cannot afford to rest on our laurels. A number of Australia's rail freight systems are falling in international rankings due in large part to regulatory overload and shorttermism. Recent analysis has shown that our grain supply chain is increasingly inefficient, due to ageing assets and a lack of alignment among participants. There are a number of countries competing in the international grain market, meaning Australia's competitive position is reliant on the efficiency with which we can get our grain to market. The same applies to most of our internationally traded commodities.

#### What issues need to be overcome to retain the competitiveness of Australian rail infrastructure in the long term?

Infrastructure investments are long-term, capital intensive with high sunk costs, and involve political considerations due to their importance in nation building. What this means is that for companies like Aurizon that are ready, willing and able to invest in critical Australian infrastructure we need policy support and policy certainty. We need a national freight strategy that brings together transport policy reform, competition regulation, consideration of industry structure and incentivises long term investment. This can only work if the Commonwealth, the states and industry work together.

Secondly, the benefits of privatisation cannot be ignored despite the political challenges they pose. While not all infrastructure assets function best in private hands, the Aurizon privatisation highlights both the productivity opportunities that can be realised and the capital expenditure that can be supported by private investment and user charging.

Thirdly, we need to implement Australia's long-held objective of shifting more freight from the road to our rail networks. Rail's share in the movement of domestic freight has declined, despite clear safety, environmental and efficiency dividends. We must drive a political and community agenda to create a level playing field for road and rail – this reform cannot be delayed. Some work has commenced on a heavy vehicle pricing regime, however more needs to be done as a matter of priority. By any objective measure, a greater share of long distance freight moving by rail is better for Australian lifestyles and productivity.

Finally, we should establish a goal for interstate freight on the eastern seaboard - to have rail carry 30% of the freight task between Victoria, New South Wales and Queensland by 2025. Rail's current share languishes at 15%, much lower than comparable freight corridors across the world. A 30% target would be consistent with policy in major OECD economies.

### What is Aurizon doing to further the Australian infrastructure agenda?

Aurizon supports bold and decisive action to reduce the regulatory burden that imposes unnecessary cost and stifles investment in transport infrastructure. We provided a submission to the Harper Competition Policy Review and are engaging with government on the potential privatisation of the national rail freight network.

Aurizon is also participating in the Moorebank intermodal terminal, a multi-user, interstate freight terminal, largely funded by the private sector. This project supports the New South Wales target to double the amount of freight carried on rail on key freight corridors by 2020. It will create more than 7,500 jobs and take nearly 20,000 trucks each week off the roads. The Commonwealth estimates the total economic benefit at close to \$9 billion including relieving traffic congestion, reducing business costs and improving environmental outcomes.

I look forward to an increasingly robust debate about Australia's future infrastructure requirements. This is critical to improving Australia's international competitiveness and Aurizon is committed to being a part of the solution.

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### Governance at Aurizon

#### **GOVERNANCE AT AURIZON**

BOARD AND COMMITTEES The Aurizon Board is responsible for the overall stewardship of Aurizon. This includes setting our strategic direction, values and governance framework and monitoring performance.

In accordance with its Charter, the Board has established several Board Committees to assist it in discharging its responsibilities and ensuring compliance with the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*. The Charter of the Board and each of the current Board Committees is available on our website.

The Board has approved a delegation of authority that clearly sets out the roles and responsibilities of the Board and Management. The delegation of authority is reviewed annually and forms part of our Corporate Governance Framework.

Other than the MD & CEO, all members of Aurizon's Board are independent non-executive directors. On 1 July 2015, Tim Poole was appointed as a new independent non-executive director, and assumed his new role as Chairman on 1 September 2015.

Aurizon's policies and procedures on the selection and appointment of directors, determining director independence and diversity are set out in our:

- > Aurizon Holdings Limited Board Charter;
- Selection, Appointment and Re-election of Non-Executive Director Policy; and
- Diversity Policy

These policies are available at: http://www. aurizon.com.au/aboutus/governance.

#### MANAGEMENT

The MD & CEO is responsible for the development and implementation of business strategies, delivering targeted performance and building our corporate culture to support business objectives.

The MD & CEO leads a monthly CEO Forum attended by the Executive Committee, comprised of the MD & CEO and all Executive Vice Presidents. This meeting facilitates consideration of operational and financial performance as well as other strategic matters requiring Executive Committee attention. The Executive Vice Presidents also report to the CEO Forum and, where appropriate, the Board on those economic, environmental and social issues within their delegation.

#### SUSTAINABILITY GOVERNANCE

As represented in Figure 44, tiered strategic forums exist across Aurizon to address sustainability issues based on their material priority and/or impacts.

#### SUSTAINABILITY STEERING COMMITTEE

Aurizon's Sustainability Steering Committee provides strategic direction in relation to sustainability, assessment of key trends and risks, and ensuring appropriate reporting across the organisation. The Committee is comprised of senior executives from each of our business functions. As the Chair of this Committee, the Vice President Strategic Alliances & Sustainability has overall responsibility for building a cohesive and coordinated sustainability capability across Aurizon.

#### SAFETY, HEALTH AND

ENVIRONMENTAL MANAGEMENT Aurizon has a Central Safety, Health & Environment Committee (**CSHE Committee**) to recommend the enterprise strategy and goals for safety, health and environment. The CSHE Committee is comprised of management and meets monthly to review performance, policies and procedures.

The CSHE Committee is supported by the District Safety Improvement Teams, Function & Sub-Function Central Safety Health & Environment Committees and Communities of Competence. District and Local Safety Improvement Teams are established in all key regions to coordinate best practice safety initiatives, communicate lessons learnt and ensure our safety message is consistent across all levels and locations of the organisation.

Communities of Competence provide collaborative frameworks to deliver effective outcomes on activities deemed critical by the CSHE Committee. In FY2015, our Communities of Competence included Environment, Trackside Safety, Road Safety, Isolation and Lockout, Derailment Prevention and Signals Passed at Danger.

#### RISK MANAGEMENT

Aurizon promotes a risk aware culture in all decision making through the application of high quality, integrated risk analysis and management. The Enterprise Risk Management Framework (Framework), which is based on the internationally recognised standard for risk management (AS/NZS ISO 31000:2009), is a critical component of Aurizon's governance framework. The Framework demonstrates the commitment of the Board and Management to effective risk management as a key element of business success and sustainability.

#### **OUR SUSTAINABILITY PROCESS**

STAKEHOLDER ENGAGEMENT AND REPORTING CYCLE Our annual sustainability process sits within a cycle that begins and ends with internal and external stakeholder engagement (refer to Figure 45). We seek to engage with stakeholders through a combination of direct discussions, surveys and literature reviews. Through our stakeholder engagement, we identify and confirm our sustainability priorities which are reported to both the CEO Forum and Board. These priorities feed into our business planning processes and our implementation of initiatives which will contribute to improved sustainability performance. Central to the sustainability process is our development of this public Report. We are committed to producing this Report on an annual basis in order to:

- > Define and discuss the issues which we perceive as being material to the long-term sustainability of our business
- Highlight the sustainability initiatives we have undertaken during the year and our planned initiatives to build on our past performance
- Provide a platform for us to engage with our key stakeholders, both during the development of the Report and as part of our ongoing engagement processes

Stakeholder feedback provided through our Stakeholder Engagement and Reporting Cycle is collated and presented to the Sustainability Steering Committee, Executive Committee and Board We have made some important advances in our sustainability reporting process this year. These include the assurance of this Report for compliance with the GRI Principles. Based on our FY2014 Report, the Australian Council of Superannuation Investors (**ACSI**), benchmarked our disclosures on material environmental, social and governance topics, and rated Aurizon at the level of 'Leading' – the highest of their five rating categories. Aurizon's sustainability performance has also been recognised through our inclusion in September 2015 on the Dow Jones Sustainability Index (Australia).

### AURIZON POLICY & STRATEGY UPDATES

In FY2015, Aurizon released its 'Blueprint' strategy - further described in the Business Model chapter of this Report. To align with this, we updated our Code of Conduct and issued a specific Anti-Bribery and Anti-Corruption Policy. The Code of Conduct is an important guide in building the Aurizon culture - it outlines how we get things done to achieve high standards of behaviour within a safe, ethical and non-discriminatory commercial business. Our revised Code of Conduct applies to our Board, employees, contractors and consultants. Our expectation is that suspected breaches of the Code of Conduct are reported and that Aurizon will challenge conduct and behaviour that is inconsistent with it. Equally, our Anti-Bribery and Anti-Corruption Policy ensures we adopt a consistent approach across the business in how we safeguard against these risks.

#### APPROACH TO INVESTMENT AND CAPITAL MANAGEMENT Aurizon's business is capital intensive and there are long lead times to procure rollingstock and develop new infrastructure. Accordingly, a disciplined approach to investment and capital management is essential to retain Aurizon's long-term financial sustainability

The fundamentals of our approach to investment remained the same in FY2015. We continue to have a specific process in place to assess all potential investment opportunities. This includes assessment against our Enterprise Risk Management Framework. Investment decisions with respect to the deployment of capital into long-life assets are informed by various specialists who conduct wide-ranging research, analysis and forecasting in order to fully assess the opportunity and associated risks. Figure 44 Sustainability governance at Aurizon



Figure 45: Our annual sustainability process



#### STAKEHOLDER ENGAGEMENT

Aurizon has actively engaged with stakeholders in order to define our material aspects. We understand that engaging with our stakeholders is fundamental to the ongoing success of our business, and continue to seek feedback on how we can improve upon our Sustainability Report, and wider sustainability agenda.

Following the release of our inaugural sustainability report in 2014, we hosted a series of town halls attended by over 1,600 employees to discuss our evolving sustainability journey. To gain insight into the expectations and interests of external stakeholders we have held a series of oneto-one meetings as well as issued a detailed questionnaire to representatives of each of our stakeholder groups. In this year's Report, we have sought to act upon the feedback raised through this process wherever possible. Our key stakeholders are as follows:

#### EMPLOYEES AND UNIONS

We continue to recognise the invaluable contributions made by our employees at our annual Excellence Awards. We engage with our employees by undertaking periodic surveys to assess organisational culture, with a view to achieving a performance that puts us in the top quartile of our industry. In FY2015 we finalised new EAs covering more than half of our workforce. As a result, all Aurizon employees previously covered by legacy EAs will be engaged under contemporary employment conditions. This will be a further catalyst for productivity enhancements and workplace flexibility. Our cultural transformation was recognised in multiple diversity awards, including recognition of our MD & CEO, Lance Hockridge, as Diversity Champion CEO by the Australian Human Resources Institute

#### CUSTOMERS

Helping Aurizon's customers prosper and grow is a priority and is essential if Aurizon is to do the same. Adopting a customercentric approach is at the heart of our refreshed Blueprint strategy, which articulates our Vision, Mission, Strategy and Values that underpin our long-term direction. We engage with our customers and we seek to supplement this via targeted surveys to ensure we maintain a detailed awareness of customers' needs. In our Customer partnerships chapter we detail the work we've completed in 2015, including shifts towards quantifying and tracking customer sentiment.

#### COMMUNITIES

Aurizon understands that long-term meaningful relationships with our communities are fundamental to our activities, and we discuss our approach in the Community engagement chapter. By communicating with our communities we can work towards mutually beneficial outcomes. Aurizon continues to work with our landholders, partner with our communities to deliver rail safety education, and support regional and rural charities through our Community Giving Fund program.

#### INVESTORS

Aurizon publishes detailed investor presentation briefings at least twice a year to coincide with its full year and half year results announcements. The investor briefings and the Annual General Meeting of shareholders are available live on a webcast so that all shareholders can participate. Shareholders who are unable to attend can vote directly using electronic means.

#### **FINANCIERS**

We continue to work with our financiers to ensure that we plan for the long-term funding needs of our business and manage our funding sources, tenor and maturities. As our financiers are involved with Aurizon's long-term focus, we use our Sustainability Report to demonstrate our alignment with the Principles for Responsible Investment.

#### JOINT VENTURE PARTNERS

We collaborate with our joint venture partners to ensure that we identify and monitor trends impacting our projects and to ensure that our expectations regarding environmental and social performance are maintained.

#### SUPPLIERS

Understanding our value chains is a key ongoing priority to ensure our sustainability. Like all leading organisations, we maintain detailed oversight of our key tier one suppliers to manage continuity of supply, cost and quality expectations, as well as to improve our understanding of the embedded environmental and social impacts in the products and services we source.

We define our key supply chain segments as:

- > Above rail infrastructure - rolling stock and associated parts and components
- > Below rail infrastructure - rail, sleepers and ballast
- Energy fuel and electricity
- > Labour services

To better understand the risk of potential social impacts on our supply chain, we seek close engagement with our equipment manufacturers (for example, locomotives and wagons). This is important given the volume of manufacturing that takes place and the potential hazards this work may entail. Aurizon also partners with a number of its suppliers in order to develop fit-forpurpose products which are best-in-class and will increase the efficiency of Aurizon's operations in a cost-effective manner. Aurizon is currently partnering with SAP to develop a new FMT System, discussed further in the Operational efficiency and Customer partnerships chapters in this Report

#### GOVERNMENT AND REGULATORS

Aurizon's Queensland-based below rail infrastructure assets are regulated by the QCA. In FY2015, Aurizon liaised heavily with both the regulator and our customers to ensure that all stakeholders are appropriately engaged in relation to our current proposed Access Undertaking, commonly referred to as 'UT4'. In the Regulatory environment chapter of this Report, we expand further on our key regulatory submissions.

#### INDUSTRY GROUPS AND ASSOCIATIONS

Aurizon is a member and regular contributor to the following associations and groups:

- > Business Council of Australia
- > Australian Industry Group
- > Centre for Economic Development Australia
- > Infrastructure Partnerships Australia
- > Queensland Resources Council
- > New South Wales Minerals Council
- Association of American Railroads > >
- International Heavy Haul Association
- > Australian Logistics Council >
- World Coal Association > Freight on Rail Group
- > Rail Industry Safety and Standards Board
- > Australia China Business Council

#### NON-GOVERNMENT ORGANISATIONS

Non-government organisations provide an important voice in attempting to ensure that major projects strike the right commercial, environmental and societal balance. Aurizon values their feedback and continues to welcome their input into our materiality assessment.

#### UNITED NATIONS SUSTAINABLE **DEVELOPMENT GOALS**

The UN Sustainable Development Goals (SDGs) define global sustainable development priorities and aspirations for 2030 and seek to mobilise global efforts around a common set of goals and targets. The 17 SDGs explicitly call on all businesses to apply their creativity and innovation to solve sustainable development challenges.

We believe that aligning to the principles of sustainable development is good business, and the SDGs provide a framework for how this could be done. Aurizon has a clear role in achieving particular sustainable development outcomes, such as reducing inequality and addressing environmental stress in the regions we operate. We will continue to review our policies and plans with respect to the SDGs as we acknowledge the role of businesses and communities in creating shared value.

### Assurance statement

### Independent limited assurance report

#### What we found

pwc

Based on the work described below, nothing has come to our attention that causes us to believe that the FY2015 Sustainability Report of Aurizon Holdings Limited (the '**FY2015 Sustainability Report**') has not been prepared in accordance with the Core option of the GRI G4 Reporting Guidelines.

To the Directors of Aurizon Holdings Limited ('Aurizon'):

#### What we did

Aurizon engaged us to perform a limited assurance engagement on whether the FY2015 Sustainability Report has been prepared in accordance with the Core option of the GRI G4 Reporting Guidelines (the '**subject matter**').

#### **Reporting criteria**

The subject matter has been assessed against the definitions, approaches and guidance within the Global Reporting Initiative G4 Sustainability Reporting Guidelines (the '**GRI G4 Reporting Guidelines**'), in particular those that apply to the Core option, as defined in section 3.1 of these guidelines.

#### Responsibilities

#### PricewaterhouseCoopers

Our responsibility is to express a conclusion based on the work we performed.

#### Aurizon

Aurizon management is responsible for the application of the Reporting Principles, set out in Section 4 of the GRI G4 Reporting Guidelines, in defining the report content and report quality for the FY2015 Sustainability Report. In addition, Aurizon management is responsible for the preparation and presentation of the FY2015 Sustainability Report in accordance with the Core option of the GRI G4 Reporting Guidelines

The responsibility of Aurizon management also includes establishing and maintaining systems of internal control relevant to the preparation and fair presentation of the Subject Matter to ensure it is free from material misstatement, whether due to fraud or error.

#### What our work involved

We conducted our work in accordance with the Australian Standard on Assurance Engagements 3100 *Compliance Engagements*. This standard requires that we comply with independence and ethical requirements and plan the engagement so that it will be performed effectively.

#### Main procedures performed

- Undertaking a walk-through of the materiality analysis process undertaken by Aurizon, including the associated stakeholder engagement process, and reviewing documentation associated with their:
  - identification and prioritisation of material topics based on stakeholder input; and
  - review of feedback on Aurizon's FY2014 Sustainability Report;

- Making enquiries of Aurizon management to understand how it has applied the reporting principles for quality set out within the GRI G4 Reporting Guidelines (reliability, clarity, balance, comparability, accuracy, and timeliness);
- Undertaking a walk-through of the process undertaken by Aurizon to understand how it has applied reporting principles set out within the GRI G4 Reporting Guidelines relating to report content (Stakeholder inclusiveness; Sustainability context; Materiality; and Completeness);
- Assessing the completeness of the outcomes of Aurizon's materiality analysis by comparing it to results obtained through:
  - a media scan to determine which topics Aurizon are associated with in the media;
  - a competitor analysis to assess the topics which are typical for Aurizon's industry; and
  - documentation received from Aurizon management regarding stakeholder dialogues undertaken.
- Undertaking an overall assessment of the report content included within the FY2015 Sustainability report against the principles for defining report content set out in the GRI G4
- Reporting Guidelines;
  Checking that the disclosures within the FY2015 Sustainability Report align to the material aspects identified by Aurizon; and
- Conducting a walk-through of the data collection and collation process for a sample of eight (8) performance indicators disclosed within the FY2015 Sustainability Report.

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

#### Emphasis of matter

We draw attention to the GRI Reporting Initiative Index Table, set out on pages 49 to 53 of the FY2015 Sustainability Report, which illustrates those Standard Disclosures under the GRI G4 Reporting Guidelines for which information has been omitted, as permitted in exceptional circumstances. Our conclusion is not modified in respect of this matter.

| John | lomac | Price water house | Coopers |
|------|-------|-------------------|---------|
|      |       |                   |         |

John Tomac PricewaterhouseCoopers Partner Sydney 26 October 2015

Liability limited by a scheme approved under Professional Standards Legislation

#### Limited assurance

This engagement is aimed at obtaining limited assurance for our conclusions. As a limited assurance engagement is restricted primarily to enquiry procedures and the work is substantially less detailed than that undertaken for a reasonable assurance engagement, the level of assurance is lower than would be obtained in a reasonable assurance engagement.

#### Restriction on use

This report has been prepared in accordance with our engagement terms to assist the Directors in considering Aurizon's FY2015 Sustainability Report. We do not accept or assume responsibility for the consequences of any reliance on this report for any other purpose or to any other person or organisation. Any reliance on this report by any third party is entirely at its own risk.

We consent to the inclusion of this report in the

FY2015 Sustainability Report of Aurizon to assist Aurizon's members in assessing whether the directors have discharged their responsibilities by commissioning an independent assurance report in connection with the subject matter.

#### Inherent limitations

Inherent limitations exist in all assurance engagements due to the selective testing of the information being examined. Therefore fraud, error or non-compliance may occur and not be detected.

### Datasheet

#### **EMPLOYMENT PROFILE**

GENERAL WORKFORCE INFORMATION Our total headcount as at 30 June 2015 is 6,958 employees.



#### WORKFORCE DIVERSITY

Table 13: Employees by diversity group

| Diversity group                                 | Percentage |
|---|------------|
| Aboriginal and Torres Strait<br>Islander (ATSI) | 3.3%       |
| Non-English Speaking<br>Background (NESB)       | 5.6%       |
| Self-reported Disability                        | 2.9%       |
| Female Representation                           | 15.3%      |

#### Table 14: Board of Directors composition

| Board of Directors (including MD & CEO) | Percentage |
|---|------------|
| Total Number                            | 9          |
| Percentage Female Representation        | 22.2%      |
| Percentage over 50                      | 88.9%      |

#### AGE PROFILE OUR WORKFORCE

Table 15: Employees by age category

| Category       | Number of employees | Percentage |
|----------------|---------------------|------------|
| Under 30 Years | 1,018               | 14.6%      |
| 30-50 Years    | 3,419               | 49.1%      |
| Over 50 Years  | 2,521               | 36.2%      |
| Total          | 6,958               | 100%       |

Figure 47: Workforce by age and gender



#### **INJURY BY LOCATION**

#### Table 16: LTI and TRI by state\*

| State             | LTI's | TRI's |
|-------------------|-------|-------|
| Queensland        | 2     | 23    |
| Western Australia | 0     | 5     |
| South Australia   | 0     | 0     |
| Victoria          | 0     | 1     |
| New South Wales   | 0     | 1     |
|                   |       |       |

\* All injuries above relate to male employees in 2015.

#### Table 17: Employees by employment type

| Employee contract    | Male Total | Total % | Female total | Total % | Total |
|----------------------|------------|---------|--------------|---------|-------|
| Permanent full-time  | 5,490      | 86.5%   | 855          | 13.5%   | 6,345 |
| Permanent part-time  | 15         | 13.8%   | 94           | 86.2%   | 109   |
| Fixed term full-time | 343        | 78.9%   | 92           | 21.1%   | 435   |
| Fixed term part-time | 1          | 20.0%   | 4            | 80.0%   | 5     |
| Casual               | 48         | 75.0%   | 16           | 25.0%   | 64    |
| Total                | 5,897      | 84.7%   | 1,061        | 15.3%   | 6,958 |

#### Table 18: Workforce by employment category

| Category          | Number | % Female | % Minority group | Under 30 years | Between 30-50 years | Over 50 years |
|-------------------|--------|----------|------------------|----------------|---------------------|---------------|
| Senior management | 82     | 23.2%    | 8.5%             | 0.0%           | 65.9%               | 34.1%         |
| Management        | 506    | 31.8%    | 9.7%             | 7.1%           | 69.2%               | 23.7%         |
| Non-management    | 6,370  | 13.8%    | 11.0%            | 15.4%          | 47.3%               | 37.3%         |

#### WORKFORCE BY EMPLOYMENT TYPE

Of our 6,958 employees, 81.8% are covered by collective bargaining agreements.

#### WORKFORCE BY EMPLOYMENT CATEGORY

The Executive Committee is supported by our Executive Leadership Team (**ELT**) and Management Leadership Team (**MLT**). Collectively, these groups include all senior leaders within Aurizon. Accordingly, 'Senior Management' in Table 18 above, refers to all members of our Executive Committee, ELT and MLT.

#### REMUNERATION

Aurizon undertakes an annual gender pay gap analysis and in line with the Australian Workplace Gender Equality Act 2012 (**WGEA**), Aurizon submits a workplace profile and reporting questionnaire each year including a report on our gender pay analysis. Our gender pay gap analysis is undertaken in accordance with WGEA methodology. In addition to this report, Aurizon conducts deeper analysis where a gender pay gap exists and compares like-for-like roles based on experience, tenure and length of time in the role. Aurizon is narrowing its gender pay gap which supports the effectiveness of our integrated approach to sustainable diversity gender focused programs. Table 19 sets out our remuneration ratios for female to male employees. The ratio per employee category is calculated as the annualised average FTE total remuneration. Overall, our gender pay gap for management reduced from last year. We have had an increase in female management in a variety of roles which plays a part in closing the gap.

Total remuneration includes fixed remuneration and any additional benefits whether payable directly or indirectly, in cash or in a form other than cash, such as bonus payments (including performance pay), superannuation, discretionary pay, overtime and site allowance.

The 0.85 ratio in the Senior Management ratio outlined in Table 19 is reflective of an absence of women within the Executive Committee which comprises the highest tier of executive remuneration. In August 2015, Jennifer Purdie joined Aurizon as the EVP Enterprise Services.

Table 19: Remuneration ratio by employment category

| Employee category | FY2015<br>Remuneration ratio<br>women:men | FY2014<br>Remuneration ratio<br>women:men |
|-------------------|---|---|
| Senior management | 0.85                                      | 0.67                                      |
| Management        | 0.96                                      | 0.87                                      |
| Non-management    | 0.87                                      | 0.9                                       |

### Appendix: Future of coal and Environmental management methodology and assumptions

#### HOW COAL IS USED

The contribution of metallurgical coal in the steel making process was based on World Coal figures. Approximately 770 kg of coal is used to produce 1 tonne of steel (http://www.worldcoal.org/ resources/coal-statistics/coal-steel-statistics/ date accessed: 22 October 2015).

The contribution of iron ore in the steel making process was based on World Steel figures. Around 1,500 kg of iron ore is used to produce 1 tonne of steel (https://www.worldsteel.org/steel-bytopic/raw-materials.html date accessed: 22 October 2015).

The coal requirements to produce electricity were based on 40% thermal efficiency for power generation which equates to a net generation of 3.006 megawatt-hours (**MWh**) of electricity per tonne of coal feed based on Newcastle benchmark coal energy content (CSIRO 1997, 'Lifecycle emissions and energy analysis of LNG, oil and coal' final report to Woodside Petroleum Pty Ltd).

#### **AMOUNTS OF STEEL**

Table 20: Amounts of steel per item

| Object                       | Tonnes of<br>steel per<br>item | References*  |
|------------------------------|--------------------------------|--|
| Refrigerators                | 0.07                           | http://www.steel.org/the-new-<br>steel/appliances.aspx                       |
| Cars                         | 0.8                            | Minerals Council Of Australia,<br>Hard Coal Facts 2015                       |
| Sydney<br>Harbour<br>Bridges | 52,800                         | http://www.sydneyharbourbridge.<br>info/                                     |
| Thirty floor<br>apartments   | 3,600                          | http://www.rba.gov.au/<br>publications/rdp/2012/2012-04/<br>projections.html |

\* Date accessed: 22 October 2015.

#### AMOUNTS OF ELECTRICITY

| Object                       | Annual electricity consumption (MWh) | References*                                    |
|------------------------------|--------------------------------------|--|
| Household<br>(3 occupants)   | 6                                    | http://www.energymadeeasy.<br>gov.au/benchmark |
| 310 litre<br>LG refrigerator | 0.3                                  | http://www.energyrating.gov.<br>au/calculator  |

\* Date accessed: 22 October 2015.

#### CARBON INTENSITY AND ASH CONTENT

All energy amounts Gross As Received. The calorific value and ash content of coal were taken from:

- > Wood Mackenzie Coal Cost Benchmarking
- Platts Coal Methodology & Specifications Guide
- > Wood Mackenzie Australia Supply Service (July 2014)
- Aurizon analysis of media articles and industry publications

#### **COAL TYPE SPLIT**

The Aurizon coal revenue split between metallurgical and thermal coal is based on estimated product split at serviced mines **by volume**.

#### **ROAD TO RAIL EMISSIONS REDUCTIONS**

Greenhouse gas emissions per tonne of freight based upon the following assumptions:

- B-double carrying 30 tonnes payload at 1.6km/L
- Train carrying 1,200 tonnes payload at 0.16km/L
- Equivalent to rail freight consuming 10 times more fuel per kilometre, yet hauling 40 times more freight

#### PER CAPITA STEEL AND ELECTRICITY CONSUMPTION

#### Figures 22 and 26:

'Other major emerging Asian countries' includes Indonesia, Thailand, the Philippines, Vietnam, Malaysia, Pakistan and Bangladesh. Source: IMF (GDP per capita, 2014 data) and World Bank (population, 2014 data).

#### Figure 22:

Steel usage per capita in tonnes of crude steel equivalent using the sum of net industry shipments within a given country or region, plus its imports and minus its exports.

Source: World Steel (apparent steel usage per capita, 2013 data) and Aurizon analysis.

#### Figure 26:

Source: World Bank (kWh per capita, 2012 data) and Aurizon analysis.

# Global Reporting Initiative Index Table

|                              |   | Information or relevant  |  |      |  |
|------------------------------|---|--|--|------|--|
| Indicator                    | Description   | location within this Report  | Omission   | Page |  |
| GENERAL STANDARD DISCLOSURES |   |  |  |      |  |
| STRATEGY                     | AND ANALYSIS  |  |  |      |  |
| G4.1                         | Statement from the most senior decision maker of the organisation               | Managing Director & CEO Message  | -  | 1    |  |
| ORGANISAT                    | IONAL PROFILE   |  |  |      |  |
| G4.3                         | Name of the organisation  | Aurizon Holdings Limited   | -  | -    |  |
| G4.4                         | Report primary brands, products and services                                    | Business model   | -  | 12   |  |
| G4.5                         | Location of organisation's<br>headquarters                                      | 175 Eagle Street, Brisbane,<br>QLD Australia 4000  | -  | -    |  |
| G4.6                         | Number and name of countries of operation                                       | Business model   | -  | 11   |  |
| G4.7                         | Nature of ownership and legal form  | This entity is Aurizon Holdings Ltd.<br>Refer to Aurizon Annual Report<br>2014-15, 'Notes to the consolidated<br>financial statements', Page 83<br>for further details on Aurizon's<br>subsidiaries. | -  | -    |  |
| G4.8                         | Markets served  | Future of coal   | -  | 16   |  |
|                              |   | Customer partnerships  | -  | 27   |  |
| G4.9                         | Scale of organisation:  |  |  |      |  |
|                              | Total number of employees   | Organisational capability  | -  | 37   |  |
|                              | Total number of operations  | Business model   | -  | 11   |  |
|                              | Net revenues<br>Total capitalisation broken down<br>in terms of debt and equity | Refer to Aurizon Annual Report<br>2014-15 for additional information.  | -  | -    |  |
|                              | Quantity of products or services provided                                       | Business model   | -  | 12   |  |
| G4.10                        | Employee numbers by:  |  | Data disclosed is only for<br>employees and does not include<br>'supervised workers'. Aurizon is<br>in the process of implementing<br>improved tracking of data for<br>supervised workers. |      |  |
|                              | Employment contract/type  | Datasheet  |  | 47   |  |
|                              | Gender  | Datasheet – Our employment profile   |  | 46   |  |
|                              | Supervised workers  |  |  | -    |  |
|                              | Region  | Community engagement   |  | 33   |  |

| Indicator  | Description   | Information or relevant<br>location within this Report   | Omission  | Page                   |
|------------|---|--|---|------------------------|
| G4.11      | Percentage of total employees<br>covered by collective bargaining<br>agreements                         | Datasheet - Our employment profile   | -   | 47                     |
| G4.12      | Description of supply chain   | Governance at Aurizon –<br>Stakeholder engagement  | Information has not been<br>provided with regards to total<br>number of suppliers, location<br>of suppliers, and monetary<br>value of payments made to<br>suppliers. We will seek to further<br>define our supply chain and the<br>characteristics of our suppliers in<br>future reporting years. | 44                     |
| G4.13      | Significant changes during the reporting period   | No significant changes during the<br>reporting period regarding Aurizon's<br>size, structure, ownership or supply<br>chain | -   | -                      |
| G4.14      | Report whether or how the precautionary approach or principle is addressed by the organisation          | Governance at Aurizon  | We do not use the term<br>'precautionary principle',<br>however we outline our risk<br>management processes for<br>operational planning and<br>investment decisions.  | 42                     |
| G4.15      | External charters, principles or<br>other initiatives to which Aurizon<br>subscribes or endorses        | Environmental management<br>Community engagement<br>Organisational capability  | -   | 31<br>34, 35<br>37, 38 |
| G4.16      | Memberships of associations   | Governance at Aurizon  | -   | 44                     |
| IDENTIFIED | MATERIAL ASPECTS AND BOUNDARI   | ES   |   |                        |
| G4.17      | Entities included in the<br>organisation's consolidated financial<br>statements or equivalent documents | Refer to Aurizon Annual Report<br>2014-15 (Financial Report page 83<br>for additional information)                         | -   |                        |
| G4.18      | Process for defining the report content and the aspect boundaries                                       | Aurizon's sustainability priorities  | -   | 5-6                    |
| G4.19      | All material aspects identified in the process of defining report content                               | Aurizon's sustainability priorities  | -   | 5-6                    |
| G4.20      | Aspect boundary for each material aspect identified (within organisation                                | Aurizon's sustainability priorities  | -   | 6                      |
| G4.21      | Aspect boundary for each material aspect identified (outside of the organisation)                       | Aurizon's sustainability priorities  | -   | 6                      |
| G4.22      | Effect of any restatements of information in previous reports   | There have been no restatements<br>on previous reports   | -   | -                      |
| G4.23      | Report significant changes from previous reporting periods  | There have been no significant<br>changes from previous reporting<br>period  | -   | -                      |
| STAKEHOLD  | DER ENGAGEMENT  |  |   |                        |
| G4.24      | List of stakeholders engaged  | Aurizon's sustainability priorities  | -   | 5                      |
| G4.25      | Basis for identification and selection of stakeholders  | Aurizon's sustainability priorities  | -   | 5                      |
| G4.26      | Approach to stakeholder<br>engagement   | Governance at Aurizon –<br>Stakeholder engagement  |   | 43, 44                 |
| G4.27      | Key stakeholder topics and concerns   | Aurizon's sustainability priorities  | -   | 5, 6                   |

|                   |  | Information or relevant  |          |                  |
|-------------------|--|--|----------|------------------|
| Indicator         | Description  | location within this Report  | Omission | Page             |
| REPORT PR         | OFILE  |  |          |                  |
| G4.28             | Reporting period   | Financial Year 2014-15<br>(1 July 2014 - 30 June 2015)             | -        | -                |
| G4.29             | Date of most recent previous report  | Financial Year 2014  | -        | -                |
| G4.30             | Reporting cycle  | Planned reporting cycle is annual.                                 | -        | -                |
| G4.31             | Contact point  | MD & CEO Message<br>sustainability@aurizon.com.au                  | -        | 1                |
| G4.32             | GRI option chosen  | Core   | -        | -                |
| G4.33             | Current policy and practice with regards to external assurance   | Aurizon's sustainability priorities                                |          | 6                |
| GOVERNAN          | CE   |  |          |                  |
| G4.34             | Governance structure of the<br>organisation including committees<br>of the highest governance body   | Governance at Aurizon  | -        | 42, 43           |
| ETHICS AND        | DINTEGRITY   |  |          |                  |
| G4.56             | Organisation's values, principles,<br>standards and norms of behaviour   | Governance at Aurizon<br>Business model                            | -        | 42, 43<br>12     |
| SPECIFIC ST       | ANDARD DISCLOSURES   |  |          |                  |
| DISCLOSUR         | ES ON MANAGEMENT APPROACH  |  |          |                  |
| G4.DMA            | Report why an Aspect is material.<br>Outline management approach to<br>reducing impact. Outline mechanism<br>for evaluating effectiveness of<br>management approach. | Please refer to relevant material priority section in this report. | -        | -                |
| CATEGORY:         | ECONOMIC   |  |          |                  |
| ASPECT: EC        | ONOMIC PERFORMANCE   |  |          |                  |
| G4 - EC1          | Direct economic value generated<br>and distributed. Economic value<br>retained.  | Community engagement   | -        | 33               |
| G4 - EC2          | Financial implications and other<br>risks and opportunities for the<br>organisation's activities due to<br>climate change.   | Future of coal<br>Customer partnerships                            | -        | 20-22<br>29      |
| CATEGORY:         | ENVIRONMENTAL  |  |          |                  |
| ASPECT: ENERGY    |  |  |          |                  |
| G4 - EN3          | Energy consumption within the organisation   | Operational efficiency   | -        | 23               |
| G4 - EN5          | Energy intensity   | Operational efficiency   | -        | 23               |
| G4 - EN6          | Reduction of energy consumption  | Operational efficiency   | -        | 23               |
| ASPECT: EMISSIONS |  |  |          |                  |
| G4 - EN15         | Direct GHG emissions (Scope 1)   | Environmental management   | -        | 30               |
| G4 - EN16         | Energy indirect GHG emissions<br>(Scope 2)   | Environmental management   | -        | 30               |
| G4 - EN19         | Reduction of greenhouse gas<br>( <b>GHG</b> ) emissions  | Operational efficiency<br>Environmental management                 | -        | 23<br>30, 31, 32 |

| Indicator                                    | Description  | Information or relevant<br>location within this Report                | Omission  | Page              |  |
|--|--|---|---|-------------------|--|
| ASPECT: EFFLUENTS AND WASTE                  |  |   |   |                   |  |
| G4 - EN24                                    | Total number and volume of significant spills  | Environmental management  | -   | 30                |  |
| ASPECT: COMPLIANCE                           |  |   |   |                   |  |
| G4 - EN29                                    | Significant fines and<br>non-monetary sanctions  | Environmental management  | -   | 30                |  |
| ASPECT: TRANSPORT                            |  |   |   |                   |  |
| G4 - EN30                                    | Significant environmental impacts<br>of transporting products and<br>other goods and materials for the<br>organisation's operations  | Environmental management<br>Community engagement                      | -   | 31, 32<br>34, 35  |  |
| ASPECT: EN                                   | VIRONMENTAL GRIEVANCE MECHAN   | ISMS  |   |                   |  |
| G4 - EN34                                    | Number of grievances about<br>environmental impacts filed,<br>addressed and resolved through<br>formal grievance mechanisms  | Community engagement  | -   | 34                |  |
| CATEGORY:                                    | SOCIAL   |   |   |                   |  |
| ASPECT: LA                                   | BOR PRACTICES AND DECENT WORK  | <   |   |                   |  |
| G4 - LA1                                     | Total number and rates of new<br>employee hires and employee<br>turnover by age group, gender and<br>region  | Organisational capability   | Note: Turnover has been<br>calculated based on monthly<br>closing balance and average for<br>annual turnover versus employee<br>numbers as at the end of the<br>reporting period.<br>We aim to disclose available<br>information by region and age<br>group for FY2016. | 37                |  |
| ASPECT: OC                                   | CUPATIONAL HEALTH AND SAFETY   |   |   |                   |  |
| G4 – LA6                                     | Type of injury and rates of injury,<br>occupational diseases, lost days,<br>and absenteeism and total number<br>of work-related fatalities, by region<br>and by gender                       | Safety<br>Organisational capability<br>Datasheet - Injury by location | Aurizon reports Workplace<br>Availability as the inverse of an<br>absentee rate. Occupational<br>disease rates are not monitored<br>separately to our Lost Time Injury<br>and Medically Treated Injury rates<br>reported.   | 9, 10<br>38<br>46 |  |
| ASPECT: DIV                                  | ERSITY AND EQUAL OPPORTUNITY   |   |   |                   |  |
| G4 - LA12                                    | Composition of governance bodies<br>and breakdown of employees per<br>employee category according to<br>gender, age group, minority group<br>membership and other indicators<br>of diversity | Datasheet - Our employment profile                                    | No other minority breakdown<br>is applicable to the Governance<br>body.   | 46                |  |
| ASPECT: EQUAL REMUNERATION FOR WOMEN AND MEN |  |   |   |                   |  |
| G4 - LA13                                    | Ratio of basic salary and<br>remuneration of women to men by<br>employee category, by significant<br>locations of operation  | Datasheet – Our employment profile                                    | Our remuneration ratio is<br>collected at the group level and<br>includes all significant locations<br>of operation.  | 47                |  |

| Indicator   | Description  | Information or relevant<br>location within this Report | Omission   | Page   |  |
|---|--|--|--|--------|--|
| ASPECT: LOCAL COMMUNITIES                           |  |  |  |        |  |
| G4 - S01  | Percentage of operations with<br>implemented local community<br>engagement, impact assessments<br>and development programs | Community engagement                                   | -  | 35, 36 |  |
| G4 - S02  | Operations with significant actual<br>and potential negative impacts<br>on local communities                               | Community engagement                                   | -  | 34, 35 |  |
| ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY |  |  |  |        |  |
| G4 - S011   | Number of grievances about<br>impacts on society filed,<br>addressed and resolved through<br>formal grievance mechanisms   | Community engagement                                   | -  | 34     |  |
| ASPECT: PRODUCT AND SERVICE LABELLING               |  |  |  |        |  |
| G4 - PR5  | Results of surveys measuring customer satisfaction   | Customer partnerships                                  | Aurizon will undertake customer<br>surveys in FY2016 to assess<br>customer satisfaction. | 28     |  |



### Glossary

#### Above Rail or above rail

Rollingstock and associated parts and components

#### Below Rail or below rail

Track, electric infrastructure, signalling and associated rail infrastructure of the regulated Central Queensland Coal Network

#### CO,e

Carbon dioxide equivalent

#### CCS

Carbon capture and storage

#### CSHE Committee

Central Safety Health and Environment Committee

#### CQCN

Central Queensland Coal Network

#### Derailment

Derailment occurs where one or more rollingstock wheels leave the rail or track during railway operations

#### EΑ

Enterprise Agreement

#### EBIT

Earnings Before Interest and Tax

#### EBIT Margin

Underlying earnings before interest and tax divided by total revenue and other income

#### GHG

Greenhouse Gas

#### Greenfield

A site which has not been subject to development

#### GRI

Global Reporting Initiative

#### Gross tonne kilometres

The product of tonnes and distance

#### нсс

Hard Coking Coal

#### kWh

Kilowatt hour (103)

#### L

Litre

#### LTIFR

Number of lost time injuries per million hours worked by our employees

#### m

Million

#### mt

Million tonnes

#### MTIFR

Number of medically treated injuries per million hours worked by our employees

#### MTKm

Million train kilometre

#### mtpa

Million tonnes per annum

#### MWh

Megawatt hour (10<sup>6</sup>)

#### NETCON

Aurizon's network condition asset monitoring program

#### 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

#### Operating Ratio or OR

1-EBIT Margin, expressed as a percentage

#### ра

Per annum

#### Payload

Represents the total weight which can be carried per train

#### PCI Pulve

Pulverised Coal Injection

#### PPP

Purchasing power parity – used to determine the relative value of different currencies

#### ppt

Percentage point

#### QCA

Queensland Competition Authority

#### **Return on Invested Capital or ROIC**

ROIC is defined as net operating profit less adjusted taxes divided by invested capital. It is a measure of how well a company generates cash flow relative to the capital invested in the business

#### Rollingstock

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

#### **Scope 1 Emissions**

Emissions from operations that are owned or controlled by the organisation

#### Scope 2 Emissions

Emissions that result from the generation of purchased or acquired electricity, heating, cooling and steam consumed by the organisation

#### Safety Interaction

Formally recorded conversations related to safety matters between Aurizon employees

#### SHEM

Safety, Health and Environment Management data system

#### SPAD

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

#### SSCC

Semi-Soft Coking Coal

#### Tonne or t

One metric tonne, being 1,000 kilograms

#### TRIFR

Total Recordable Injury Frequency Rate

#### Turnaround time

Time taken to deliver a service commencing upon train departure from the yard and ending upon commencement of the same train's next yard departure

#### Turnover

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

#### TWh

Planned

**ZERO**Harm

to anyone, ever

Terawatt hour (1012)

#### UT4

Draft Access Undertaking currently undergoing review by the Queensland Competition Authority

#### Voluntary Turnover

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

Calculated as (Employee Time Planned

- Unscheduled Leave) / Employee Time

environment in which there are no injuries,

AUR1496\_26102015

Aurizon's goal to deliver a working

#### Workforce Availability



aurizon.com.au