**[START OF TRANSCRIPT]**

### Chris Vagg: Head of Investor Relations and Group Treasurer

Good afternoon, everyone, and thanks for your time here today in Newcastle, and for those of you on the webcast as well. I think we've got a pretty good agenda for you from the Aurizon team, who are all sitting down the front here. Just a reminder that we will do the first two presentations from Andrew and George first; then we will have a break; then we'll come back for the other three and we'll do Q&A at the very end of the day, just so we're clear on that. But without further ado, please, I'd like to welcome up to the lectern first, Andrew Harding, our managing director and CEO.

### Andrew Harding: Managing Director & Chief Executive Officer

**Slide 3**

I'd like to start with an acknowledgment of country. We acknowledge the Awabakal and Worimi People, the Traditional Custodians of the land we are on today. We pay our respects to the elders past, present, and future for they hold the memories, the traditions, the culture and hopes of Aboriginal Australia. We must always remember that under the ballast, sleepers, rail systems, and office buildings where Aurizon does business, was and always will be, traditional Aboriginal land.

**Slide 4**

Welcome, everyone. It's great to be here today in Newcastle with all of you in the room and those watching online. Starting with the team who will be presenting to you today, and as you can see there are many familiar faces. It will be the first time many of you are meeting George Lippiatt, who was appointed CFO and Group Executive Strategy last year when Pam Bains moved roles to be Group Executive Network.

**Slide 5**

The agenda we have for you today will see myself and George first up, as we step through Aurizon's strategic objectives and how we think about capital allocation and free cash flow under a broad range of potential scenarios. Given there will be a lot of detail in the first two presentations, we will then have a short break and come back for presentations from Clay, Ed, and Pam as they talk about their individual business unit's key priorities for the coming years and how that aligns with the enterprise. There will be an opportunity for questions and answers after the final presentation with the entire team.

The objectives today are to: provide a detailed look into the longer term drivers of coal demand including how we draw upon scenario analysis to consider and respond to these drivers in our business; and to provide greater information about the potential opportunities for our bulk business. However, before we go into this detail, I will walk you through a brief overview of Aurizon including our safety performance, environmental and coal contribution, and a look at the commodity markets that drive demand for Aurizon services.

**Slide 7**

As always, we start with safety. Here is the key data across key safety measures for year to date at 30 April 2021. The Total Recordable Injury Frequency Rate, or TRIFR, is marginally higher than the rate for the

previous 12 months. However, at 10.06 incidents per million-person hours worked, it has shown significant improvement since we reported the half year performance in February when it was tracking at 12.38. The 18% improvement we've achieved in the past four months is encouraging. The highest contributors continue to be low-severity strain and sprain injuries. The Lost Time Injury Frequency Rate, or LTIFR, has continued to show improvement with a 28% decrease year-to-date. Again, this is a positive trend, which we aim to sustain.

Rail Process Safety, a fatality prevention measure, which measures operational safety including derailments, signals passed at danger, and rolling stock collisions, remains steady at 4.79 incidents per million train kilometres travelled. We've maintained our vigilance with COVID-19 protocols for the health and well-being of our workforce and have responded appropriately to the community outbreaks that have occurred. These include restrictions on non-essential travel and continuing to promote flexible and remote working where we can. Aurizon is also actively encouraging employees to get vaccinated to protect themselves, work colleagues, their families, and local communities.

**Slide 8**

We will begin with an overview of Aurizon for those less familiar with the company. Aurizon is the largest rail-based transport business in Australia, but we are expanding beyond that in our bulk business as we will talk through later. About half of our earnings and assets belong to the Below Rail Network business, which is our regulated infrastructure in Central Queensland. The other half of the group is Above Rail, with our coal and bulk businesses operating across Australia with strong growth resulting in Bulk being accountable for a third of revenue and a quarter of EBIT. We are exposed to many commodities outside of metallurgical and thermal coal including iron ore, nickel, alumina, copper, and lithium, and also our agricultural sectors include grain, livestock, and fertilisers. The vast majority of commodities we haul are destined for the export markets of Asia in order to supply their needs for steel production and energy generation as well as emerging technologies such as electric vehicles and renewable energy.

**Slide 9**

I'd now like to turn to the ESG aspects of our business. Last year, we released our seventh annual sustainability report. The sustainability report remains the primary document for reporting on our ESG matters including our response to climate risks and opportunities, in alignment with TCFD. Our approach to ESG reporting has been recognised by the Australian Council of Superannuation Investors in rating Aurizon as leading for the seventh consecutive year last month. Last October, we released Aurizon's first climate strategy and action plan. This plan expands on the initiatives we've previously included in the Sustainability Report and provides a roadmap through to 2050, on how we will seek to decarbonize Aurizon's operations and contribute more broadly to a low-carbon freight transport sector for Australia. I will speak to this in more detail shortly.

We've also extended support into the community, with grants to charities and volunteer groups from our Community Giving Fund. More than 80% of our employees work and live in regional communities in Queensland, New South Wales, and Western Australia, so it is important we support these communities. As part of our efforts to strengthen our connections and our investment in the communities in which we live and operate, I was proud to announce last month a three-year partnership with national charity, Orange Sky, an organisation that provides free laundry and shower services via mobile vans for people experiencing homelessness. Orange Sky is making a positive difference for the 1 in 200 people who are estimated to be homeless in our communities, by providing a safe and supportive environment. Our objective is to continue to deliver a productive, sustainable, and socially responsible business that, in turn, creates value for our customers, employees, communities and shareholders.

**Slide 10**

I just mentioned the release of our climate strategy and action plan. The strategy includes the key commitments of: a target of net-zero operational emissions, scope one and two, by 2050; a $50 million investment over the next decade in a Future Fleet Fund. This will target low-carbon technologies for our fleet; and using more renewable energy for our electrified rail network and other rail facilities and using carbon offsets where emissions reduction is not possible. As we've said in prior years, Aurizon accepts the scientific consensus on climate change and supports collective efforts to limit global warming to less than two degrees C, aligned to the 2015 Paris Agreement. Aurizon wants to be part of the global solution, supporting an effective transition to this lower-carbon future.

We've already made some good progress, but like other companies we know more must be done. Over the past decade, Aurizon has achieved a 20% reduction in our carbon emissions intensity by investing in new locomotives, better technology, and improving train driving techniques. We aim to reduce this by a further 10% by the end of this decade. One of the natural advantages we have is that a large proportion of our locomotive fleet uses electric traction on the Central Queensland Coal Network. Not only are electric locomotives inherently more efficient with fewer emissions, but emissions will also decrease further over the coming decades as more renewable energy feeds into the grid. Ongoing technology development will be a fundamental driver in reducing Aurizon's carbon emissions. Our biggest focus will be on sourcing low-carbon technology for our locomotive fleet, which currently accounts for more than 90% of Aurizon's CO2 emissions.

Similar to the motor vehicle and energy industries, the rail freight industry globally is developing low or zero-carbon solutions to power freight trains. This includes battery, hybrid, and hydrogen-powered locomotives. The work we do in the next five years is critical to firming up our pathway to net-zero operational emissions by 2050. This is because locomotives have a working life of 20 to 30 years. The investments we make in renewing our locomotive fleet need to capture benefits for the decades that follow. These decisions will also factor in business benefits for Aurizon in safety, our cost base, and operational efficiency. We look forward to continuing the journey for Aurizon and to continue to create value for shareholders. Further updates on our progress will be made in our next sustainability report, which will be released in October this year.

**Slide 11**

Now, I want to spend some time talking about the key commodity markets in which we operate. First, the metallurgical coal market where Australia is, of course, the largest export nation globally. Around two-thirds of the volume hauled across the Central Queensland Coal Network and around half the coal volume hauled by Above Rail is metallurgical coal. Steel is, of course, an integral link to economic development with modern economies built upon the material. Crude steel production occurs primarily via the blast furnace or integrated route, which currently accounts for 1.3 billion tonnes of annual crude steel production, almost three-quarters of global production. In this process, metallurgical coal currently has no large scale economically viable substitute.

Already Australia's largest met. coal trading partner, India is projected to be the largest contributor to global seaborne demand growth over the decades ahead. Although doubling in production over the past decade, and now the world's second largest steel producer behind China, India is considered at an early stage of development with consumption per capita around a third of the global average. Faced with a structural deficiency of metallurgical coal, India turns to the seaborne market for around 90% of its requirements, and in turn, Australia supplies about three-quarters of India's import demand.

Turning back to global steel production, we do expect the integrated method of steel production to reduce in share at a global level over the decades ahead. This is primarily driven by greater availability of scrap product. However, the complete replacement of coking coal in steel production, such as through hydrogen-based production, at scale, in the next two decades is, in our view, a low likelihood. This is driven by cost competitiveness, in addition to practicalities regarding adequate supply of high-quality iron ore, electrolyser capacity, and associated hydrogen distribution. Furthermore, it is anticipated that the incentive will remain for nations in Asia to continue to run their young fleet of blast furnace capacity through to the end of the typical lifetime rather than reinvest in alternative technology.

**Slide 12**

Turning to thermal coal, which, of course, is the remaining third of network volumes and half of Above Rail coal haulage. At around six billion tonnes per annum currently, it is anticipated that thermal coal consumption at a global level will reduce in the decades ahead. However, rather than global consumption, the demand for Australian coal is dependent on the traded market. The global trade market is less than one-fifth of global consumption and, as shown on this slide, is increasingly dominated by Asian trade, from just 35% in 1990 to now being over 80%. This is the continent were 98% of Australian export volume was destined last year. This 900 million tonne per annum Asian import market is backed by both a young fleet of existing capacity, with the average age of capacity across the region at just 17 years against a typical operating life of 40 years. Beyond existing capacity, there is currently 120 gigawatts under construction in Asia, equivalent to around five times the operating capacity in Australia.

Contributing to this growth is Southeast Asia, as profiled on this slide, with 30 gigawatts has been added over the past decade. From almost zero export volume from Australia five years ago, Vietnam is now Australia's fifth largest thermal coal trading partner with 14 million tonnes exported there last year. It is expected that the growth profile will slow for new coal-fired generation in the decades ahead, but the application of global consumption projections to the seaborne market is not consistent with the reality playing out in Asia.

**Slide 13**

Finally, bulk markets. Historically supported by more traditional drivers of bulk commodity demand such as infrastructure development and food consumption, the opportunity for our bulk business is also supported by new technology commodities, supporting the global energy transition. These are commodities used in the manufacture of mobile phones, wind turbines, battery development, electric cars, solar panels, and other high-tech applications. The specific commodities I refer to include cobalt, copper, lithium, nickel, and rare earth elements.

Under its stated policies scenario, the International Energy Agency projects a doubling of minerals associated with clean energy technologies by 2040. In a less than two degree scenario, the IEA projects a four-fold increase over the same time period. As demand for such minerals grows, there are significant opportunities for Australian export volume. This is supported by increased exploration seen over the past five years and projections by the Office of Chief Economist. Already the world's largest producer of lithium, annual growth of 16% per annum is projected over the six years. Global food consumption supports the export of agricultural products such as grain, but also associated bulk product such as phosphate for use in fertiliser. We will continue to talk of the bulk market opportunity throughout today's presentation.

**Slide 14**

I want to take a look at our value creation record over the past five years as this has been significant and provides a platform for the future. All the activities shown here have set up each business unit and ultimately the group for the future by ensuring a resilient foundation. This has resulted in stable cash flow, which has delivered consistent distributions to our shareholders as evidenced by the chart on the right. When including the completion of this year's buyback and the payment of the interim dividend, distributions have totalled more than $4 billion over the past six years. I want Aurizon to be known as a company that is predictable, resilient, and is constantly striving to create value and reward shareholders with strong returns.

**Slide 16**

To remind you of what the objectives are for today, we want to give you a detailed look into the long-term demand drivers for coal, how we apply various scenarios, and how we use them in a practical sense today. Investors have asked for more information about the bulk business and the markets in which they operate. We will provide details on why we think this market is now a significantly larger opportunity for the bulk team and why we think we are well positioned to take advantage of this larger market. We will provide more detail on our capital and how we can re-deploy assets to support growing areas like bulk.

**Slide 17**

With that objective in mind, I want to take you a step below into each business unit as they all have a unique focus, ultimately aligned to enterprise objectives. Aurizon has a unique place in critical supply chains across the nation. Our involvement in improving these supply chains will support long-term demand for key commodities on global exports. We will continue to deploy capital efficiently to support these supply chains, with a view to generating attractive growth and shareholder returns. For coal, the focus is return on invested capital and free cash flow. With a contract book well set, this can be achieved through a continuous push on transformation and productivity. Capital will be spent carefully with some assets able to be deployed into or shared with bulk to support their growth ambitions because of coal's efficiency improvements.

For bulk, with growing markets and new adjacencies, the focus is on revenue and earnings growth. It will need more capital, which has already begun such as the two Aurizon Port Services' businesses, but it can also take advantage of fleet from coal that can be cascaded to support these growth markets. For network the focus is on embedding UT5 to ensure long-term regulatory certainty, reducing costs, and enhancing the efficiency of the supply chain, which will ultimately increase throughput for the entire industry. Each group executive will take you through these focus areas later in the afternoon.

**Slide 18**

A central part of today's presentation is our coal scenarios, how we construct them and how we use them. We've been using them for a number of years now as part of our strategy in uncertainty framework. George will go into a lot more detail about what our scenarios are, what assumptions we use, and what the limitations are. What I want to reinforce is these are possible scenarios that we use in various ways in our business, including the way we think about our strategy, about the allocation of capital, and importantly about sustainability in the context of climate change risks. We have modelled these same scenarios to test the resilience of our business and possible cash flows across a range of scenarios, and we will take you through the results of this analysis today.

It is important to note that these are only scenarios. They are not predictions of the future or forecasts of any kind about how our business may perform in the future. The scenarios span a wide range, but they do not represent a floor or ceiling in terms of potential outcomes. The two outlying scenarios depicted in this presentation do not represent a possible worst or possible best outcome. Scenarios are also heavily dependent on assumptions, which underpin them, and we can't always pick the right ones. The slides being presented today explains these scenarios and their limitations in detail, and I'd encourage you to read the slides again after today.

**Slide 19**

Resilience is a recurring theme you will hear today, which is very important in today's environment. It's important for us to demonstrate how we test the resilience of our business and to show you the value that this can bring. It's also important because it demonstrates our confidence that the coal and network businesses can provide a foundation to support bulk's growth ambition as it expands into new markets. These new markets provide a much larger potential profit pool, which underpins our aspiration to more than double bulk's current EBIT to $250 million over the next 10 years. This growth opportunity could result in the commodity mix changing within Aurizon and consequently, if Aurizon is able to capitalise on these opportunities, revenue from thermal coal could be less than 20% of the above rail portfolio by 2030.

But what does this mean in the long-term for earnings and ultimately cash flows? We've modelled this intensely given the market's interest in coal demand. As George will go through in some detail shortly, this has involved modelling the impact of various scenarios and then what levers we have at our disposal to mitigate downside risks. The capital and cost levers are within our control and provide a platform to offset much of the impact from lower coal volumes. The scenario analysis George will talk through is a good test of the resilience of Aurizon's free cash flow. In all of the scenarios we have modelled, the modelling indicates that the company can generate an average free cash flow of approximately $500 to $650 million per year. As noted, our scenario outcomes are not predictions, forecasts, or projections, and nor are they the scenarios themselves representative of the best or worst possible outcomes. Further details of the key assumptions and analysis underpinning the scenarios is set out in the presentation.

**Slide 20**

Finally, before I hand over to George, I will take you through our assessment of the bulk market opportunity now in front of us. Strong growth is coming from new economy markets such as renewables and batteries, increasing infrastructure developments, and growing food consumption. This, when combined with new markets, has resulted in an estimated market size of $1.25 billion in 10 years, which is five times what we had previously thought. This estimated market size is about 1.8 times the size of the coal rail market. Our aspiration to achieve 20% to 25% market share would imply a $250 to $300 million EBIT over the same time frame. We are proud of the journey of bulk over the past four years and this has been achieved in the traditional rail market where we have a strong presence in Western Australia and Queensland. We've said this market's size was around $250 million, but strong growth has seen this grow to about $350 million today, with Aurizon being about a third of this.

But there are new market opportunities in front of us and this is partly being driven by our customers as they are seeking end-to-end solutions. These markets are fragmented and there is value from integrating services along the supply chain. They are larger than bulk rail at around $600 million and include road and coastal shipping to support rail, port services, and rail maintenance. Our two acquisitions in Townsville and Newcastle under the Aurizon Port Services banner are examples of these new markets and we're excited by the opportunity they bring. The growth in rail and these new markets is expected to be significant and is

not correlated to coal demand and, therefore, provides a growth avenue for Aurizon. This is assisted by the ability of the company to cascade fleet and the resilient cash flows from coal and network.

With that, I will hand over to George.

### George Lippiatt: Chief Financial Officer & Group Executive Strategy

**Slide 21**

Thanks, Andrew, and good afternoon, everyone. Thank you to those joining us virtually and those who've made the journey to be with us here today in Newcastle. I've been in the CFO role for a year now, but I've only had limited opportunity to talk to most of you face-to-face, so this is something I've been looking forward to.

**Slide 22**

While the first page has the title context, it's also a chance to reflect back on the last 12 months. As a company, we've seen softening coal volumes due to COVID and the China import ban. Volumes for FY21 will likely be their lowest since 2017. Despite that, we are today reaffirming our FY21 earnings guidance of $870 to $910 million, and highlighting that we expect FY21 free cash flow to be around$700 million, inclusive of Acacia Ridge net proceeds. It's these figures that underscore the resilience of our business, have enabled us to maintain a dividend payout ratio at 100% of net profit after tax, including up to the most recent half year, and ensured we have the support of debt markets.

Turning to the future, and I think what we can all say having lived through the last 18 months of COVID, is that the future is incredibly hard to predict, which is why at Aurizon we don't use one view of the future, we use scenarios. I'll take you through those in a few minutes. When we model our current six scenarios, it highlights that our business and our cash flows are resilient across those scenarios. One of the reasons for that is that our trains don't care what commodity they carry. As mines are developed or switched off, we can shift our fleet. There are limitations such as gauge and weight, but this generally affords us a high degree of flexibility to respond to shifting market dynamics. That flexibility is a good thing for our customers and it also supports our focus on capital productivity and free cash flow. This context is demonstrable of our track record of capital discipline, and that track record over the last six years has enabled shareholder distributions of $4.3 billion. Now, that's from a company with a market capitalisation of around $7 billion.

**Slide 23**

I've mentioned free cash flow a number of times now, so let's look at some historical data on it. Before I turn to the chart, I'll just re-confirm for everyone that free cash flow is the amount we make from operating the business less the amount of money or capital we spend to sustain the operations; what's left, free cash flow, is then available to either be distributed to shareholders or invested in growing the business. It has been more than 10 years since the IPO, and the first thing you notice in the chart from 2011 to 2016 is that there was a period of heavy investment in new rolling stock and track infrastructure. Those investments enabled growth in volumes. For example, back in 2011, our network and above rail coal volumes were 25% and 15% lower than FY20.

If we shift along the chart to 2016 and 2017, Aurizon instigated greater focus on capital and efficiency. We were no longer going to sacrifice cash each year to sustain loss making intermodal and bulk businesses. While intermodal was exited, the bulk was retained and successfully turned around to the point where we're now looking to actively grow it, something Clay will focus on later. What you can also see on this chart from

point number three is that the black line, free cash flow, is pretty consistent. While volumes have moved over the last four years, and as I said earlier, they've been soft this year, our free cash flow hasn't missed a beat, despite the global disruption caused by COVID and a China import ban on Australian coal.

**Slide 24**

I mentioned earlier that at Aurizon we don't believe in using one possible view of the future. Instead, we use six scenarios. That process is something we call Strategy in Uncertainty, or SIU. We've used this process for the last few years, and it's a framework that starts by understanding the key macro drivers for the commodities we haul. It's built on the belief that if you want to understand how much metallurgical coal we might haul in 20 years, you don't start by looking at the mines in Australia, you start by understanding how many bridges, highways, buildings, rail infrastructure, and other steel-intensive products are going to be built in countries like India. That's just one example of the types of inputs that go into our SIU model from a demand perspective. We also, of course, consider GDP growth, government and climate policy, steel production methods, and import reliance, to name a few more.

Armed with that demand side view, we then assess whether Australia might meet that demand, or whether other competing countries, like Russia or Indonesia, will meet it. As I'll come to later, predicting supply relies on mine approvals and capital being allocated to new mines. Given that's inherently hard to predict, that's where our scenarios come in. Of course, not to be forgotten and a growing part of our business, you can see on the far right hand side of this slide that we apply similar rigour to estimating the bulk market. The output of that work is what Andrew highlighted earlier and Clay will take you through in more detail.

What you'll hear is that we're excited about the opportunity that growing demand for new economy minerals creates for us. Whether it's copper for electric vehicles or rare earths for iPhones, we can see how bulk will be a much larger part of our business in years to come. Now, it's important for me to emphasise that these scenarios are not predictions of the future nor do they generate forecasts or projections. They are possible scenarios that we use in various ways in our business, including the way we think about our strategy, about the allocation of capital, and importantly about sustainability in the context of climate change risks. On slide 18, we highlight the limitations of scenario analysis. Please bear that in mind as I take you now through each of the scenarios.

**Slide 25**

One of the outcomes of our Strategy In Uncertainty process is shown on this slide, our six coal volume scenarios, showing Australian coal export volumes over 20 years to 2040. We use 20 years because it's short enough to enable detailed assumptions to be used, but long enough to align with some of our key assets, such as rolling stock and the depreciation period used to calculate regulatory tariffs in our network business. I'll go through on the next slide the key assumptions under each of these scenarios.

But if we focus on the outputs, firstly, you can see that there's a wide variance between each of them. There's over 300 million tonnes difference between the top scenario, commodity strong; and the bottom, rapid decarbonisation. Secondly, if we focus on the first 10 years from 2020 to 2030, you can see that there's five green arrows. That means that, under all but one of our scenarios, there is positive growth in Australian coal exports to 2030. The second decade, however, 2030 to 2040, naturally sees greater divergence, with export volumes falling under four of six scenarios over that 10-year period.

**Slide 26**

Given these are scenarios and not predictors, it's important to understand the key assumptions underpinning each of them. Just as the volumes diverge, so to do the key assumptions. I'll go through some of the key assumptions to give you an understanding of them, noting that there's additional detail in the appendix to the pack we've loaded onto the ASX platform earlier today.

Let's start on the left and work our way across. Commodity Strong: this scenario assumes no new climate policies being enacted and Indian steel production rises from 100 million tonnes a year to 280 million tonnes by 2040. Australian coal exports grow to over 500 million tonnes by 2040, meaning that Australian mines and enabling infrastructure would need to be expanded to meet the Asian demand.

Now to Current Economics. This scenario starts to changing steel production methods in Europe by 2040, and sees coal's share of the energy mix in Asia drop to 20% from where it stands today at 59%. Unlike commodity strong, Indian steel production only rises to 250 million tonnes by 2040. I say only because the Indian government target is 250 million tonnes by 2030, so this scenario assumes India meets that target, but is a decade late in doing so.

Next, I'll take you through our two supply constrained scenarios. The first of those is Port Constrained Australia. This scenario sees demand from Asia being the same as current economics, yet port terminal infrastructure not being expanded to meet the coal export growth. That sees Australia's share of the seaborne coal market drop from an assumed 40% in current economics to 35%. The second constraint scenario is called Mine and Regulatory Constrained Australia. As the name suggests, this sees no greenfield mines being developed in Australia beyond 2025, and those that are developed are limited to where they are considered advanced in terms of development and approvals as at today. So while Asian demand remains, under this scenario, Australia's share of the seaborne market drop to 25%. Russia and Indonesia exports are the main winners and fill the assumed supply gap.

Turning now to Carbon Constrained Asia, our fifth scenario. The key changes here are to energy and how it's produced. Coal's share of the energy mix in Asia drops to 10% by 2040, but Asian steel production continues to grow, with coal-based steel production remaining the dominant method in Asia at 70% of the mix. Despite that, and Australia growing its share of the seaborne market to 40%, Australian total exports reduce to 300 million tonnes by 2040.

Last and least in terms of volumes, rapid decarbonisation. This assumes significant shifts towards decarbonisation and that the transition is fast. How fast, no coal fired power globally by 2032. Plants in places like India, China, and Southeast Asia, which have only been built in the last year are shut down after only a decade in operation, and the average Asian power plant only has a 20-year life in operation. To give you a sense for the change required, China would go from coal fired energy production of 4,800 terawatt-hours today to zero in 2032. Australia produced 265 terawatt-hours from all energy sources in 2019, so that China shift would be significant. Steel also sees changes, with the coal-based BOF method only accounting for 40% of global steel production by 2040, and Indian steel production growing to only 160 million tonnes by 2040.

For those of you wondering which scenario aligns with meeting the goal of limiting global warming, I'd say it depends on how much heavy lifting non-Asian countries do. So what do I mean by that? It's recognised that there is no single pathway in reaching a decarbonized future. For example, the International Panel for Climate Change produced a report in 2018, projecting 90 pathways that limit global warming to below one-and-a-half degrees, each with different implications for global coal consumption. In saying that, it's unlikely in a less than two-degree world that scenarios one to three would play out. I'd also say that our scenario

six, rapid decarbonisation, features a faster closure of coal-fired generation compared with IEA's Net Zero by 2050 report released just last month.

**Slide 27**

More important than the scenarios themselves is how we use them. That's what we cover on this slide. What I want to convey to you is that we don't just have these scenarios at an Australian export level. We also look at them split by coal type, by corridor, and at a mine level. Modelling at that level of detail allows us to stress test key decisions. Let me give you some examples. On fleet, which is shown as growth capex and stay-in-business capex. We've had two fleet decisions recently: firstly, do we invest to further grow our Queensland coal fleet or do we rely on Project Precision to create capacity? For now, we aren't investing further. That aligns with the bottom five scenarios, but if a commodity strong scenario eventuates, we either need to buy fleet and risk being late to the game, or rely on Project Precision outperforming to create further capacity.

The second fleet example is around overhauling Hunter Valley fleet, which we continue to do. Now, this decision aligns with the top five scenarios. But if scenario six comes to be, we would have some stranded fleet. It's a minimal amount and certainly very low compared with the returns we generate under the other scenarios, so it's a good risk/return equation when we look at our scenarios.

The next example is customer contracts. When we assess a new customer contract, we test whether that mine will continue to operate under each of these scenarios. The more scenarios the mine ticks, the more secure the volume. This is valuable to assess counterparty risk and the contract terms we offer. In other words, this process informs the return profile and payback period we target for each customer contract.

**Slide 28**

The next way we use scenarios is to stress test free cash flow, and that's what I want to cover next. While volume scenarios are of great interest to many stakeholders, what's critical to analyse is how that potentially translates to Aurizon cash flows. The first step in that process is the one I've just taken you through, assessing the resilience of Australian coal volumes. In other words, just because there are coal reductions in Europe and America, doesn't mean that Australian exports decline, particularly given more than 90% of our exports are consumed in Asia. The second step, shown as B on the slide, is to look at Aurizon's revenue sources, including the regulatory protections of our network infrastructure business and, in our coal haulage business, the contract positions, and coal type that our business is exposed to.

C and D are all about how we operate our business. Should volumes reduce, and we have confidence that it's a permanent decline, we would not be doing our job if we didn't reduce our cost base. Not only does lower volumes mean lower fuel and track access costs, but it also means you need to maintain less fleet for coal haulage. That means we have available fleet, which can be used to replace fleet at the end of its life in other coal hauls or bulk hauls. Whichever it is, this reduces capex and increases free cash flow.

Lastly, our bulk business has current and future target customers that produce copper, zinc, nickel, and lithium. Growth of these commodities is expected regardless of the coal volume outlook; and, in fact, a lower coal volume outlook, could potentially enable Aurizon to shift fleet and grow non-coal earnings without material new capex.

**Slide 29**

This is an example of the process I've just described, and it's a worked example of carbon-constrained Asia, our fifth scenario. To start with the headline, what you can see is that while global coal volumes might decline, that doesn't translate into a significant shift in Aurizon free cash flow under this modelled scenario. The way to read this slide is across the top are the key market segments where Aurizon operates, and on the left going down the page are the key drivers of free cash flow. The arrows and the colours highlight the range of impact over the 20-year period.

Firstly, global coal volumes under this scenario fall by more than 2% per annum for 20 years. Despite that, Australian volumes outperform, given they're exported to Asia's young coal-fired power plants and growing steel mills. In terms of how that translates to Aurizon revenues, there is a marginal increase in group revenue. While thermal coal-related revenue reduces, metallurgical coal less so and network and bulk revenue increases. The volume decline of around 25% by 2040, provides the opportunity for operating cost reductions, which are assumed to drop by 20%.

Similarly, capex reduces in coal and, to a lesser extent, in network, which you'd expect. But it also shows how capex would reduce in bulk. An example of that is standard gauge fleet replacement in Western Australia, which under current economics, would happen in the early to mid-2030s. However, in a carbon-constrained Asia world, instead of spending money on fleet replacement in bulk, we shift no longer utilised standard gauge fleet from the Hunter Valley across to Western Australia and avoid the capital spend. Lastly, free cash flow. Our bulk business continues to grow regardless of coal headwinds and at a group level, under this scenario, Aurizon's future free cash flows are only marginally lower relative to today.

**Slide 30**

I have spoken about these levers over the last few minutes, but this slide just gives you a more holistic view of how we think about them. These are the levers we would use to seek to mitigate any assumed free cash flow decline. Firstly, opex levers. These generally account for half of our assumed cash mitigation, depending on the scenario. These include direct costs, which are largely variable with volume, as well as indirect costs that would need to be right-sized. For example, it would be reasonable to assume a smaller head office and management team if we find ourselves in a rapid decarbonisation scenario.

Secondly, capex levers, and these generally account for slightly less than half of our assumed cash mitigation. For coal, if volumes reduce, we'd not require the same scale fleet to be maintained. That reduces sustaining capex and provides a useful pool of spares for the fleet that remains operational. For bulk, as I explained earlier, there are also fleet renewals and parts spend that would be significantly reduced for certain classes of locos if a coal downside scenario came about.

Finally, the third and fourth levers, which account for minimal residual cash mitigation. These are about enabling further bulk growth or selling or scrapping fleet. We are conservative in that we don't assume much bulk growth despite the scale of the market opportunity and we are conservative in that we don't like selling or scrapping locomotives. We'd rather Ed and Clay find a good value contract to put the assets to work.

**Slide 31**

This next slide outlines some of the key assumptions we've used to come up with our free cash flow scenario range. Starting with volumes, while Aurizon has capacity charge protections in our coal haulage contracts, and mines are known to continue to operate when marginally out of the money, we haven't

assumed that occurs. In other words, we assume that where Asian coal demand drops, mines high on the cost curve stop operating, and Aurizon receives no capacity charge.

Then to revenue, and there's a few assumptions to work through here. Firstly, we assume no market share gains or losses, which means that competitors with older coal fleets are assumed to invest to maintain scale. We also assume rates reduce, particularly in downside scenarios. This is on the assumption that fleet capacity exceeds coal demand, but as I've outlined, that assumes rail operators invest to renew fleet or don't shift fleet to service non-coal customers. In terms of our network business, we've assumed the current regulatory model holds and that our WACC rates lift in line with the current risk free rate or yield curve.

In terms of opex, we assume operating ratio is held flat, just above 70% and that no further automation beyond TrainGuard is achieved. To give you a sense for this assumption, in rapid decarbonisation coal haulage volumes drop by about a half, but we only assume that the addressable cost base falls by about a quarter. Moving then to capex, and the key assumption is that capex reduces by less than 80% of the volume reduction. So to use rapid decarbonisation as the example, while volumes fall by about a half, we assume that capex reduces by just over a third.

In terms of bulk growth, we don't assume in these free cash flow numbers, that I'll go through in a few minutes, that Aurizon invests to enter other parts of the bulk supply chain. We do, however, assume that there is additional fleet available from coal haulage volume reductions longer term. This enables bulk to increase its share of the rail market by one percentage point. Finally, the other row shown is our gearing assumptions, where we've assumed gearing is held flat, there's no major step up in debt margins, but overall debt costs increase aligned with our risk free rate or yield curve assumptions.

**Slide 32**

I've spoken a few times about fleet, so what I thought I'd do next is provide a snapshot of Aurizon's fleet. This slide breaks it down by state and value. You can see that the carrying value of our fleet is a bit more than $2 billion, with 55% of that value from locomotives and 45% from wagons. In terms of a state by state breakdown, you can see that our largest fleet is in Queensland. That's by both dollar value and number, which means from a fleet perspective, it's clear who wins the state of origin with our engineers. In terms of a state by state breakdown, you can see that our largest fleet is in Queensland, and sticking with that Queensland theme briefly, that's a state where we hold 70% of the coal haulage market and are the major player in bulk. But you can also see that there is much lower thermal coal exposure in Queensland compared with the Hunter Valley. So it's a good market to be long on fleet, particularly when you've got the contract position we do.

Turning then to New South Wales. Mainly thermal coal and a market where we hold a bit more than a quarter of the coal haulage market. Given it's thermal, this is where the greatest downside risk exists under our scenarios. Should a downside scenario come to be and we have surplus train sets that used to haul thermal coal we can do two things. For the 40% of the fleet that's interoperable, that can be shifted to any standard gauge bulk market in Australia. For the other 60% of the fleet, the restriction is the gauge and weight of the locomotives, but they can either be used for parts used to haul non-coal commodities into the Port of Newcastle, which those in this room will see tomorrow, or be used in the Pilbara where there are similar track axle loads which allow the locomotives to be used there.

**Slide 33**

What's shown on this slide is the output of all this work around scenarios and free cash flow where the modelling indicates an average annual range of circa $500 million to $650 million. This is not a forecast or a prediction but rather a range of potential outcomes based on the modelled scenarios. Specifically, it's a range that represents scenarios two through to six, and the range is an annual average over the 20-year period. Context, we have shown that compared against the last five years free cash flow performance and dividends paid.

**Slide 34**

Andrew has already talked to the chart on the right of this slide and I've mentioned the $4.3 billion of shareholder distributions. So no need to cover that further, but what I do want to highlight is our capital allocation framework shown on the left hand side. It's that framework combined with the strong free cash flows of the Aurizon business that's enabled these distributions. The numbers on the left are averages over the five year period. Operating cash flows have averaged $1.1 billion, which after average capex of $500 million, has provided $600 million of free cash flow. We're very proud of declaring a dividend at 100% of net profit after tax over the last five years. That's equated to $500 million on average, which has meant there has been $100 million of surplus cash. That cash can either be used for growth or for capital management, which is a good point to remind you of the $900 million of surplus debt funding capacity Aurizon has under our targeted Triple B Plus, B Double A-1 rating metrics. This means we not only have had stable cash flows, but we have also maintained a strong balance sheet.

**Slide 35**

This strength in cash flows and balance sheet has been recognised by debt markets. We've raised $1 billion from debt capital markets over the course of this financial year. This has included a 10-year Aussie dollar bond for network and a 7-year debut Aussie dollar bond for operations, the haulage side of our business. So we're very pleased with our credit profile and pleased with the support we are receiving from debt markets.

Finally, can I just say that we are proud of our business and we're proud of the role it plays in supporting Australian bulk commodities to compete globally. As I hope you could tell from this presentation, we're excited about the way our future cash flows could be used to grow our bulk business while continuing to deliver strong shareholder distributions. Thank you.

**Chris Vagg: Head of Investor Relations and Group Treasurer**

All right, thanks, George. As promised, we will have a break now, before our last three presentations. So I've got 1:59, so let's do 2:15. About 16 minutes time, we'll come back for the last three presentations. Thanks.

**[BREAK]**

## Clay McDonald: Group Executive Bulk

### Slide 36

Hi, everyone. Welcome to Newcastle. For those of you that are attending the field trip tomorrow, I'm looking forward to hosting you out at Aurizon Port Services.

### Slide 37

The last four years, the bulk team has been delivering on the first phase of our growth plan, primarily focused on stabilising the business, customer service delivery, and transforming our costs and contracting base to return the business to profitability. This afternoon, I'll look forward to taking you through the next growth phase where we aspire to double in size by expanding across the bulk supply chain and developing comprehensive supply chain capability, infrastructure, and operations.

### Slide 38

We've spoken previously about the pathway we pursued on the bulk turnaround. This phase was all about getting the basics right, simplifying the business, and focusing on what was important. In the cost base, we completed a comprehensive benchmarking process and put a discipline transformation programme in place to create a more efficient cost base. The work of transformation and continuous improvement has become embedded within the bulk business, have the work that we completed in 2017, has delivered real value. Over the last four years, revenue net of access has increased 16% whilst operating costs have reduced 2% as part CPI headwinds and across our supporting growth. The general managers and the teams continue to work hard on asset efficiency and transformation today.

On the contracting side, we took a retain, reform, or exit approach. In 2017, we held numerous legacy and long-term contracts that required significant reform. Some of these contracts related to our ex-government ownership where contracts were established to support regional economic growth rather than commercial return. We're almost through that re-contracting cycle with one reform and retained contract to go in Queensland. The Re-contracting effort over the last three to four years has been significant with most results exceeding our expectations.

Now, on the growth side. We looked to utilise spare capacity, aggregate volumes, and convert road to rail, and where opportunities present, move more quickly. We have been able to leverage our strategic land and locations and key corridors to enhance the customer proposition and provide real value to their operations, and I'll take you through a couple of examples of this later in the presentation.

Now, trying to measure growth. With the different types of products we haul, services we provide, and contracting models we now use in bulk, volumes are no longer an accurate way to follow or forecast our growth. Besides revenue growth, the best way I could explain what's happened over the last few years in the incremental growth space for us in rail is for the deployment of locomotives, wagons, and people. At our lowest point in 2018, the bulk business was operating 146 locomotives, two-and-a-half thousand wagons, and had an FTA base of 820. Today, less than three years later, we operate 166 locomotives up 16%; 3070 wagons, up 20% and we have an FTE base of over 1200.

And so now, we look to pivot to phase two of our growth plan, where our aspiration is to double the size of the bulk business. To achieve that growth, we need to know two things. What is the size of the expanded bulk market? Is that market large enough for us to get excited about? And secondly, if it's big enough, is the strategy of integrated supply chains supported by the customers? Building off the back of detailed analysis

we had already completed on the bulk rail segment, we have expanded our assessment to quantify the size and scale of the full addressable bulk market.

**Slide 39**

Our detailed analysis started with capturing all bulk commodities by product, location and value chain step. The first cut volume assessment was broad and comprehensive. Tracking the movement of all volumes from point of origin, to either point of export or manufacturer. We then worked through the volume portfolio and excluded a number of specific products and supply chains that we considered were not addressable by the bulk business. Once they were excluded, we then applied margin assumptions across the remaining commodity types by region, to establish profit pools by value chain step in each corridor. Andrew's already covered this, but I'll reinstate the key supply segments we covered were bulk rail, road and possible road to rail convertible volumes. All other bulk road volumes, including first mile, last mile and line haul, bulk port services and rail-based maintenance services.

However, here we focused on the iron ore majors in this segment due to the scale and spend. The output of all that analysis was the establishment of basin plans, which we then aggregated to calculate our aspirational growth target. And as Andrew outlined earlier, the outcome of our analysis indicated that by 2030, the profit pool in the bulk market would be circa 1.25 billion on revenues of around 13 billion. Now this is exciting news for bulk, as the profit pool is approximately five times larger than the pure rail market that we have previously identified. So why are we considering these adjacencies? Well, first of all, it is about scale and the opportunities that scale presents. The bulk supply chain market is five times larger than the standalone rail market that we have traditionally focused on.

Today we calculate we have approximately 30%, or a third of that bulk rail profit pool, but if you expand that out to the full supply chain, we have less than 10% of the segments and volumes that we included in the reviews. Secondly, feedback from our existing customers and recent experience with market-based opportunities indicates that the market is moving to more integrated solutions. Again, it's worth understanding from a customer's perspective why integrated solutions are attractive. There's two primary reasons. First of all for the customer, it embraces efficiency, simplicity and accountability. Secondly, integrated supply chain support the changing nature of the bulk market. As products flow through the supply chain, if each of the steps is not well connected, it creates friction, as well as velocity and can add cost. If there are multiple suppliers in that supply chain, a single supplier can choose to optimise their part. Thereby creating sub-optimisation throughout the supply chain.

A single or lead logistics provider can bring simplicity and accountability to a complex supply chain by applying consistent systems, operating methodology and contract accountability for the customer. And as I said this becomes increasingly difficult under a multi-supplier scenario. I'll give you a simple example, or an easy example. At the mining end, there is a materials handling supplier. That supplier takes out a unit that is supplying the speed of loadout to the rail, or road operator to reduce their costs. That delays the loadout time, slowing the velocity in the supply chain, the road or rail operator gets to the port later, possibly creating delays and demurrage in the shipping stem. It then possibly ends up with a delay for the product landing at the customer end.

In competitive markets, or time and inventory critical operations, you can imagine this has a significant impact. Now sophisticated customers are aware of these issues and are looking for suppliers who can smooth the process flow, take out wastage and provide value-adding services at each step. The second major demand signal in support of integrated supply chain, is influenced by the changing nature of the bulk market. Projects are becoming smaller, more capital light, and quite often are moving further away from fixed infrastructure. Contemporary logistics solutions look for flexible, cost-efficient multimodal solutions to

match those market dynamics. In bulk going forward, we will develop capability and services in the road to node space. To either accumulate unit train volumes, or deliver customers the benefit of aggregation at one of our terminals. For shorter distance and lower volumes we'll look to grow in the road to port space, but only where the road is part of a broader Aurizon offering.

**Slide 40**

Now if you're in business development within bulk, this is a slide to get excited about. This slide illustrates the level of activity going on in the bulk market, with each dot representing exploration or pre-production activity. Now we know many of these exploration or projects will never come off, but it is illustrative of the level of activity going on in our market. Also, I don't want you to get hung up too much about which commodity, more so where, and I'm going to grab the little pointer here for those of you who haven't left the state for a while. All right. Critically, Northwest Queensland up here, Mount Isa minerals province. Here, Central New South Wales, Cobar mineral province. Here, West Australia gold fields and in fact, everywhere in West Australia, but West Australia gold fields and Midwest.

Why did I start over here? Mount Isa minerals province. We now own a port at Townsville, that is serviced direct by heavy haul rail there. Down here, we now on a port down in Newcastle, direct rail access to the Cobar minerals province.

So if the market size is attractive and integrated operating model is preferred by our customers, how do we successfully expand, or transition out of our traditional core rail business and into the extended supply chain? We're going to apply the principles that have underpinned our turn around and we're going to apply these to the broader market. And those principles include, first of all, focusing on the customer. Solving customer problems and creating safe, efficient and cost competitive solutions remain as a centrepiece to success.

Some of these solutions may use existing infrastructure or may require new or enhanced infrastructure. To solve these problems and to develop competitive supply chain operations, we are prepared to deploy capital where the opportunity presents and the returns are ripe. Second principle, build and develop capability. Extending in the supply chain will require a different type of capability. Like operating capability and infrastructure capability. Within bulk, our capability is rapidly changing as we move from a rail play, to a supply chain operator. That includes capability in the management, specialist and operator ranks, where our teams now include port, road and material handling operators and specialists.

We also support this change by engaging consultants and experts who are long and deep in supply chain experience in specialist fields to augment our business development and design teams. In the infrastructure space, we already have a comprehensive network of strategic sites, and we are enhancing those with additional flow connecting structures like ports and storage operations. Finally, the third principle. Creating an agile and flexible mindset. Whilst the market size and growth rates look attractive, global demand can change and products flow can vary. Our customers expect us to be able to respond to those demand changes. As we develop our extended operating model, bulk is very aware that we'll need to be more flexible and agile and take more risk than we have traditionally done.

**Slide 41**

The photos on this slide demonstrates some of the recent steps we've taken in extending our supply chain services in both New South Wales and Queensland. In Townsville on the left-hand side of that slide, it's a picture of the former TBSH business, where we've now established Aurizon Port Services, Townsville. This operation links the Mount Isa minerals province to the port of Townsville and provides storage material

handling and stevedoring services. For inputs and outputs to the mining and agricultural sector, we are currently upgrading the site by investing in additional hardstand to increase capacity and creating a unique direct rail access by renewing and extending Aurizon owned rail lines that are adjacent to the site.

The plan here is to link out Cloncurry and Mount Isa rail terminals directly with the port operation, thereby removing last small transport and handling costs. I just might point... on the left hand side, if I can. There's our rail lines being re-established in there and we will build that out so that we can service that loading and unloading as a rail and port turn up. Here, you can see the expansion in the footprint in our head storage. It's enabled us to go from stacking four high, to stacking six high. Increase our capacity by about a 1000 TEU on that site. If you think about divided by trains, it's like five or six equivalent trains out of the Mount Isa minerals province.

The second example of increasing capability is our recent acquisition of com ports and you'll get to see this tomorrow. I really liked this business. It's simple, it's efficient, and it's strategically located. What we also like, it was previously owned by a miner and that's no offence to the miners. So whilst it was well run, it wasn't deployed as part of a broader value proposition for customers. We see the advantages and benefits to customers in linking the port operation more closely to shipping, rail and other logistics operations to better service the New South Wales minerals province. The second exciting aspect of this site is its ability to grow. It's currently operating at around 50% utilisation and has spare land that we can develop for new or expanding customers. The general manager of Bolt New South Wales, Adrian Browne, who you'll meet tomorrow, fact he's here listening to what he needs to say and do tomorrow. He's busy working on supply chain opportunities linked to the port, and will look to take advantage of that simplicity, efficiency and spare capacity.

Again, just pointing out, this is our existing shed. This is land that we can expand on. So why is expansion in those two ports so important? Today if you use our base tonnes, let's just say we're moving 50 million tonnes and you apply the cargo growth rate over those 50 million tonnes in five years, we'll need to move 58 million tonnes and in 10 years we'll need to move 67 million tonnes. And if they're export tonnes, they've got to leave the country somehow. So we're investing in excess additional capacity on those port sites, looking to support that growth.

**Slide 42**

As I previously said, the bulk market is changing and to be successful we need to be more agile and flexible. Our recent win with MRL is an example of that flexibility and agility. As MRL ramped up buying more volumes, they turned to Aurizon and for support. In compressed timeframes, bulk was able to deliver the equivalent of four consists and 65 staff to ramp volumes from 5 million tonnes, to a run rate of around 12 million tonnes annually. Key to this opportunity was our available rolling stock and the strategic Esperance depot and yard. Both these assets were able to be reinstated and deployed quickly and safely. MRL continue to look for operational flexibility from our team.

Recently, we were requested to provide additional services to Kwinana Bulk port, to access available port capacity with iron ore prices at record highs. This required additional locomotives and wagons, a number of which were redeployed into WA from coal New South Wales, to support the task. The GM responsible for that deal and ultimately for the MRL relationship, Anna Dartnell is with us today and you'll get an opportunity to meet with her tonight and tomorrow. But needless to say, her team's ability to deliver for MRL, has positioned us very well with that customer.

The two examples on the right, are short-term opportunities that were established quickly to support significant growing volumes in both Western Australia and Southeast Queensland. In Queensland, we

worked with the customer to convert grain on road to rail, so that they could accelerate their export programme. One grain train replaces 30 B doubles, from the line-haul task. These trucks were then redirecting into hauling, from the farm to the stockpile, generating increased velocity in the supply chain. To support this operation, we establish a flexible labour model, which enabled us to scale up quickly and without long-term fixed costs. The second growing opportunity was with CBH in the west. Again under Anna's leadership, we put a proposal to CBH to support their export programme through the port of Geraldton, off the back of a significant harvest. Within weeks were able to pivot drivers and rolling stock into CBH, that had previously been hauling for Mount Gibson, until the plan closure of their mine, weeks earlier. The Narngulu team is doing a great job delivering for CBH, which is timely as their tender evaluation is currently underway.

**Slide 43**

Our phase two growth ambition is to double the size of the bulk business. This is not growth for growth sake. We will always focus on solutions that provide unique value to the customer, provide the basis for sustainable growth and achieve returns to our shareholders. Our detailed market analysis gives us confidence that the bulk supply chain market is big enough and growing fast enough to support that ambition. We can also see the market is changing and customers are demanding more efficient, harmonised and value-creating services. Both these market trends are favourable for our bulk business. For us to reach our aspiration, we'll need to grow into the non-rail segments of the supply chain by around 10%. We can do that in three ways. Grow our own, partner, or look to acquire. And we will look for the best option on a case-by-case basis. Going forward we will continue to take a disciplined and deliberate approach to growth via acquisition to support either Brownfield, Greenfield, or new commodity growth.

And as I've covered today, we've already commenced that journey with the acquisition of port anchor points in New South Wales and Queensland. These additions to the bulk business are great examples of small value-adding, bolt on acquisitions that build capability and muscle in other segments of the bulk market. They also, as I've indicated before on the cargo and growth rates, set us up to have the capacity for that future growth. And finally to grow successfully, we need the support and resources of which we have both. We're incredibly fortunate to have the broader enterprise resources at our disposal and ability to deploy available capital to underpin our phase two growth strategy. Thank you.

**Ed McKeiver, Group Executive Coal**

**Slide 44**

My name's Ed McKeiver for those who I haven't met and it's wonderful to be here today. I've travelled from the second largest export coal port precinct in the world at Mackay, to be here today and the largest export coal precinct. Probably the best thing I was told in the break that we had to compete with whales and dolphins just out the window, so I'll try to keep your attention. And the best thing about coming here is actually getting my jacket out of the closet because I didn't get a winter last year and it's a little tighter after COVID, I've got to say. So today I'd like to talk to you about the coal haulage strategy. Our complimentary role in the portfolio and our clear priorities for this decade.

**Slide 45**

I'll first touch on our contract book and our latest customer success, but what I really want to talk to you about today, is how we're rewiring the operation with a multi-year integrated transformation programme designed to enhance the customer experience, improve ROIC and preserve cash flows. The key message I

want you to take away from my six or seven slides, is that coal has a strong contract book, an unrivalled installed asset base and with that air cover in place, our mission is delivering excellent customer service and a relentless improvement of our asset productivity and cost base to offset revenue pressures and deliver consistent returns for shareholders.

**Slide 46**

When Andrew implemented the business unit model around four years ago, and I moved to Mackay to run the coal haulage division, we had approximately 50% of contract volumes facing recontracting by 2025. We knew that we had to de-risk the coal contract book and needed a fresh customer focus strategy to do so. We also knew that increased competition would bring downward pressure on tariffs, so we'd have to work hard to secure returns above investment hurdles. Four years on, we have successfully executed deals with 10 customers. Including our recent significant off-market negotiation with Anglo in Queensland. Collectively, that means we have secured over 80 million tonnes of volume per year, previously at risk. And now have less than 20% of coal contract book volumes contestable by 2025 and that too remains a key focus. Watch this space.

The team responsible for doing many of those deals was previously led by Sam McSkimming, who recently swapped his CBD suit for high vis and relocated to Newcastle with his family late last year to be our local operations general manager. Like Adrian, Sam joins us here today and he'll host us at our Hexham facility tomorrow, where you'll have the opportunity to engage with him directly and at dinner tonight. Again, with the air cover in place, coal management can now continually focus on the customer service, the capital productivity and unit cost improvement to offset revenue pressures and maintain coal earnings, which will be broadly flat off an FY21 base. Now I'd like to provide you further insight into our integrated transformation programme.

**Slide 47**

Coal has ambitiously set out to rewrite the customer experience and therefore cost space, through targeted investments in technology and process and re-engineering, that is resulting in faster, heavier and safer delivery performance. Today I would like to walk you through four key projects that each clear hurdle rates on a standalone basis, but more excitingly are synergistic when combined together. And we're setting the operation up for a 15 to 20% uplift in asset productivity before 2025 when our next re-contracting horizon emerges. This will enable coal to compete on a better relative footing throughout this decade. And as explained by Andrew and George, go on to release stable cash flows and or rolling stock capacity to the organisation to bulk to pursue growth outside the coal portfolio. The four projects I'll now step through briefly are illustrated on this slide around the outside, which is designed to give you some insight into how the programme works together.

Project Precision is a multi-year supply chain efficiency programme led by Network, which Pam will elaborate on. The objective is to deliver more volume with existing capital for all users, through faster schedules and better adherence to those schedules. With discipline trained operations, reduced trained well and increased trends at velocities, we're able to haul more coal with fewer trains, or more coal with the same amount of trains depending on the system, resulting in high yields and lower crew and energy costs. To ensure we have the underlying fleet reliability to run faster, our maintenance optimisation project ARAM is simultaneously delivering improved service reliability at reduced cost. This is achieved by optimising our maintenance strategies, leveraging our investments in condition monitoring and predictive maintenance, standardising shop floor work practises, and making sure we have the right parts, quality and availability on hand. As we experience less failures in traffic, which I'll get into a little later, and we experience reduced

yard dwell for maintenance events, we therefore speed up the train cycles even more to support precision objectives.

Meanwhile shown on the right, TrainGuard technology will provide us with supervising breaking control. It enables our trains to operate even more safely as they move faster. The technology is an Australian first and essentially eliminates the risk of signals past the danger. It also has the potential to deliver significant productivity and cost benefits by providing a pathway to closer time separation between trains on the network which we call headways and subject to consultation with our workforce, single driver operations on the main line.

Finally, my personal favourite shown in the bottom right, TrainHealth. With real time data streaming from our trains, we are able to simultaneously now monitor, train handling and equipment condition. Train drivers now receive immediate feedback on their performance against the target run and our live run centre is able to alert us to impending equipment failures, so we can schedule a pit stop and avoid a failure in traffic. This technology amplifies the gains being made in our maintenance optimisation project and compliments it. It reduces dwell further to support precision and is also delivering energy and equipment where benefits through standardised train handling. I'd now like you to walk through some recent case studies down a level, to illustrate the progress being made to date and the early value throughout to our bottom line.

**Slide 48**

A great way to understand the tangible impact of Project Precision is having, is to look at the efficiency gains in our large Queensland rail yards. In the Blackwater system that services the Gladstone and export coal terminals, we have recently achieved the two and a half hour reduction in turnaround time per train at our Callemondah rail yard. Similarly in the Goonyella system that services Mackay export coal terminals, we've seen cycles per consist increase 9% through reduced downtime and improved on time performance. With both rail yards now running at 98% on time departure, we have released 330 hours of train time per week in Gladstone alone in the last 12 months. Or in other words, the equivalent of two full train sets released for alternative duties and this is the point of project precision and the release of capacity.

In Mackay train downtime for maintenance has decreased by 40 hours per week on average, collectively. Gains have been achieved in both yards through the implementation of initiatives like wagon block maintenance and reduced provisioning time per train, which I'll briefly explain the meaning of. Wagon block maintenance is a process where we arrange our fleet of approximately 5000 wagons into blocks of 26 in the south and 42 in the north. In order to facilitate pitstop style swap outs with waiting wagons that have previously been refurbished. In Gladstone yard shunting has been reduced by 35% over the last 12 months as a consequence resulting in safer, faster yard operations.

Similarly, we have taken 20 to 30 minutes out of train provisioning times. Provisioning is a term we use to describe the process of refilling the sand and water, refreshing the toilets and putting diesel fuel in our diesel locomotives. 12 months ago we stopped every train every time it came through the yard for provisioning. The teams work systematically to identify constraints and remove them, so trains would stop less often and speed up the yard cycle. In Mackay we've recently seen an electric train travel seven cycles without provisioning.

A great example of this inaction is a process control gains made with our locomotive sending equipment and standards. Send is used by the train driver, in low traction conditions to create grip at the wheel and rail interface. When we asked ourselves, why do we need to add sand in the locos every day? Our technicians discovered a significantly different consumption of sand in each locomotive caused by worn components, or poorly calibrated flow rates, over hundreds of locomotives. Designed to deliver 500 grammes of sand per

minute flow rate, our sand discharge was anywhere from a hundred grammes on one locomotive, or none, to six litres on another per minute. So it was no wonder we were using more sand than necessary and stopping every time to refill, by resitting the equipment condition and calibrating it, we're now much better at predicting our sand consumption, ensuring the driver has enough sand on board to navigate wet weather conditions.

Costs have gone down and safety and productivity have improved and during the recent bad weather, we had no stores on some of our significant banks in the Queensland system. In order to run our fleet faster for longer, it is imperative to have excellent rolling stock availability and reliability. This is good for customer service, it's good for safety and it's great asset utilisation and optimising costs.

**Slide 49**

On this slide, I'd like to give you some idea of how we're improving performance by optimising our Opex and CapEx, deploying new maintenance strategies and approaching our lifecycle overhauls more cost effectively. The first graph at the top left shows you in the calendar year 2020, we averaged 20 rolling stock cancellations per month in the Hunter Valley where we are today. And in 2021 year to date, it has dropped to five per month.

This has been achieved through the application of our ARAM principles, improved recovery times, which you'll see some evidence of how we have done that at Hexham tomorrow and new strategies which have recently led us to double the period between 5,000 class inspections from 90 days to 180 days, leaving those locomotives in surface more often, and reducing the cost of those inspections. The picture on the top right, is a picture of our newly commissioned state-of-the-art wagon overhaul facility in Jilalan or Sarina, just south of Mackay. This is a one of a kind facility in the country, designed to overhaul our 5,000 wagons in Queensland over a 10 year period, at a cost of about 25% of their replacement value.

George talked earlier in his capital slide about the capital investment made in 2011, significant investments being made in rolling stock. Well, those wagons that were then purchased then for the growth are now due for their midlife overhauls. So as we work through those in the 2020s, we'll emerge with a fleet fit for purpose to run on the field well into the 2030s. And that facility can be put to use for other customers and other activities.

A keen eye might pick a QR symbol. I was asked when this slide was put together, "Do you want to put an overlay on that QR sticker on that wagon hanging in the air?" I said, "No." I mean, it was an active strategy of ours to not pull wagons off service and out of service to replace stickers. We knew we had this overhaul process to do, and that shows you the attention to detail in relation to cost management asset utilisation we have. So they'll all come out with fresh bogeys, new springs, repainted, and fresh Aurizon logos.

On the bottom of this slide there's an example, the last example I'd like to use as a new component change-out strategy. And this one here is the 2800 class example used at Stuart. Traditionally, we've had an approach to overhauls, which is taking a locomotive out of service at a fixed period and overhauling the whole locomotive, re-birthing it to get another 20 year life, depending on the asset. A new approach is to use condition monitoring and target the components because the problem with that approach is you often replace some components prior, before their life expired. And so it costs you more, it takes you longer. So in this example, we've seen a 10 to 15% reduction in overhaul costs and a 25% less time in overhaul, which means the locomotives, again, are more available for revenue service.

What's exciting about this? We piloted in Stuart this year, these are real results and we're rolling it through the coal business starting in FY22. Another example is at Jilalan, where we overhaul our 3700 locomotives. By making changes in our traction motor combo overhauls, we previously overhauled the traction motor

combos on a locomotive every five years, wheel sets, gears, traction motor, at the cost of about $90,000. What we've worked out is that the gearbox and particularly the windings can last 10 years. So they are now done every second time, saving $90,000 per locomotive on the overhaul.

**Slide 50**

Turning now to investments in technology. In the interest of time, I'll provide a brief update on train guard and then move straight into the case study on train health. As mentioned earlier, TrainGuard involves the installation of track and locomotive infrastructure to pinpoint the precise location and velocity that a train is travelling. The control systems know the section speed and the aspect of the approaching signal. And if the driver does not respond adequately, the system will assume control and slow or even stop the train.

The systems an Australian first adoption of level two European train control technology, and actually a world first when overlaid with a digital radio communication system that we have. Our first deployment of the technology is now planned for the first half of '23, from July '22, following a 12 month project delay driven by COVID complications impacts last year, and the troubleshoot associated with pioneering an application of this complexity with a global principal supplier like Siemens.

Once deployed, the technology is a pathway, as I said earlier, to closing up headway distance between trains, speeding up the systems, releasing further rolling stock capacity and also a pathway to driver only operations subject to consultation with our people.

On the right hand side of the slide, I'll give you a quick case study in train health. This technology is already installed on our central Queensland electric fleet. Train health's an exciting technology that provides real time data, up to 600 channels of information if possible, on train handling and locomotive performance. It allows us to monitor improved driver performance and acts as an early alert on impending equipment issues in surface. It's also an important cultural enabler as it's empowering our people to improve their own performance with real information. The case study shown illustrates the early benefits of the technology. Using machine learning, we've mapped all 36 mainline sections in Blackwater and Goonyella over the last 12 months, to develop the optimum train journeys with our trains and our topography that we have.

The section shown in the top right, the graph, is a 20 kilometre section of track between the Gracemere and Stanwell, just inland from Rockhampton. And the red line on the graph shows the target velocity of the train as it's navigating the topography of the system. That's the target run to get the optimum fuel burn, the optimum train handling to reduce wear, and the best section runtimes.

The top graphic illustrates, the grey shaded area, the variation in driver performance over 400 journeys in October 2020. Post the implementation and in April, the bottom graphic illustrates our performance today with a thousand services last month, a much tighter distribution between the same drivers. This has led to a 5% improvement in transit times across this particular section, one of 36, which supports the objective of precision. Since January, we've also seen an 80% reduction in overspeed restrictions in the Southern system and a 42% reduction in emergency brake applications.

**Slide 51**

Turning to my final slide and given our onsite location in Newcastle today, I'd like to wrap up my presentation with a summary and an overview of improvement activities in this corridor. We're pretty proud of our business in the Hunter Valley. From starting in humble beginnings with three trains in 2005, we've grown the business to 30% of the system volumes with 21 consists deployed. And you can see the last 10 years trajectory. About FY15, we built the Hexham train support facility for close to $200 million, which is

shown in the bottom right. It's where we're going to visit tomorrow. And you'll get to go on a train and see some of the new technology we've been deploying.

But for the outlook from here is relatively flat. Our operation is well scaled and well sized. The facility is at full capacity. And now similar to the Queensland portfolio, we're looking with flat volume outlook. We're looking to pull value levers to ensure that we can defend earnings and improve productivity. So I'll just talk through the four value levers on the left-hand side. Firstly, footprint consolidation, and Sam will elaborate on this tomorrow. We're looking at reducing four operating sites to three, in particular moving our local Mayfield depot so the train crew are also based and dispatched from the Hexham depot. This will save us in the order of $2 million a year in lease costs.

We're optimising the crew deployment models to better align resources with demand. We know what our contract pipeline and our nominations are. We have taken, and Sam has taken early steps to recently resize the workforce and create 20 FTE reduction in the system, achieved through both redundancy and attrition. With that work done, now the focus is on renewing our enterprise agreements in November '21.

In terms of capital efficiency, the disciplined use of capital in the system is evidenced by the lengthening of our trains in zone three recently. We increased the train sizes to 96 wagons, which is a little bit about $1.5 million in value this year through additional capacity without further cost base. We've cascaded locomotives to bulk for revenue opportunities, realising that supply was constrained in this system with the NCIG port problems and we've had the China trade issues as well. We don't like lazy assets in Aurizon, and particularly in the coal business. So we identified five locomotives that we could dispatch to bulk. Two were transferred to Adrian for the bulk, his local grain business in New South Wales. Three in a matter of a week were moved to Western Australia and we're hauling iron ore for the MRL opportunity that Clay spoke about before.

The Hexham turning angle is an exciting one. The Hexham turning angle is a small piece of infrastructure we put in, you'll see it tomorrow, which allows us to turn locomotives at Hexham. It wasn't included originally as part of the Hexham scope. So what was happening as the business grow to scale, we were finding we needed... It took about six hours to turn a locomotive. So if you have a locomotive facing the wrong way, you can't just turn it around. What we had to do was run it down through the system, through a balloon loop and back to have it facing the way we might've needed it for maintenance or for our recovery exercise. Six hours to turn a locomotive, two people on the locomotive at $80 an hour, costs about a thousand dollars per run. Since inputting the turning angle in and commissioning at last July, we've used it 77 times between July and December. 77 times, saving 462 locomotive hours and about a thousand hours labour hours in terms of cost benefit. The value is about $800,000 over six months and a clear payback.

The last point I'd like to just comment on this slide, I've touched on the extension of the 5,000 class overhaul periodicities, but the very last bullet point is just a call-out for the leveraging our Branxton condition monitoring supersite. Pioneered in Queensland, again, a world first, our condition monitoring sites can take 10,000 photos of a train moving at line speed, and then convert those trains through algorithms to maintenance tasks. So we can predict what's going to fail and we can pull those trains off and do in-situ maintenance.

We commissioned that system in the Hunter Valley last year, and we've already seen about $1 million in savings generator through the reduction in Q1 and Q2 inspections and a reduction in wagon maintainers, or at least using the wagon maintainers to fix rather than inspect rolling stock, going forwards.

In summary, I'd like to reiterate my key message that coal has a strong contract book and unrivalled asset base, and a focus on continuing customer service and the relentless improvement of our asset productivity and cost base in the way shown. We're at the start of a three year journey to keep pace with revenue

pressures and deliver consistent returns to the shareholders. We're proud of our reputation in the industry and as Australia's premier coal haulage operation, we have a resilient business with 30% EBIT margin and a well-developed action plan to keep it that way. I'll now handover to my colleague, Pam Bains. Thank you.

## Pam Bains, Group Executive Network

### Slide 52

Good afternoon everyone. For those of you online and also in the room today, it's great to see so many familiar faces. Thank you for the opportunity to speak to you today. Some may say we saved the best to last, but others may say that there's no surprises here. It's pleasing to see that Network is not the key focus of our discussions today with investors as it has been in the past. And it is now playing its important role in the portfolio, as it should be, delivering stable and predictable cash flows.

### Slide 53

The objective for the Network business is to provide safe, reliable, efficient services for our customers to strengthen the Queensland supply chain. So it's about improving Network performance, cost efficiency, building trust through transparency and supporting our customers to compete on the global market. Our efforts are focused on delivering for our customers through the commitments we made as part of UT5 and for our investors, it's about delivering stability of earnings and cash flows to support the growth for the enterprise.

### Slide 54

So let me start with a recap of UT5. UT5 was approved by the Queensland Competition Authority in December of 2019, following negotiations between our customers and Network. The agreement provides greater operational and commercial certainty for all users across the central Queensland coal network and an improved commercial return for Aurizon Network.

So quick reminder of the key elements of UT5. UT5 provides long-term certainty for all stakeholders by extending the term of UT5 for 10 years, which takes us out to June 2027, as opposed to the historic four year resets. A WAC of 5.9%, which was set in May of 2019 increasing to 6.3% on completion of specific milestones, which relates to the delivery and response to the independent capacity report, and I'll come back to this on a later slide. Establishment of the independent expert and development of an initial capacity assessment report to assess the capacity of the network. Aurizon Network would address any network capacity deficits identified in the initial capacity assessment. This could include capital funding of up to 300 million. Introduction of a performance rebate, noting that the performance rebate provisions in UT5 only apply once the ICAR has been published. Onto operational efficiencies, UT5 provides a mechanism for Network to drive efficiencies through the business. With operating cost efficiencies to be retained by Network for the term of the agreement, and maintenance cost reductions to be passed through to customers. And finally, increased transparency through reporting and engagement with our customers with greater involvement of customers in the pre-approval of maintenance and capital expenditure.

### Slide 55

Moving to the next slide, on the independent capacity review. Throughout UT5 negotiations, customers sought clarity on the real throughput of the CQCN. Aurizon committed to providing this through the implementation of the independent expert, or the IE. The IEs initial role is to assess the deliverable network

capacity of the CQCN and develop an initial capacity assessment report, or the ICAR. The IE will also be responsible for annual ongoing capacity assessments, and will undertake specific reporting requirements. Aurizon Networks initial response to the ICAR will trigger both the increase in the WAC from 5.9 to 6.3% and the commencement of the performance rebate.

If no capacity deficit is identified, there is an automatic uplift in the WAC. However, if a capacity deficit is identified, Aurizon Network has 20 business days to provide its initial views on potential transitional arrangements that could be implemented to restore capacity. Network will need to work with stakeholders to remedy that deficit by either inviting access holders to voluntarily relinquish their access rights, consider changes in operational practises or a one-off capital investment of up to a total of 300 million. A customer consultation process would commence and Aurizon Network has a further 60 days to provide a final response. This will incorporate the agreed outcomes from the customer consultation process and provide Aurizon's recommended transitional arrangements.

We highlighted at the half year that there has been a delay with this process for a number of reasons. The assessment by the independent expert is expected to be completed towards the end of the first quarter of FY22. This modelling has never been done before, and it is complex. It relies on information inputs from a large number of stakeholders across the supply chain to complete and test the model outputs. All parties continue to focus on this delivery and remain committed to achieving this key milestone as soon as possible. As the ICAR has not yet been delivered, the rebate mechanism is not applicable at this stage. The rebate mechanism will require a rebate of access charges to customers in certain circumstances when Network performs below target levels, noting these have not yet been determined. It will, following the IEs capacity assessment.

**Slide 56**

So moving to capital and maintenance. As part of UT5, we agreed to increase transparency on the maintenance and capital allowances to our customers. This engagement allows customers to consider alternative options and consider the appropriate balance between cost, scope and access. In relation to maintenance, customers can influence strategy and tailor requirements by system, consider future asset requirements, amend or respond to operational conditions throughout the year, approved budgets through a consultation process. The rail industry group, or the RIG, provides a pre-approval of annual maintenance and renewal strategies and budgets for each coal system. This pre-approval process reduces risk of overspend and any contention around maintenance claims post the financial year. Maintenance will become a cost pass through, provided the costs align with the approved budget and strategy or otherwise agreed with customers or the QCA.

We submitted our draft maintenance and renewal strategy and budget for FY22 in November of last year, and this was our first time through this new process. Following significant engagement with our customers and consultation with the RIG, this was one of the major milestones and hence it was a great achievement to see that we have now maintenance budgets for each coal system approved. Now we will focus and work hard on ensuring we deliver on what we promised. The approved budgets will be incorporated into the FY22 reference tariffs setting process by the QCA.

**Slide 57**

Moving to capital. Like maintenance, customers also have influence over capital expenditure, strategy and budget. However, unlike maintenance, if agreement cannot be reached with customers on capital, Aurizon will submit a capital plan to the QCA and complete the capital works in accordance with its plan. The annual capital indicator will reflect that plan with the QCA, undertaking a post expenditure review for

efficiency and prudency as per the current process. As shown on the graph, on the right-hand side of the slide, following completion of two large expansion projects, namely GAPE (Goonyella Abbott Point Expansion), and WIRP (Wiggins Island Rail Project), capital is now mainly focused on renewal expenditure.

As a percentage of the RAB, we spend approximately 5% per annum, hence it's relatively fixed in nature, replacing life expired assets. Funding commitments from Network on growth-based based capital expenditure going forward, includes a potential 300 million in capital to rectify any capacity deficit identified in the IEs assessment report and an annual 30 million for expansions that benefit more than one customer, noting that these amounts will be included in the RAB for pricing purposes.

**Slide 58**

On the next two slides, I'll talk about some of the work that we are doing in the Network business to drive efficiency in our operations. Ed touched on Project Precision. Project precision is the way that Aurizon has organised a suite of value levers designed to increase throughput and improve capital productivity across the CQCN. Precision will improve performance of the network for the benefit of all users in the supply chain.

I want to highlight two of the levers that are being delivered by Network as part of Project Precision. The first is disciplined train operations, or DTO. DTO is a process designed to remove the variability and improve schedule adherence and on-time running performance of all trains on the network. Over the last year, we have implemented DTO in all systems on the CQCN, which has resulted in an improvement in on-time performance of between 20 and 40%. The CQCN is not a timetabled network in the same way that passenger or general freight network is configured. However, on-time performance is no less important because plans for individual train sets in the coal system are connected by a series of unique mine support combinations. As each train set completes one cycle, it must return to the departure depot on time so that it meets the next connection to its next scheduled path.

If this does not occur, the scheduled path is preserved but is utilised by a different train set. However, this causes churn in the connection plan, which manifests as cancellations in later stages of the weekly execution cycle. This improvement in on-time performance has contributed to a reduction in rail related cancellations over the course of the year of approximately 40 to 50% in each of the four rail corridors. And we've achieved similar results in the reduction of empty wagons, caused by the late arrival of trains at mine load-outs.

The second lever I want to talk about is the improvement made to planning of the Network asset on a week to week basis. By embedding advanced planning and scheduling technology, we have been able to preserve capacity reserved for the running of trains by ensuring that maintenance activity is appropriately planned and resourced. This includes optimal spacing of maintenance events, so that priority is given to train running. The smoothing of availability has resulted in an even flow of trains into coal terminals. This is sometimes called feeding the constraint and means that the rail system is always ready to provide a train to each of the unload slots at the terminal serviced by the CQCN.

We have commenced a trial whereby Network takes on the task of proposing optimised weekly train plan for all operators in the CQCN. These modernised planning and scheduling techniques have resulted in an increased number of revenue train cycles we commit to each week, and this lever alone has lifted planned throughput outcomes by between four to 6% across the CQCN systems, and is reflected on the chart on the right-hand side at the bottom.

**Slide 58**

On the next slide, I'd like to talk about two further initiatives. The first one being an exciting new technology that we are piloting, which will automate some of our inspections. ATIS, or Automated Track Inspection System uses geometry measuring equipment attached to coal revenue locomotives to measure and trend the condition of the track to identify defects before they become false and that can impact on the safety or the velocity of coal services.

Currently the inspection methods we use include weekly road rail inspections, and a six monthly track recording car, which consumes access and provides either less accurate or less frequent information. This ATIS system will directly measure and capture data on track geometry under operational load. Currently, we have one track geometry measuring unit operational in the Blackwater and Moura systems, measuring track geometry and providing data to track inspectors who then validate the defect and raise a work order to repair it. We're also installing wire geometry measuring system on the same locomotive as the track geometry. This unit will measure the location of the overhead wire relative to the two rails, and will be trialled to confirm that both the track and wire measuring systems can work together and substitute the measurements that we receive today from our current methods.

The track geometry unit is already paying dividends. For example, while demonstrating the process of using track geometry data in the Blackwater depot, the data identified a sharp geometry defect. The Blackwater civil superintendent inspected the identified location and watched a train traverse the defects and immediately imposed a temporary speed restriction, to provide time to plan the rectification of the defect. Temporary rectification works were planned the following day. However, our onsite inspectors considered that it was highly likely that this defect would have resulted in a rail break or a potential derailment. This defect had not been picked up by either a weekly track inspections or the track recording car.

So the goal of ATIS is firstly to increase the system capacity by removing the requirement of the track recording car and the weekly road rail inspections, to reduce breaking maintenance by early trending of defects, which means the repair is planned to occur before it becomes a service disrupting fault. And thirdly, to improve the safety of our people, by only sending them to locations to repair faults, as opposed to finding faults. ATIS is exciting as it significantly increases the frequency of track inspections and allows a shift to condition based track maintenance, and forward-looking rather than reactive maintenance that impacts the revenue service less, a journey that the above rail business have been on.

And finally, the last example I'll call out. This is an example of one of a range of initiatives being implemented to streamline our maintenance practises. One of which is value added tooling. Network is focused on making sure that we provide our teams with the right equipment at the right place at the right time. An example of this can be seen in our heavy vehicle renewal programme, where we are testing modernising vehicle fleets to assist carrying out work

The field. The trucks are used to transport the team to work sites, and also used as a mobile workshop. They've been designed with input from our frontline leaders. The tasks we usually perform out in the field with these trucks include rail repairs, so rail welding, rail replacement, mobile servicing of field equipment with fuel and oils, or maintenance of renewal of signalling, telecommunications and overhead equipment. We are improving and standardising the design across all corridors to ensure that works are able to be completed more efficiently with less delay. And importantly, with fewer safety risks.

The new welding trucks are fitted with a crane to lift rail on and off the truck, a water tank and pump for fire prevention, and the trucks are making use of improvements in battery technology by replacing petrol or pneumatic tools with modern battery tools that are lighter and more ergonomic to use. The trucks have

battery charging stations and they comply with modern vehicle standards and have lower emissions. So in summary, while these initiatives do not directly benefit network from a cost and revenue perspective, benefits flow through to our customers and all operators in the supply chain, including Aurizon operations, and allows cash to flow into our area of growth in bulk. So increased throughput and capital productivity is what we're targeting. Thank you. And now I will hand back to Chris.

## Questions and Answers

Chris Vagg: All right, thanks very much, Pam. That's obviously the end of our presentation. So we're going to go to Q and A now. So if I could ask Ed, Andrew, George, Clay and Pam.

Xindi Shao: Hi. I'm Xindi Shao from Morgan Stanley. Just start with the question about coal. So could you provide an update on the China import situation, what your customers are telling you? Thanks.

Andrew: The best way to position it was six months ago, or nearly six months ago at results, I talked about how much coal had been diverted to other customers outside of China, because of the ban from China of Australian coal. And I think the number at the time was around 60%. In the last two months that has moved to, as we understand it, of where that coal's end port is, 100% of the coal is now being diverted to other places. Okay. So the ban itself obviously is continuing. It's just that the coal volumes are flowing to different markets.

Xindi Shao: Great. Thanks. Maybe a second question about bulk. So for your bulk market, EBIT has made of about 1.25 billion by 2030 on 13 billion of revenue. So can you provide some colour, how the benchmark, your 10% margin assumptions and will that margin should be higher if you kind of shifting some of your fleets to bulk.

Andrew: I think this is a great opportunity for George to talk more about it, and then possibly Clay as well.

George: Sure. Thanks for the question. So you remember Clay talked about the different market segments. So there was rail, road volumes converting to rail and then port volumes. Each of those have different EBIT margins in our model. So if you look at our rail business, we think the sustainable rail EBIT margins are about 15 to 20%, consistent with what we're earning at the moment. If you look at converting volume from road to rail, road is a more competitive market. So naturally you're going to have to compete for that volume, but the benefit is it's incremental onto your train. In terms of ports, broadly similar EBIT margins to what we get on rail. So that's how to break it down in general terms. I'm not sure if you want to add anything.

Clay: No, nothing from me.

Xindi Shao: Great. Thanks. Maybe the last one. So for your coal demand scenarios, three of them are constrained and have lower demand than now. Have you run the investment grade credit rating constraint in your scenarios? When do you model that amortisation?

Andrew: George? I think back to you.

George: Sure. Thanks for your question. Yes, if you look at the scenarios, coal volumes are lower longer term, but if you look and you break down our credit rating, we've got a credit rating for Network and then a credit rating for Aurizon operations. In terms of Network, not much changes in network over that 20 year period, given Network has volume protection mechanisms. So that's first part. On Aurizon Operations, I think it really depends on the scenario and how successful Clay is in growing our bulk business. That would be the broad way I'd answer your question.

Chris: Okay. Next question. Up the back there.

Sam Seow: Hi, it's Sam from Citi. Just on your $13 billion Total Addressable Market, can you give us an idea of what exists at the moment, and of the $13 billion, what you expect to grow over the next 10 years?

Andrew: I think I might hand that to Clay.

Clay: Yeah. Our market analysis says that the revenue base is $10.7 billion today, projected for 2030 at $13 billion.

Sam Seow: And then maybe of that additional Total Addressable Market, is there a specific year that you see it dropping in?

Clay: Timeframes?

Sam Seow: Yeah. Timeframes

Clay: By 2030, we'll double the size of the business. There's a number of pathways, right? Depends on the size of the opportunity, brownfield, greenfield, M&A. And so, the size of the opportunity will dictate quite often how fast you can hit that. And I'm sure if we hit it early, the expectation and that aspiration may change.

Sam Seow: Too easy. Thank you.

Scott Ryall: Hi, thank you very much. Scott Ryall from Rimor. Andrew, you mentioned minimising emissions of your locomotive fleet in your presentation. What's your view on whether customers would be willing to pay more for that, please?

Andrew: There's a range of customer of responses and attitudes when you have early stage discussions. Everyone's interested in improvement at no cost, right? But we actually do have some of the customers, particularly, not just, just solely, but particularly in some of the bulk areas where they're very much fronting renewable and, or agricultural type products, they themselves are under question about "What are you doing to get to a net zero position by some date?" Whatever that date is. So there's definitely interest and exploration about what you can do. It's an impossible position at this moment in time to actually say, "What is the net business opportunity out of that?" But there is clearly some, and part of positioning ourselves to be somewhat in the leading the market, at least in Australia in responding, is to allow ourselves to understand what that looks like and actually gain some of it, where it's possible. But too early to put a number on it. There are clearly very interested customers though.

Scott Ryall: Okay. And then the rest of my questions are probably going to be for Clay, I think. Clay, you mentioned in your presentation that you saw some offshore competitors gearing up for this market. Could you give us a bit more clarity on that?

Clay: We compete in a whole bunch of corridors with a whole bunch of commodities. And so we've got different competitors, depending on where you are in the country and what commodity you haul.

Scott Ryall: Well, let me ask a different way then, because really the crux of my question is, are you seeing an increase in competition in these areas, and particularly in the end to end capability that you're trying to move towards?

Clay: It probably relates to how I was answering it. There's a sweet spot for road and there's a sweet spot for rail. And we've talked about that before, and the sweet spot for rail is longer distance, heavier commodities, and road is less volume, less distance, right? And so there's a sweet spot there somewhere around 250,000 tonnes, we think is the sweet spot, rule of thumb, where the distance is further than a single truck driving shift. And so that's where road and rail tend to compete. And that's why we look at aggregation as an advantage to us with those volumes and distance, right.

Clay: As far as competition goes, like I said, it's quite a fragmented market. I think Andrew mentioned that, mainly from a road and material handling perspective, there's less probably rail operators and fewer even port operators. So yeah, competition is in each of those segments. There's not as many competitors across the whole integrated supply chain.

Scott Ryall: Okay. And, and given the little things you did, the circles you did with the pointer, are you thinking that a port in WA would be a good idea as well?

Clay: I think that'd be a great Christmas present. A port in WA. Of course, if you look at size of market, profitability in the value chain step, and demand, you're drawn to Western Australia of course. But of course there's other opportunities as well, when you looked at that map, where those commodities have got to either end up in manufacturing or be exported from. But Western Australia has a very active bulk market. Yeah.

Scott Ryall: Okay. And then the last question I had. In looking at an end to end market, you put on slide 43, a look at the types of activities that you would entertain. Are you thinking at all of concentration or other value add mechanisms for the actual commodities themselves? Or is it literally just transportation?

Clay: No, I think those principles of efficiency, simplicity, and accountability. And we try and apply those right across the supply chain, from point of origin to point of either manufacture or exports. So, we've got a really strong rail core so we kind of start from there fundamentally, but we know now and through those distances and the competitive nature that we spoke about with roadies, we've got to look at those additional supply chain services. One, to grow, but two, to satisfy what our customers are looking for. And they're looking for that accountability and they're looking for simplicity in operating methodology and systems to help them compete globally.

Scott Ryall: All right. Thank you.

Anthony Moulder: Anthony Moulder from Jefferies. If I can start with the cashflow expectations for you, George. Scenarios, obviously we're probably going to focus on scenario six, the most downbeat of those expectations, but is the best way to think about that the 500 million that's currently the level of dividends? What level of investment do you need to make to achieve that into the bulk business?

George: Yeah, I think the first thing I'd say, Anthony, is I wouldn't call the $500 to $650 million range an expectation. I'd call it a modelled scenario. That's the first point. The second point is what's included in that does not assume that we hit the aspiration in bulk of doubling it within 10 years. Right, so if we are to achieve that, clearly there'll be additional earnings. And then how much more capital we need will depend on how we grow. So if Clay ends up taking more rail share, hopefully that will be more free cashflow of accretive because you're getting earnings, but you're using hopefully existing fleet to do it.

George: If, however, he's growing more in non-rail parts of the supply chain, that will need capital. We'll be disciplined around that. The one thing I said today is our capital allocation framework hasn't changed, and we've got long-term ROIC targets that are in our annual report. So we'll be disciplined about it. But the short answer to your question is, it will depend on how we grow in bulk. If it's more rail, it should be less capital intensive. If it's more non rail, it'll be more capital intensive, but it really depends on the opportunity.

Anthony Moulder: Sure. So if I look at the loco fleet in the Hunter Valley, the 40% that is well-suited to moving into bulk, what's the average age of that fleet? Is that the 28 00s that have been now referred?

George: No, it's not the 2800s. There's the 5000 class, the 6000 class. A bit more than 10 years old would be the simplistic way to look at it on average. So depending on which engineer you ask, it could have 20 years left, or it could have a bit longer.

Anthony Moulder: Okay, and the thing about that is that when you come up for renewal on coal, is the discussion around how to better utilise that equipment into bulk, as opposed to whether or not you recontract for that coal customer?

George: That's exactly right. So we're fortunate that we don't have many coal contracts coming up over the next five years. Ed's done a great job making sure of that. But when they do come up, that's very much the discussion we'll have. What locomotives are hauling that product for the customer at the moment. And ideally we want locomotives hauling for that customer that can't be moved to bulk. If, though, they are locomotives that can be moved to bulk, then there's a trade-off discussion to be had. Do we move it to bulk at a certain rate of return? Or do we keep it in coal at a certain rate of return? And part of the process we go through is using those six SIU scenarios to look past that contract. To say, well, actually we could sign that contract now. And then we might have that fleet remain in coal, and it might not have a life after that contract, or we can move it to bulk. And hopefully it's got a longer runway and longer life in use.

Anthony Moulder: Last question on locos then. So you've already started to move, or you've already moved some of the 6000s into bulk. How many are left in New South Wales coal? And is it still eight of the 5000 class that are still in coal?

George: Okay. Yeah. I think, Anthony, I'm at risk of becoming the resident engineer here, so I'll avoid much of it. But I think I mentioned in my presentation, the amount of our fleet that's in New South Wales verse coal, ah, verse Queensland, verse WA, it's about a hundred locomotives in New South Wales, right. So about 40% of that can be moved and about 60% harder to move.

Anthony Moulder: I'll switch over to Clay if I can. Thanks, George. The growth in bulk, you've obviously talked to a lowering of the market share. Are you expecting greater market share growth out of coastal and road within that growth profile that you've got now for bulk?

Clay: Yeah. So first of all, the first thing we discovered, Anthony, was that we calculated the bulk rail market initially as $1.7 billion in revenue and 250 million in profit pool. So that's expanded. And that's up around sort of 350, 370 type number now. So that's increased. We think we've got about 30% of that market today.

Clay: In regards to the other supply chain services, we're looking to expand by that 10% into those. I probably wouldn't put coastal shipping on the top of my list, and that's more in there just as illustrative of the processes that product can follow, or the flow of a product from its origin to its end destination. And coastal shipping is now competing with rail, as you guys are probably aware. And so it's more so, is there a relationship there that we rail it into coastal shipping and that's the best solution for the customer? Again, going back to what solves their problem, or is it a conversion from coastal shipping back onto rail for our core rail business?

Anthony Moulder: I'll move to Ed just for a couple of questions, if I could, please. Single driver trains, we've talked about this for a little while. Any update as to what the thinking and timing is on single driver trains, please Ed?

Ed: Well, the first thing is, first up, I'll say we're obligated to consult with our workforce about changes in work practises at that scale. And so where we are at the moment is we're still in the mode of developing a concept capable of implementation. The technology's quite refined. And we're looking at rolling out in, as I said, in the presentation from July next year. So coincident with that, or leading up into that, if we believe that we've got the payback benefit and that we've got the processes in place to move to driver operation, we'll be going along to consult with our workforce early next calendar year and work through where that is and what that will mean.

Anthony Moulder: And lastly, if I could on competition for coal, obviously further north in Queensland, we've seen one rail go into Queensland. We've now seen a change in management for Pacific National. What are you seeing, if any, changes in the competitive dynamic for coal?

Ed: Not really noticed a change in the competitive dynamics recently. We stay focused on what we can control in the coal haulage business, and that's about great customer service and good value for the customer. We find that the customer's not always chasing the lowest tariff, but they're chasing a fair tariff with the right risk positions. And that's the spot that we've played into with some great success. I think what I'd

say is competition will come and go. I think the changes are healthy for the industry and keeps us focused on reforming our business. As I said, to put ourselves on a better competitive footing by the mid-decade to compete for some of our larger recontracting risk.

Ian Myles: G'day. Ian Myles from Macquarie. Couple of questions. Firstly, in your scenario analysis, how did you think about a carbon tax? The Europeans seem to be pretty keen on a carbon tax in some form. And I'm just saying, where does that fit within your scenario analysis?

George: Yeah. Ian, it is an input into them. And I don't think you'll get the kind of change that is implicit in the rapid de-carbonisation case or the carbon constraint Asia case without a carbon tax or some form of incentive mechanism of the like in Asia. So yes, it's assumed. It's one of our key drivers that push you towards scenario five or six. That's a short way I'd answer your question.

Ian Myles: If you think about a port expansion, because I thought that case was quite interesting. Do you actually think it's viable that we'll get someone actually to fund a port expansion in the next... Actually, in the life of the current management team?

George: Yeah. I'd probably cop out on answering that and say that's why we use scenarios. I'm not paid to form a view on likelihood of that happening or not happening. And that's why we test those downside scenarios. I think I've mentioned this, that we don't aim to ascribe a likelihood to each of those. So I won't try and put a probability on your question because you're really asking how likely is it that that port constraint Australia scenario eventuates.

Ian Myles: I guess so, but I guess you have the best view of your miners and what they're saying. And I know miners tend to talk a big game, that we want to export every tonne possible, but when it comes to the crunch, they are very disciplined financial investors. Should we be thinking it's actually a viable outcome? Because Dalrymple Bay will push it that they're pushing that concept, yet it seems quite inconsistent with the rhetoric in the market.

George: Yeah. Well maybe let me have a go at answering this way. I think an expansion of ports will be similar to the discussion we'll likely have with customers around whether we put more capital into our network, if there's a capacity deficit. And I think it will depend on the amount of additional volume you get for the investment you make. And so not every port expansion is going to be considered equally. It'll depend on whether there's incremental expansions you can make, low capital to get incremental volume. I think it's harder to see big expansions of the likes that were talked about at Abbot Point, for example, eight, nine years ago.

Ian Myles: That's a good segue to Pam. You talk about the capacity review. How much has Precision Railway and the efforts that you've made in that whole programme made a lot of that exercise sort of moot, that you actually are delivering the capacity on the contracts themselves?

Pam: I think at this stage, it's difficult to say, Ian, because it is subject to the independent experts, review and assumptions. So whilst we'll do our own modelling, when we come to solutions, we'll need to think about the different ways. And I think operational

changes will be one thing that we will look to, and what we're doing is just getting ahead of the game with that.

Ian Myles: Have they got your assumption sets around Precision railing, or are they taking a different set of assumptions?

Pam: It'll be looking back at how the rail system has operated, as opposed to capturing what we're doing going forward.

Ian Myles: So back to the ESG, you talk about the concept of clean locos and being efficient. And at the same time you talk about the bulk participants wanting to be green, and you've told us you're going to put the dirtiest locos into the bulk fleet. And I'm just wondering how that's going to reconcile with their desire to be green.

Ian Myles: Sorry to say they're the dirtiest locos.

Andrew: Yes, they're actually quite clean locos, they're just not zero. The reality is, in the $50 million fleet fund, there's a number of sub activities that we're actually pursuing. And they're around battery technology that's got current type of battery technology like lithium cells and that sort of thing. And then there's a future step that looks at hydrogen. And that that sort of technology can be under one of our more interesting options deployed with locomotives that you've got currently running in the. A lot of work to be done in that area. And we're not at the point where we make any announcements about it, but that's the sort of things that you can do that add to an existing fleet of locomotives.

George: There's probably just two more points I'd make there, Ian. It's not possible to cascade electric fleet over to Western Australia because the track infrastructure's not electrified. So that's not a choice we make. It's a factor of the constraint that's there. My second thing I'd say is where we're taking younger locomotives from New South Wales, and we're replacing older locomotives in bulk, there is inefficiency and therefore an emissions benefit that flows.

Andrew: And you can put batteries behind them.

Ian Myles: Do you put batteries or do you hydrogen as a choice..

Andrew: You can do either.

Ian Myles: Do the locos actually work on hydrogen?

Andrew: Sorry?

Ian Myles: Do the locos work on hydrogen?

Andrew: That's another field of technology that you pursue. So you can pursue battery powered locomotives. Then can be a hydrogen locomotive, and then you can do a towable battery packs. They're all under consideration and under development, somewhere in the world, including in Aurizon's wealth.

Ian Myles: Sorry to cast back to the scenarios again. If you think about the scenarios, they're really good, one of the issues you see with this industry is that scale is really

important, and falling volumes, even a lot of those scenarios actually undermine the concept of scale, not just necessary in your business, but at the port business, at the mine business and the likes. How do your scenarios deal with that issue that scale actually goes in reverse and lifts prices to operate?

George: It's something we've spent a fair bit of time looking at, and in particular, in the Central Queensland Coal Network. Let's take the most extreme rapid de-carbonisation. And if you look at our regulated asset base, 75% of that regulated asset base is in Blackwater and Goonyella. So we took the rapid de-carbonisation case and we modelled it out and we said, "Well, what is the tariff in real terms?" It's actually flat in real terms, in those two scenarios in rapid de-carbonisation. In nominal terms, it does increase, but not more than $5 a tonne. Now that's important because if you overlay that with our long run metallurgical coal price, that's less than 5% of the miner's cost acts. So they're the two ways we looked at it. It's something we test to your point, Ian.

Ian Myles: And then just on the... I'm probably taking too much time here. On the coal side, congratulations on winning the Anglo contract, but I looked at the little chart, and I clearly can't read a chart, but it looks like the movement of the volume and the two little extra bars, they sort of equal each other out. And I was wondering, have you actually got more volume or if you've just sort of changed what you've got?

Ed: There's both the extension of the Dawson contract, which expired mid-decade and also additional volume in Anglos premier blue chip met coal mines, in the Goonyella system, Moranbah North and Grosvenor, which have both come back online in the last month.

Ian Miyles: Okay. And when do those contracts start? Is that the middle of 22?

Ed: They start, no, they start early 22.

Ian Miyles: Okay.

Andrew Greenup: Hi, Andrew Greenup, First State Infrastructure.

Andrew Greenup: Ed, can I just confirm, you said that you expect a 15 to 25% increase in asset productivity by 2025.

Ed: I said a 15 to 20% increase. Yep.

Andrew Greenup: And how are you measuring asset productivity when you talk about that?

Ed: We measure it in a couple of way. Essentially NTKs per locomotive and per wagon, and not on people's perspective, we measure it as crew per NTK.

Andrew Greenup: So implicitly that assumes some sort of single driver pathway over that time period?

Ed: Yes, it does, fundamentally, but it's subject to consultation. But also, there are other ways to drive crew productivity, like the current relocation of depots and improving our deployment models in various systems. So to give you an example, our train crew depots in some systems have been there for 30 or 40 years. And over the last 30 or 40 years, the profile of volume and contracts has changed. The centre of gravity of the business has changed in those corridors. And so, what we can do, and

what we're finding, is that given the average, we've got about 90 trains running around on the Eastern seaboard, average cycle time is about 25 hours. So in a 25 hour journey, you have to change the crew at least three times. And it's not as neat as those trains being in a certain location at a certain time with the crew waiting. People have to drive to those trains, relieve the drivers and those drivers drive back, and you've got to do that all within the shift length. So you can see the placement of our depots, we have about a dozen depots up and down the Eastern seaboard, can be optimised. We're doing new things like remote sign-on in the Moura system and in the Blackwater system where traditionally our enterprise agreements have prohibited remote sign-on which is drivers going to remote locations and jumping on the trains there, because it's the best location from a supply chain logistics perspective. We recently tested employee interest in that voluntarily, and we've been surprised by the number of employees that are prepared to take that upper off. 48 in the Blackwater system, for example, and 18 or more in the Moura system. So there's other ways to improve productivity in addition to a driver only.

Ian Myles: What changes have you seen from Pacific National with the arrival of Mike Cory so far?

Andrew: We don't usually talk about how other businesses are reacting, and with the change of leadership and that sort of thing. We haven't noticed anything since the arrival of the Mike Cory or before that, for months that we would make comment on. That was a very political answer, I'm sorry.

Ian: That's fine. Andrew, given the change in asset productivity you have line of sight to in the Coal Above Rail, you put out big aspirations in bulk business today, what stopped you putting out sort of an OR, or a ROIC target on the above-rail coal business? I understand you've never wanted to put out cost out targets for cultural and business reasons, but what stopped you going further on ROIC targets for that business?

Andrew: Look, we very strongly show the ROIC targets for the business on an annual basis. You can find that and it's linked to KPIs, which link to pay. So it's kind of varied at an enterprise level, and you can see that every year. The reality is if I had my way, I would prefer not to put out any targets about anything, and just demonstrate from behaviour and outcome how we were improving. But the size of the opportunity that presents itself with bulk, was something that I wanted to talk about, and as somebody who has for years said the bulk business can't double, and that was from when it was -$14m, you can see that all the way up until this year I've got that wrong. I've finally come to grips with that. So it made sense to put out a target there. In addition, it involves changes to the way we are positioning on the supply chain. Not massive changes, but changes to the position on the supply chain, and why we've touched on and done some work in each of those places. We have two port terminals that we operate. We have some long-haul trucking that we've continued to operate, so we've got small examples of that. For this to work, we have to do it in a larger way, more across the country. And just saying that without putting out a "And this is what it's worth", didn't seem consistent or make sense, because the first question you get asked is, "How much is that worth?" So telling people how much it's worth seemed to be quite sensible.

Ian Myles: Yeah, but productivity improvements in Above Rail coal is a much bigger driver of your business in the next three years than whatever you do in Bulk, most likely.

Andrew: I do understand where you're coming from, but you've got an existing business that's operating there, and you can actually, to some degree, you can work out what that means to you. Whereas it was a much harder task, if not impossible, to work out what we just told you about Bulk. So that's why we've made it easier for people to understand. In the Bulk space and in the Coal space, it's much more about showing you very credible, practical, real examples of what's changed, and what's numerically been available to us in the things like Project Precision, in ARAM, TrainGuard and TrainHealth, how they all join together. And it's actually not insignificant, but it's on an existing business, the footprint of which investors, analysts, understand particularly well. So we didn't see the need to put out any more information in that area. Notwithstanding the fact that is worth quite a lot of money.

Ian Myles: The $500-600 million free cash flows, that implicitly assumes small acquisitions in Bulk over time?

George: I think if you look at the last year, it has included that. Whether that's what we look at going forward will be a matter as to what opportunities present themselves. I think what's pleasing when you look at the free cash flow of the business over the last year, relative to... Which has been about $600 million x Acacia Ridge net proceeds... Is that has been a $100 million higher than the dividend paid out at 100%. So if that was to continue, it would afford us the opportunity to make small, incremental acquisitions out of free cash flow.

Andrew: And I think the other complexity, well, it's not a complexity, it's a positive thing, is there are multiple pathways for the Bulk business to get where it's going. We don't want to put out multiple pathway by year targets, because that wouldn't be even remotely sensible or practical. What we could show you is a likely end result by a certain date, but there are multiple ways to get there. And it's just not practical to start. And where things rely on M&A activity, someone's got to want to sell you something, and you've got to decide you want to pay that price and all those sorts of things.

Paul Butler: [inaudible]

George: It wasn't guidance and it wasn't a forecast, but it was a range over that period,

Paul Butler: Hi, it's Paul Butler from Credit Suisse. A very basic question, just to start, just to understand this $500-$650 million range, that's the range for the six scenarios. In scenario six it's $500 million, am I understanding that correctly?

George: It's for scenarios two to six, and we are not saying that scenario six is equal to $500 million. We're saying if you look at scenarios two to six, the average over that 20 year period is between $500 million and $650 million.

Paul Butler: Okay. Okay. But is the average cashflow out of scenario two to six, $500-650m?

George: All of those scenarios fall within that range.

Paul Butler: Oh they all... Okay, independently they all fall

George: Yes.

Paul Butler: Okay, cool. I understand. A second question is Andrew, you made the comment that your view is that hydrogen steel making is not going to be widely commercially used in the next 20 years. I'm sure we could spend hours talking about why, but I just wonder if you could give us some key points of why you're confident about that view.

Andrew: So the first place is, you've got to have the price of producing hydrogen, get to a level where it's actually something that's attractive in steel-making. Notwithstanding that you do see, and we do expect some take up in Europe, because there is a desire to do it at any cost, in a sense, particularly in places like Germany. But we don't think that that will become an issue in two decades, that could become something that comes on later. So it's the price of it actually has to be competitive. The second thing is you actually have to produce the product at a scale that actually feeds one steel mills, let alone all of the steel mills that are sitting out there, or many of the steels mills that are sitting out there. So it's the scaling of it in a reasonable timeframe. And then lastly, you've got, particularly in Asia, a new fleet of steel mills that has recently been built, and are being built, that are going to run for a certain amount of time before they're actually replaced. And they're unlikely to be terminated too quickly in the scheme of things, unless there's a black swan event that we haven't been, you can't map Black Swan events in scenario plans, at least as I understand it, readily. So it's the price, the scalability, and the replacement of what is essentially new fleets in our target market. There'll be hydrogen running quite strongly in Europe, and somewhat in North America, I would expect. Quite convinced that's the case. It's just how long it takes to get it into Asia.

Paul Butler: Okay. And just a question around your scenarios, in your scenario five and six, are you making some assumptions about asset stranding in network, and sort of what are those, how does that play out?

George: No. So, I mean, I think this goes to the question Ian asked, Paul. So when we look at those five or six scenarios, scenario five, or scenario six, and you have volumes falling in Network relative to where they are today, that the tariff actually stays flat in real terms, in the majority of the systems. So we don't see assets stranding, because the volumes can support the Regulated Asset Base, is the short answer to your question.

Paul Butler: Okay. Okay. And just one more question, which is sort of partly based on my experience of my own institution in recent times, is what insurances do you need to be able to run this business? And if we have a focus on ESG, which means that insurances for coal exposed businesses are not as available, is that an issue for Aurizon?

Andrew: Yeah, I think we'll get George to talk about what we're seeing now and what has been made apparent that will occur in the next decade or so.

George: Yeah. Paul, so there's, there's two things I'd say to that. Firstly, some insurers have come out and said that if you have a certain percentage of your business reliant on thermal coal, then they won't be able to insure you at a future point in time. And so some of them have said, for example, 30% of your business by 2030 needs to be less than that is thermal coal. We think we'll hit that, and we'll hit that before 2030. The second thing I'd say is we have more than 10 insurers today. So we're pretty happy with our stable of insurers. We also set up a captive insurer, back six years

ago and in fact, we're paying less in FY20 in insurance costs than we were in FY14. So that gives you a sense for how demand is for insurance for Aurizon at the moment.

Paul Butler: Thanks.

Chris: Before we go there, I've just got some questions from Nathan Led from Morgan's, probably for you George. Nathan's question is, $500-650m free cash flow is an annual average and is in nominal terms. What's your CPI assumption? That's question one. And the next one is, is it fair to assume that free cashflow declines over time versus the average? If so in 2040, what is the range of the free cashflow?

George: So first one CPI is around 2%, so that's an easy one. The second one, how does it compare, I'll say in the second decade as opposed to the first decade, in the top two or three scenarios, it increases a little bit more second decade versus first decade, in the bottom two or three scenarios decreases in the second decade versus the first, but only marginally under our assumptions. In terms of the last question and Nathan asking what free cash flow looks like in 2040, I'm not going to answer that, because the next time Nathan will ask me what it is in 2030, and then 2035 and after three or four times, I've given him a whole profile, which I'm not keen to do. And that's why we had averages.

Chris: There was one more question, what free cashflow can the bulk business throw off at $250 million EBIT?

George: I think the way to think about that is clearly free cashflow, there's some group level free cash outflows interest and tax, but if you think about EBITDA and CapEx as a proxy for bulk cash flow, if we're successful with that aspiration to get to 250 million EBIT, historically in bulk, depreciation amortisation has been about 20%. So that would infer you're at $300 million EBITDA. Then in Capex, it really goes to how we're growing. Is it more rail intensive where we've shifted fleet from coal to bulk? If so, you won't have as much Capex. If it's more other parts of the supply chain that are more capital intensive, you'd expect CapEx to go up. So I think about it as EBITDA less Capex. If we hit that aspiration 300 mil EBITDA Capex, anywhere from the low double digits up to a hundred.

Mark Couchman: Hi, I'm Mark Couchman from ANZ. Clay, back on to the Bulk part of the business, you mentioned the competitiveness between a rail and road, and that sweet spot 250 tonnes. Is there also a distance to port sweet-spot?

Clay: Yeah. So, rule of thumb here, right? So when we look at distance, we look at what is the maximum distance that a single truck driver can get in a single shift. So that's what we look at. Then you start, because you're starting to look at how many trucks cycles, you've got to do to replace a single rail cycle. So then that's how we calculate. Again, rules of thumb, I'll say 600-700 kilometres is a sweet spot for rail, beyond that we'd become more and more competitive, with the tonnes going up, we become more and more competitive.

Mark Couchman: And then in terms of your target to double the bulk business by 2030, how reliant is that on any upgrade to below rail infrastructure, and potentially relaxation of below rail tariffs? And I guess the example I give is around Northwest Minerals Province

into Townsville. Last five years, we've seen a lot of a number of proponents moving away from rail back to road. And I know it's a obviously key focus for the Bulk business.

Clay: Yeah, so first of all, just about all our contracts have access pass through, so it does impact competitiveness for the miner, or the proponent that's using the rail, but it's a pass-through hub from us. Below rail efficiency, is as Pam and Ed demonstrated is pretty important for Bulk, as it is in the coal fields. So yeah, it's something that we watch and we work with, we've got four or five below rail providers, if you think from Western Australia into New South Wales, Queensland we have two. And so it's something we work with those below rail providers with on an ongoing basis. In regards to the Western Minerals Province out in Mt. Isa, the government there has provided incentives to support volumes on rail. So they provide subsidies to move from road to rail, to support sort of those sort of mining industries out in that Western province.

Andrew: That subsidy to support is not ongoing for life, it's not something you want to rely on. The idea with the subsidy was there's a bunch of small mining projects that just simply didn't have the volumes by themselves to cause a change in the rate that that access was charged at, but if you actually, the idea was, provide a subsidy, it helps a number of these projects become more competitive using a rail system, because they're trying to move product from road to rail. So it's a shorter term, three years I think from memory, subsidy process to start a virtuous spiral upwards, rather than one downwards.

Chris: And I've got just one more from Cameron McDonald from Evans & Partners. I think this has already been asked and answered George, but it's a quick one. Is the $500 to $650m free cash flow scenario average inclusive of bulk, getting to $250-$300m?

George: No. It assumes a small amount of rail market share growth, one percentage point, but it does not assume Bulk hits that doubling of EBIT by 2030 that would be upside.

Ian Myles: In the past, we've talked about productivity dividend through a lot of these initiatives that you've been doing, and unfortunately coal volumes haven't sort of gone the way you'd like to. What's the latent capacity, or latent productivity dividend you think is sitting in the business? That if coal volumes can sort of restore in the next year or so to something reasonable, that you can actually see leverage coming through. Because at the same time we get comments of your slide presentation, you've renewed Anglo's contracts, but the prices are coming down, so we're losing some of that through repricing.

Ed: I think I followed that question Ian. Can I restate it as just checking that if coal volumes returned to something, increased contract utilisation, what cost benefits would flow through from scale?

Ian Myles: Yeah, I guess, we shouldn't be seeing a material shift in your cost space. There should be obviously some minor variable changes, but you should actually have a marginal margin, a 50%, making up a number, as opposed to 25. So this is a huge amount of leverage in your business, and it just because it hasn't happened for so long, the market sort of lost sight of potentially that productivity dividend that you've been building on, but haven't been able to tap. And I guess the extension of that is, if

you don't believe you can tap it, when you downsize the business and release those wagons over into bulk.

Ed: So I mean, and it is in the order of the 50%, which you called out. Essentially, as Andrew opened up today, we are in an unpredictable operating environment, and as you know, our contracted volumes are somewhere close to 240 million tonnes a year, but our utilisation of those is somewhere in the mid-eighties at the moment, with a range of 200 to 210. So the upside potential for us, you're right, it's largely a fixed cost business. And where we do have some of those variable costs, we actually pass some of those through to the customer, like energy costs. And so the dividend upside is typically if you can scale the business, we have some fleet stowed, I talked about two trains to Callemondah. If the demand comes back we do get pure revenue for those, and there's a healthy margin that flows with that, which is the essence of Project Precision, of course, and the objective. Hopefully that answers your question somewhat. It's a tricky one.

Aaron Binsted: Hi, I'm Aaron Binsted, just on the balance sheet, just balance sheet capacity, you didn't touch on that explicitly today, but if we're able to everything you wanted to do in bulk, I suspect that wouldn't use the available balance sheet. So, what are the options today, aside from a large acquisition opportunity, but just put that aside, but you do what you want to do in Bulk, then what are you going to do with the rest of the balance sheet?

George: Yeah, Aaron, so one of the things I touched on is we have within our triple B class BAA1 metrics 900 million of available debt funding capacity. So that's there today, and we've spoken about that at results previously. In terms of bulk and bulk growth, there are numerous ways to fund bulk growth. Using that debt capacity, but also out of free cashflow, as we mentioned earlier. It'll depend on the nature of the growth, as I've said before, and whether it's more M&A led, or whether it's more organic and rail based, where we don't think it will be as capital intensive, if it's organic rail growth. The only thing I'd say to reiterate the point I made earlier is our capital allocation framework hasn't changed. Our long term ROIC targets have not changed. And each dollar of investment in bulk growth needs to compete against the alternatives of capital management. So that hasn't changed how we look at it.

Speaker 1: Sorry, my question was largely just answered, but just the 900 mil capacity that you just mentioned, what's the likelihood that that is sort of drawn upon in the near term, and the likelihood that it could be used for buybacks that you have done quite a bit recently?

Andrew: It's hard to put a likelihood on it, but the reality is that we will pursue the most value adding proposition that we can. I like buybacks, I've demonstrated for quite a few years that I liked buybacks. We've had, I think it's six years now, at a hundred percent payout, from a dividend point of view. So I mean, that is the base case of what we want to do. If we decide that we're going to do an alternative use of funds, then it's got to be, as George just said, competitive with an alternative like a buyback. But the reality is our capital likelihood on what we're going to do, from that point of view, but you need to understand what the base case is.

Scott Ryall: Hi there. Sorry, Scott Ryall again, could you just give us Andrew, I know I ask this regularly, but an update on the Genesee and Wyoming court case where that's at,

and if you've got any update on the timing, and that's had a couple of owners since, and it looks like it's looking for a new owner, so leaving aside the fact that it may get split up, is that business still of interest to you, notwithstanding the outcome of the court case?

Andrew: From a court case point of view, nothing has changed there. We started proceedings back on the 17th of September in 2019. That is a matter in the Supreme Court, New South Wales. The next part is highly predictable, I said it last time, is because it's a matter before the court, I'm not going to say anything more about it. And there's nothing more to say.

Scott Ryall: But timing, do you have a timing in mind?

Andrew: I can't give you a sense of timing, unfortunately.

Scott Ryall: You got a pretty good hit rate though. I don't expect you to comment on that.

Andrew: No I won't. The second question was, are we still interested in the OneRail business? George said that back in the results, and our interest still stands.

Scott Ryall: Okay. Thank you.

Chris: I think we're running out of questions, is there any last question? Otherwise we can call it a day. All right, no hands. So I think we'll call it a day. Thanks everyone for your time. Andrew do you have any last words?

Andrew: I think just in closing, what I was hoping to get out of the day, as I said at the very beginning I'll just repeat now, is hopefully what you've seen, we have a resilient business. We've tested under a broad range of scenarios, to test that resilience. And at the same time, what we can see is an ability to grow the bulk business is much higher than we originally thought back in the days when we were just trying to figure out how to get the bulk business back from losing money to hopefully aspiring, to make money. So those are the three things that I'd like to leave you with. Thank you very much.

**[END OF TRANSCRIPT]**