Good morning and afternoon everybody. Welcome to Rio Tinto's 2022 capital market update.

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Cautionary and supporting statements (cont.)

Rio Tinto's Iron Ore Mineral Resource and Ore Reserve estimates on Slide 47 were reported in Rio Tinto's 2021 Annual Report released to the ASX on 24 February 2022 and available at riotinto.com.

- The 29Bt of Mineral Resources comprise: from IOC (categorised as ">65% Fe" due to the ability to upgrade the feed) 0.2 Bt @ 40.8% Fe of Measured Mineral Resources, 0.6 Bt @ 38.6% Fe of Indicated Mineral Resources, and 0.9 Bt @ 38.3% Fe of Inferred Mineral Resources (for which the Competent Persons were M McDonald (PEGNL), B Power (PEGNL), and R Way (PEGNL)); from Simandou (categorised as ">65% Fe") 0.4 Bt @ 66.8% Fe of Measured Mineral Resources, 1.6 Bt @ 65.2% Fe of Indicated Mineral Resources, and 0.8 Bt @ 65.3% Fe of Inferred Mineral Resources (for which the Competent Person was K Tindale (AusIMM)); and from the Pilbara (with all Bolgeeda, Brockman Process Ore, Channel Iron Deposit and Detrital Mineral Resources categorised as "<61% Fe", and all Brockman and Marra Mamba Mineral Resources categorised as ">61% Fe") 1.9 Bt @ 59.4% Fe of Measured Mineral Resources, 4.7 Bt @ 60.2% Fe of Indicated Mineral Resources, and 18.3 Bt @ 59.7% Fe of Inferred Mineral Resources (for which the Competent Persons were N Brajkovich (AusIMM), P Savory (AusIMM) and C Kyngdon (AusIMM)).
- The 3.2Bt of Ore Reserves comprise: from IOC (categorised as ">65% Fe" due to the ability to upgrade the feed) 0.3 Bt @ 65.0% Fe of Proved Ore Reserves and 0.2 Bt @ 65.0% Fe of Probable Ore Reserves (for which the Competent Persons were S Roche (AusIMM), R Williams (PEGNL), and P Ziemendorf (AusIMM)); and from the Pilbara (with all Pisolite Ore Reserves categorised as "<61% Fe", and all Brockman and Marra Mamba Ore Reserves categorised as ">61% Fe") 1.7 Bt @ 60.9% Fe of Proved Ore Reserves and 1.0 Bt @ 61.0% Fe of Probable Ore Reserves (for which the Competent Persons were L Vilela Couto (AusIMM), C Gagne (AusIMM), A Menaria (AusIMM) and R Sarin (AusIMM)).

The Western Range Ore Reserve estimate on Slide 53 was reported in a release to the ASX dated 14 September 2022 titled "Western Range Mineral Resources and Ore Reserves" which is available at Resources & reserves (riotinto.com). The 165 Mt of Ore Reserves comprise 109 Mt @ 62.1% Fe of Proved Ore Reserves and 56 Mt @ 61.7% Fe of Probable Ore Reserves. The Competent Person responsible for reporting the Ore Reserves was R Bleakley (AusIMM).

The Mineral Resource estimates for the Rhodes Ridge JV on Slide 54 were reported in Rio Tinto's 2020 Annual Report released to the ASX on 22 February 2021 (and form part of the Pilbara Mineral Resource estimates reported in Rio Tinto's 2021 Annual Report released to the ASX on 24 February 2022) which are available at riotinto.com. The 6.7 Bt of Mineral Resources (2020) comprise 0.8 Bt @ 62.4% Fe of Indicated Mineral Resources, and 5.9 Bt @ 61.5% Fe of Inferred Mineral Resources. The Competent Persons responsible for reporting these Mineral Resource estimates were P Savory (AusIMM), N Brajkovich (AusIMM) and C Kyngdon (AusIMM).

The Mineral Resource estimate for Simandou on Slide 54 was reported in Rio Tinto's 2021 Annual Report released to the ASX on 24 February 2022 and available at riotinto.com. The 2.9 Bt of Mineral Resources comprise 0.4 Bt @ 66.8% Fe of Measured Mineral Resources, 1.6 Bt @ 65.2% Fe of Indicated Mineral Resources, and 0.8 Bt @ 65.3% Fe of Inferred Mineral Resources. The Competent Person responsible for reporting this Mineral Resource estimate was K Tindale (AusIMM).

Rio Tinto is not aware of any new information or data that materially affects any of the above Mineral Resource or Ore Reserve estimates and confirms that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. The form and context in which each Competent Person's findings are presented have not been materially modified. Mineral Resources are quoted on a 100 per cent basis, as dry in-situ tonnes. Mineral Resources are reported exclusive of Ore Reserves.

Please take note of the Cautionary Statements on pages 2 and 3.

Agenda

GMT	AEDT	Topic	Presenter
08:00 – 08:10	19:00 – 19:10	**Culture share**	Angela Bigg, President, Diavik Diamond Mine
08:10 – 08.20	19:10 – 19:20	**Progressing with purpose**	Jakob Stausholm, Chief Executive
08:20 – 08.35	19:20 – 19:35	**Panel 1: Our culture journey** ***Moderated by James Martin***	Isabelle Deschamps, Chief Legal Officer Bold Baatar, Chief Executive, Copper Kellie Parker, Chief Executive, Australia
08:35 – 08:45	19:35 – 19:45	**Market fundamentals**	Vivek Tulpule, Head of Economics & Markets
08:45 – 09:00	19:45 – 20:00	**Technology solutions**	Nigel Steward, Chief Scientist
09:00 – 09:15	20:00 – 20:15	**Decarbonisation - our pathway**	Mark Davies, Chief Technical Officer Alf Barrios, Chief Commercial Officer
09:15 – 09:30	20:15 – 20:30	**Iron Ore**	Simon Trott, Chief Executive, Iron Ore
09:30 – 09:50	20:30 – 20:50	**Q&A session 1**	All
09:50 – 10:10	20:50 – 21:10	**BREAK**	
10:10 – 10:25	21:10 – 21:25	**Panel 2: Best operator** ***Moderated by Isabelle Deschamps***	Arnaud Soirat, Chief Operating Officer Simon Trott, Chief Executive, Iron Ore Kellie Parker, Chief Executive, Australia
10:25 – 10:40	21:25 – 21:40	**Aluminium**	Ivan Vella, Chief Executive, Aluminium
10:40 – 10:55	21:40 – 21:55	**Panel 3: Excel in Development** ***Moderated by Kellie Parker***	Mark Davies, Chief Technical Officer Bold Baatar, Chief Executive, Copper Simon Trott, Chief Executive, Iron Ore
10:55 – 11:10	21:55 – 22:10	**Capital allocation and financials**	Peter Cunningham, Chief Financial Officer
11:10 – 11:30	22:10 – 22:30	**Q&A session 2**	All

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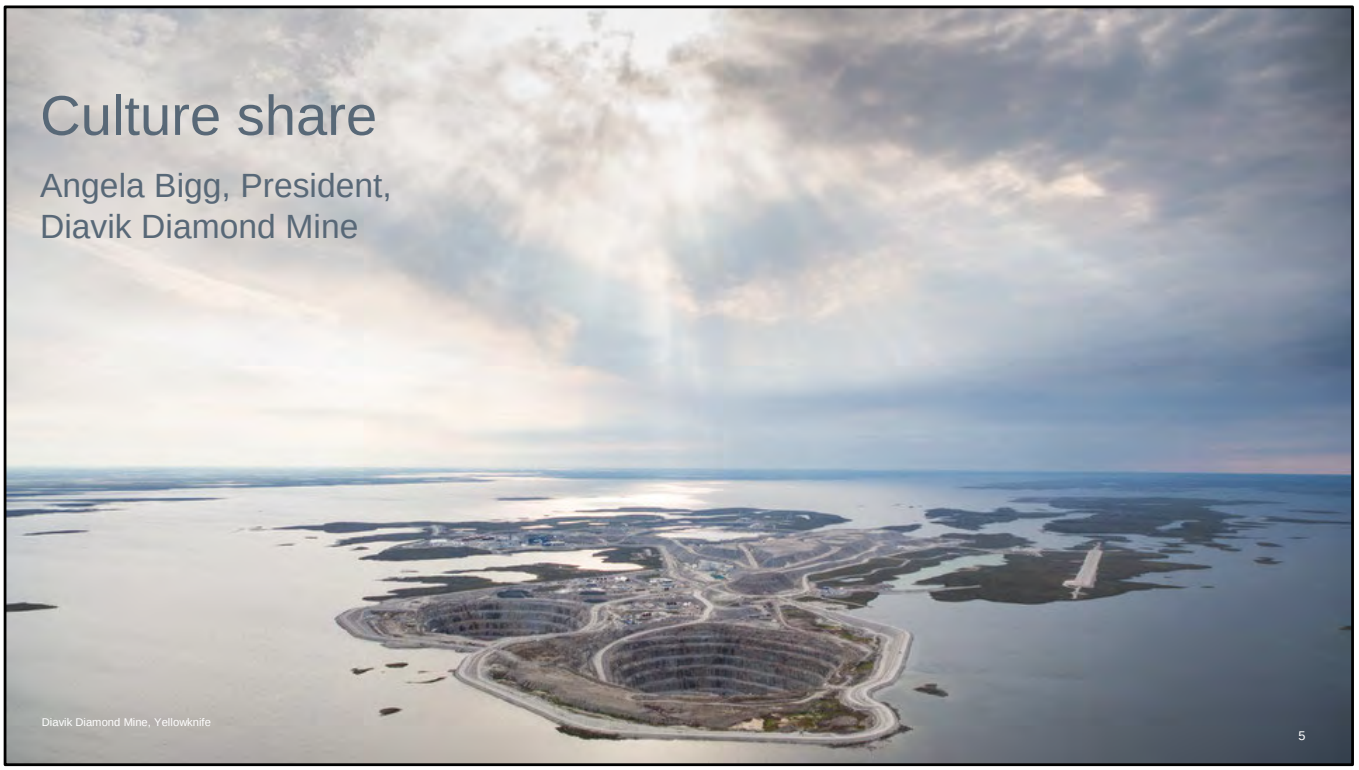
Culture share
Angela Bigg, President,
Diavik Diamond Mine
Diavik Diamond Mine, Yellowknife
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Good morning, my name is Angela Bigg and I am the President of our Diavik Diamond Mine in the Northwest Territories of Canada. I started with Rio Tinto in 2005 and have worked in nine countries in that time.

Safety in all its forms – physical, mental and cultural - is something that preoccupies us all across Rio Tinto, and whilst there is still a lot to be done, I believe we are making tangible progress, and this is what I would like to talk about today.

Let me tell you a bit about Diavik, a feat of modern engineering in the remote sub-Arctic, where we mine diamonds below a frozen lake. A self-contained city, where to access the main buildings on foot you need to use what we call “the arctic corridor” over 3.5km’s of heated and protected walkways. We provide all our own services from water and power in part from our own wind turbines, to the ice cream in the kitchen….which is a surprisingly popular dessert when it is minus 60 degrees. In winter it is cold like you have never felt cold, it is dark almost all day – so welcome to what

feels like diamond mining on Mars.

Although Diavik is an infrastructure marvel, it is our team of 1200 people that make it a truly amazing place. With over a quarter of our workforce being Inuit, Metis and First Nations, more than 15% being female, and with many different backgrounds, it is a diverse workforce, all living and working together.

2020 was a tough year for many, not only did the pandemic kick off, with all of the uncertainty and worry that came with it, we also had Juukan Gorge, and the aftermath … On a personal note, I questioned whether this was a company and culture I wanted to continue on with, as I was no

longer proud to be associated with Rio Tinto.

There has been a lot of coverage of the issues arising from the Broderick report, and James will discuss this later today. I would now like to talk to you about our response on the ground.

At Diavik I spoke with each and every employee and rostered contractor about everyday respect and what it means for them. The most consistent feedback from the crews, was how can they treat people better than they were treated when they first started in the mining industry? This is important as our teams are aiming for a future where everyone feels their voice is valued and heard, regardless of any individual differences a person has to the rest of their colleagues.

We also did a facilities campaign across site, asking “how can we find better ways to make life more comfortable for the team”. Empowered by ExCo, and with capital approvals, we have been able to action a number of facilities improvements. These include upgrading shower and change room facilities, replacing aging gym equipment, and having a more modern overflow dorm arriving on the Ice Road next March.

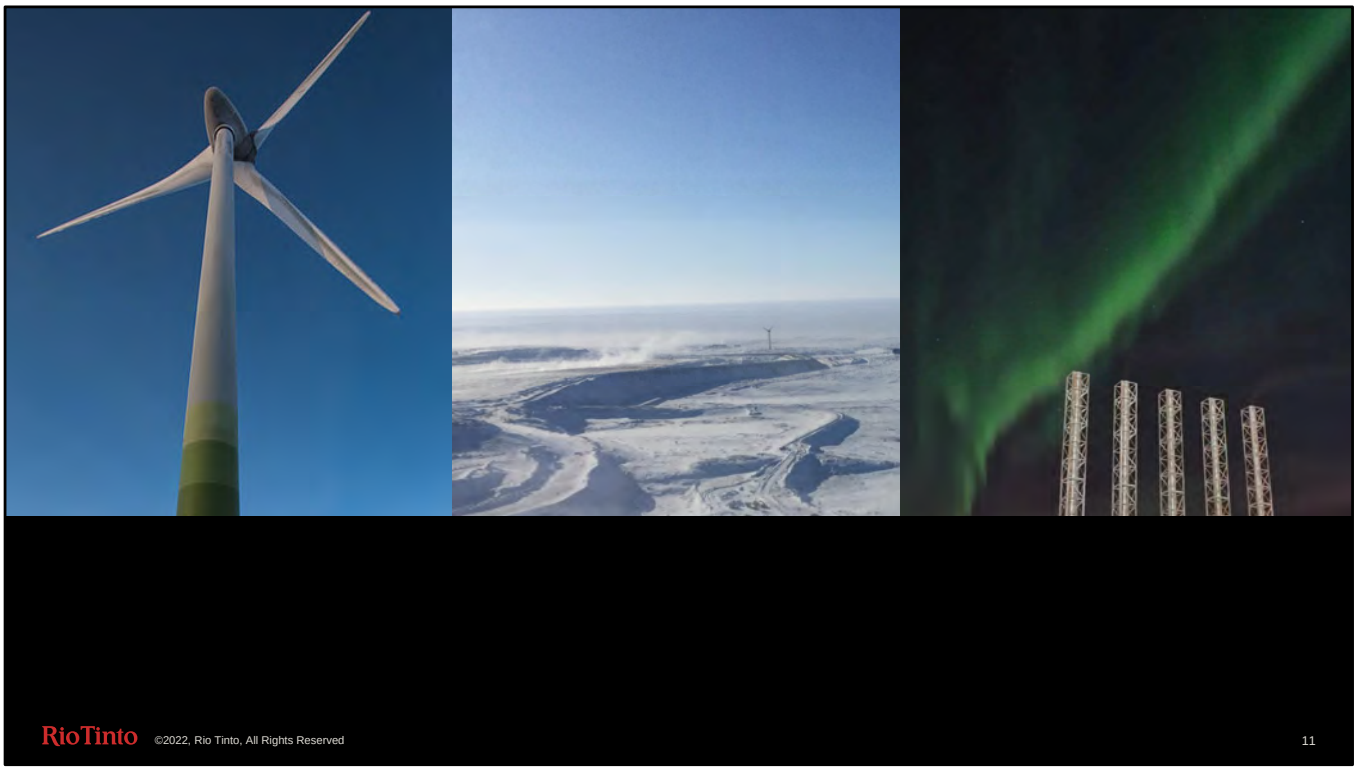
I am also proud of an additional, more subtle facilities change. Our operators at Diavik are now prioritised in our main accommodation complex and

management (including myself), and any visitors are housed in the secondary facility, which is accessible by walking outdoors, and not through the comfort of the artic corridor. Sinead, our Minerals CEO was quite happy to stay there a few weeks ago, by her doing this it was a clear demonstration to our frontline, that they take priority over anyone else, even vising ExCo members.

Diavik remains first and foremost a home away from home for its workers. Miners about to head underground walk past pin up boards where photos of their loved ones are displayed with the words “why I work safe”, a reminder of why they are in the sub arctic, and what is waiting for them when they return home..

As a company we are progressively building a more caring community on site, as evidenced by our people survey, and I am particularly proud of the improvement in how the team feels in regards in respect and belonging, critical elements to the

wellbeing of our workers.



And so for me, these are some of the most challenging and rewarding times at Diavik. There is a collective action towards improving things, fully supported by ExCo. We are tackling these issues and becoming a kinder AND a culturally safer organisation this is the Rio Tinto that I am certainly proud to be a part of.

Thank you and I will now hand over to Jakob.

Good morning and thank you Menno and Angela.

I'm very pleased to be here with you in London and thank you to those joining virtually.

Before I start, I would like to acknowledge and pay my respects to all Traditional Owners and First Nations people that host our operations around the world.

A year ago, we launched our new strategy, setting a clear pathway to deliver long term value. Meeting the incremental demand of the energy transition, and ensuring local supplies of critical minerals

globally, deepens our relevance to the world. And ensures our long-term profitability.

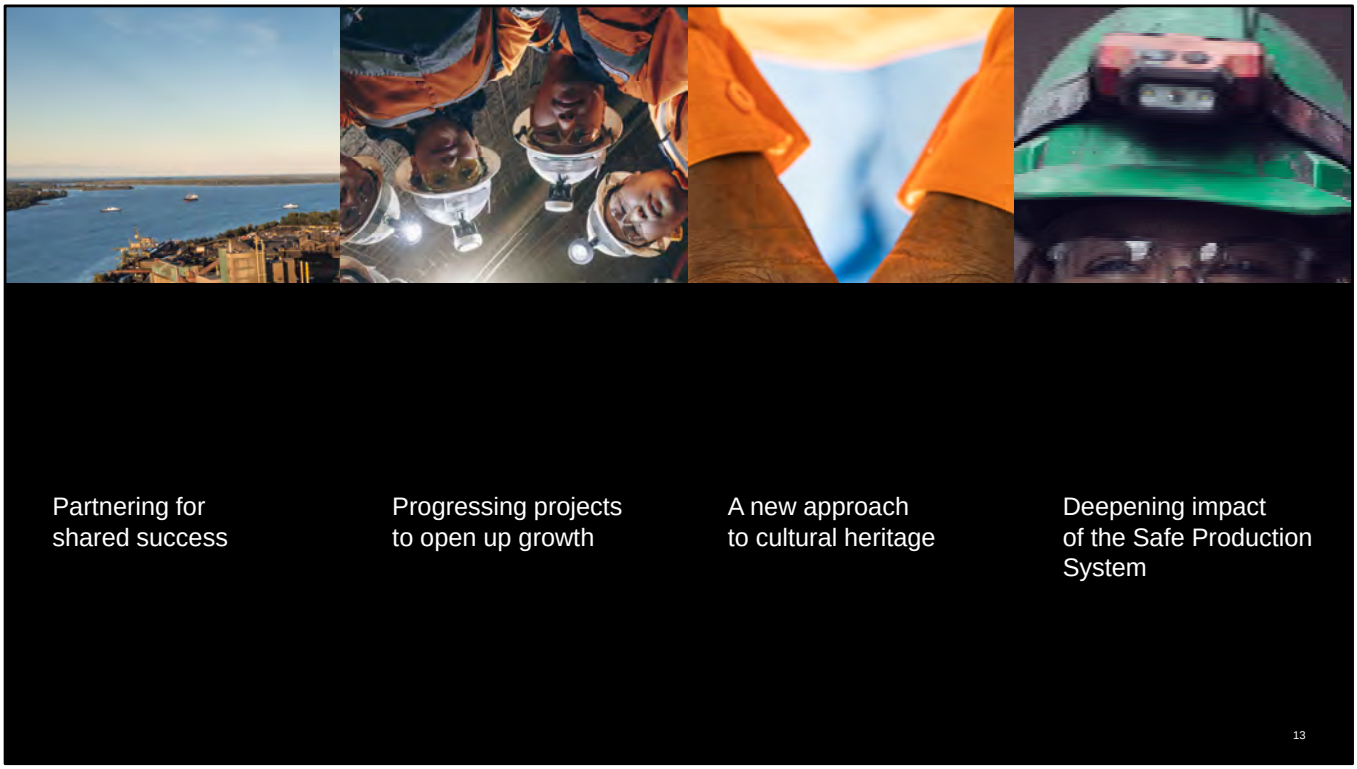
This strategy is underpinned by four clear objectives that are driving our actions - day in, day out.

And by executing these objectives we are creating real momentum, building a stronger Rio Tinto that is a platform for long term success. Seeing early results gives me conviction that we have the right objectives, the right team, and the right strategy.

Except for Sinead, who is on holiday, you will hear from the entire executive team. A team working with urgency and intensity to improve our performance, across all metrics. A team that is daring to address issues, grab opportunities, and make choices.

We are proud of what has been achieved. There are early indicators that we are evolving our culture. And our employee engagement is moving in the right direction. We are turning the corner in our iron ore operational performance and unlocking growth options. And as we solve problems, we learn, we replicate, and we free up capacity to capture new opportunities.

There will always be more to be done. But we are progressing with purpose.



The external environment remains volatile and challenging. But, the fundamentals of our business mean we continue to perform well. We have a very resilient business, and strong free cashflows. This resilience is underpinned by the quality of our assets, our people and strength of balance sheet. It allows us to systemically address short term issues, build long term strength and grab opportunities that create value despite short term volatility.

We are deploying our Safe Production System site-by-site to continuously improve our safety performance, drive employee satisfaction and lift

operational performance. It is a multi-year journey but we are seeing early and encouraging outcomes. That give us confidence and appetite for more.

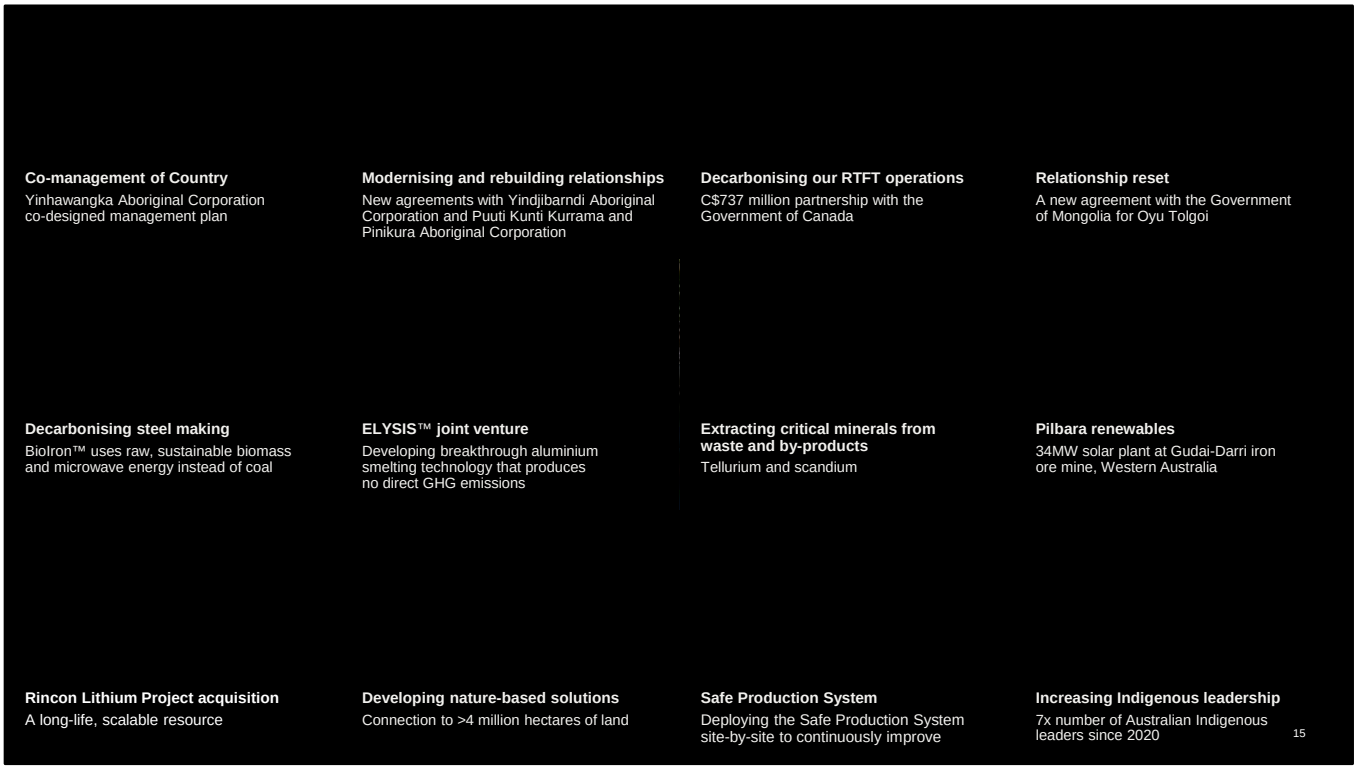
We are taking a different approach to cultural heritage.

We are successfully developing partnerships with governments and society. Creating value, not only in a financial sense.

Today you will hear about some of these developments. Our objective is to transparently dive into the most complex parts of our transformation. Consider this a glass box on Rio Tinto. However, we cannot cover everything in 3 and a half hours. So the focus today is on technology, decarbonisation and diving into our iron ore and aluminium businesses.

I am more confident than ever that we have the right objectives, the right team, and the right strategy.

As an example of why, let me touch briefly on our iron ore business.



For the last three years, we have failed to hit production guidance. Relationships with Traditional Owners were broken and too transactional. We were not investing in the long-term health of our most valuable business.

Over the past 18 months, we have signed critical new agreements with the Yindjibarndi, Yinhawangka and PKKP peoples. Demonstrating a significant rebuild of those relationships.

Operationally, our Safe Production System is delivering positive results. We are on track to

deliver one of our best second half production results. We have commissioned Gudai-Darri, our first greenfield mine in almost a decade. We future-proofed the business for decades to come by unlocking high-grade tonnes from Rhodes Ridge. And we are moving ahead with plans to install 1GW of renewable energy.

This demonstrates progress across all four objectives and long-term strategy. We are fixing the issues and strengthening the business.

This year, I have spent time engaging with governments, customers, and suppliers on the need to work together and address climate change with urgency. It has reaffirmed my conviction that putting climate at the heart of our strategy is the right thing to do. It is also the right business decision.

Electrification has a vital role to play in the global transition. But it's worth noting that an EV needs to run for approximately 6 to 7 years to offset the carbon emitted in its manufacturing. So, minimising the carbon footprint of the components of an EV is critical. We can supply these components.

As these materials become increasingly vital, it presents both challenges and huge opportunities.

Decarbonising our assets de-risks our business. It

also opens up commercial opportunities as we expand our role in providing low carbon materials.

We have clearly stated that we will reduce emissions by 50% by 2030 and reach net zero by 2050. We are now just one year in to what is a 28 year journey and have already made real progress. Moved from ambition to solutions with still much more ahead of us. With the developments last year, we have confidence that the pathways to 2030 and 2050 are doable. But we can't do it on our own.

To help us navigate this fast-developing space, last year we re-established the role of Chief Scientist. Nigel Steward is here today and will discuss the opportunities he and his team see. Our insight in this area is a competitive advantage. No other mining company has as much R&D capability as Rio Tinto.

We are ramping up our technical skills. Building competencies and capabilities. And setting out to solve the complex problems that will enable decarbonisation.

We are also focused on decarbonising our products to meet the demands of our customers.

You will hear from Ivan, Simon and Mark, on the steps we are taking to reduce our carbon footprint. Alf will share customer insights and Peter will

explain how we consider the economics of these investments.

A task of this scale needs partnership. Kellie, Isabelle and Alf have been working with governments and our customers. They have an essential role in delivering meaningful progress towards achieving the world's targets.

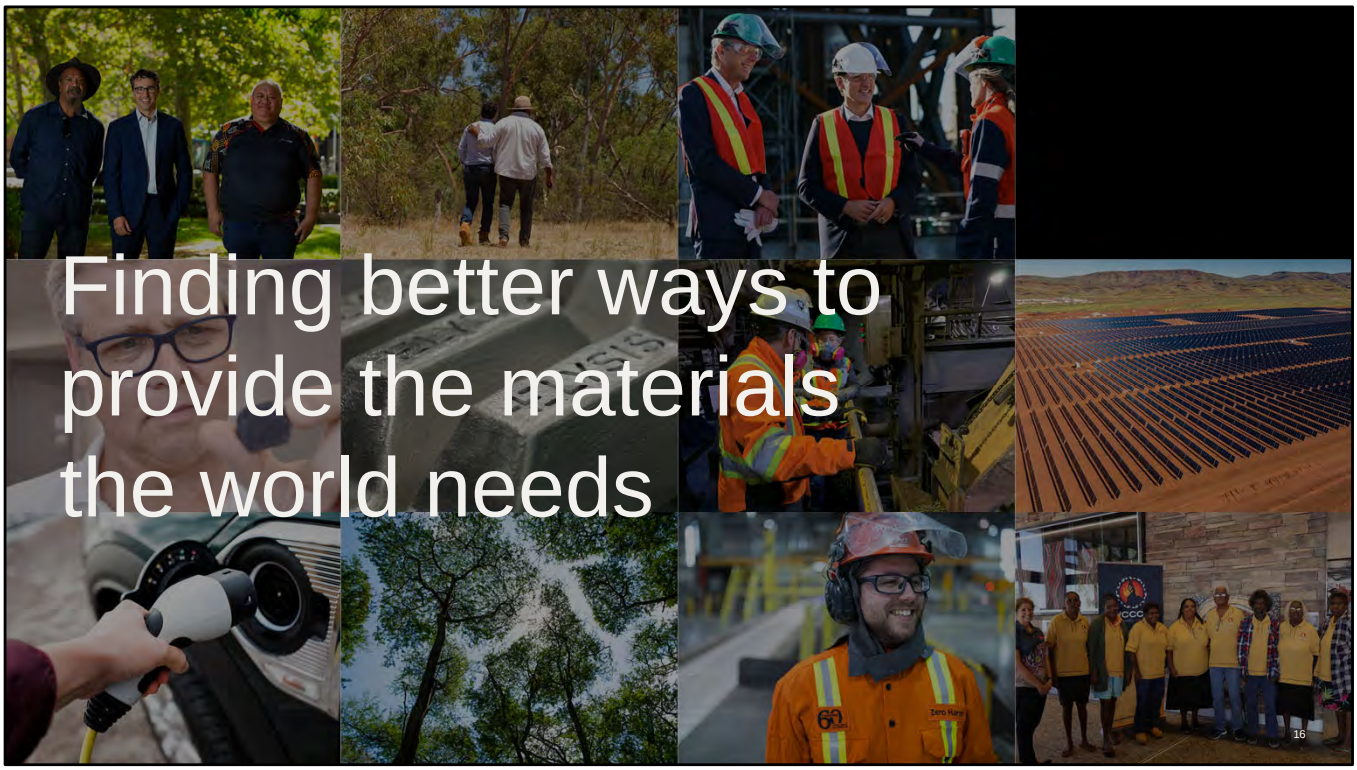
One tangible example is the strategic partnership we recently signed with the Government of Canada at our Sorel processing plant in Quebec. It builds on decades of R&D and positions the business well, strengthening North American critical minerals chains, while decarbonising the processing plant. This partnership is an important vote of confidence in this world-class operation and people. Through investment and innovation, we are transforming a 70-year-old asset into one capable of producing minerals of the future, like scandium.

Through the course of the day, you will hear examples of how we are building meaningful partnerships and connections. All of these examples will be underpinned by our people and the culture journey we are on.

Considering the thread that exists through these, something new has clicked for us: our purpose.

By looking at what society needs, and then deeply

considering our own strengths, we have found ten words that capture our contribution to the world today. But also will push us to evolve.



Finding better ways to provide the materials the world needs.

“Finding better ways” speaks to our drive for both innovation and continuous improvement. It also emphasises how solutions are delivered - with impeccable ESG performance. We are striving for new ways to do things. Create deeper partnerships to solve problems and meet opportunities. It applies to big, meaningful innovation and smaller everyday progress.

“To provide the materials the world needs”

connects our contribution to everyday life. Making our purpose meaningful for our customers, stakeholders and society. Fundamentally it is all about satisfying the needs of society in the best possible way.

To deliver our four objectives and strategy in service of this purpose, requires a positive culture. One where our people are committed to our journey and to each other. And are working together in a collective way.

Our values of care, courage and curiosity will be the foundation for this culture. James, Kellie, Bold and Isabelle will now share their thoughts on how our culture is evolving on our first panel.

What I have seen in the last 18 months shows me that you can make genuine change happen when you stick to your objectives, focus on your culture, and keep your purpose in mind. This, for me, sums up where we are right now. We are progressing with purpose.

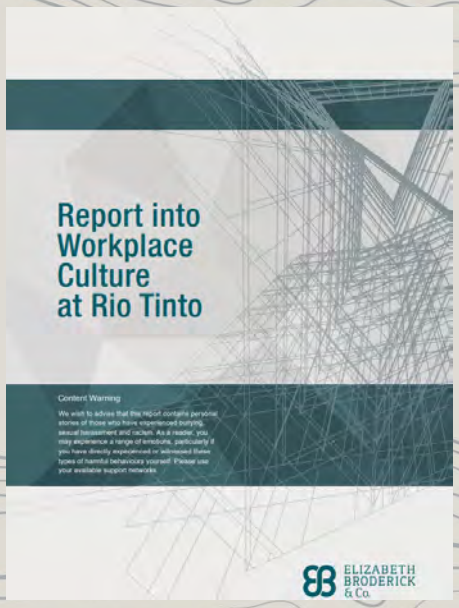
And with that, I'll hand over to the team to give you more insight.

Panel session 1

Our culture journey

Isabelle Deschamps, Bold Baatar, Kellie Parker

Moderated by James Martin



Transparency

Dialogue

Trust

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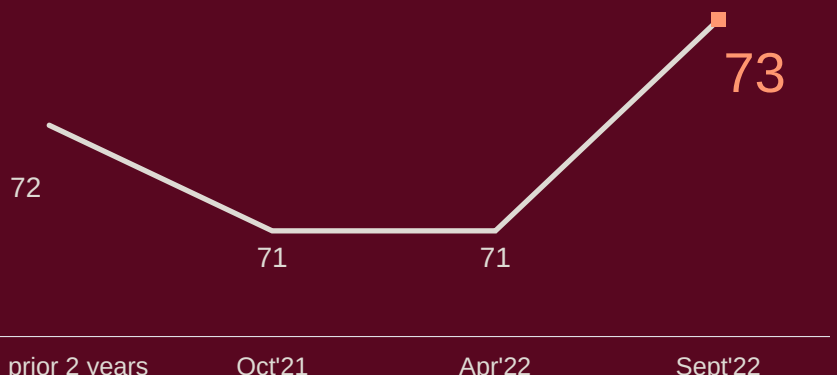
Engagement scores improving [1]



Avg. prior 2 years | Oct'21 | Apr'22 | Sept'22

[1]Percentage score for employee survey question regarding employee happiness in the workplace

Thanks James and hello everyone.

Today Jakob identified our objective in 10 key words

Finding better ways to provide the materials the world needs.

Building on this, I want to make two main points

First, there will be very large needs across our product portfolio from traditional developmental drivers but also from newer drivers related to net zero goals.

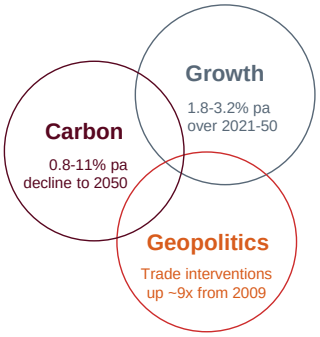
And second, a key task for our industry will be to

provide for those needs at pace, reliably and with a low carbon footprint.

This will be challenging.

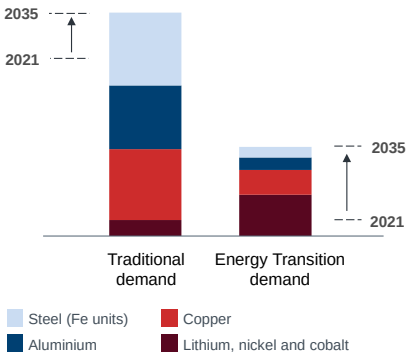
Global trends driving commodity demand

Key drivers of global economy[1]



Total commodity demand by 2035[2]

<2°C scenario
Copper equivalent basis



Recycling share of total demand

Current to 2035 (<2°C scenario)

Aluminium	28% to 35%
Copper	31% to 35%
Steel Fe units equivalent	36% to 50%
Lithium, nickel and cobalt[3]	25% to 15%

[1] Growth and carbon projections from Rio Tinto Group scenarios (11% per annum decline in CO_2 emissions based on 2021-49 period in net zero by 2050 pathway). Trade interventions from Global trade alert database [2] Copper equivalent demand uses average annual prices from 2017-21 with finished steel demand in iron ore equivalent units. Energy Transition demand calculated on a gross basis [3] Recycling share of total demand is currently higher due to the existing traditional use of nickel in industry and then declines as battery demand grows faster than recycling

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"Needs" arising from industrialisation and urbanisation in emerging markets will continue to provide the base load for future commodity demand.

China will slow from a high level as its economic development enters a new era.

But demand from India and ASEAN will strengthen as their early stage development continues.

In the past it has usually been enough for people like me to project this traditional base load along with technological assessments of cost curves to

establish long run scenarios for commodity markets.

But given the potential futures we foresee, such an approach seems insufficient.

That's for two connected reasons.

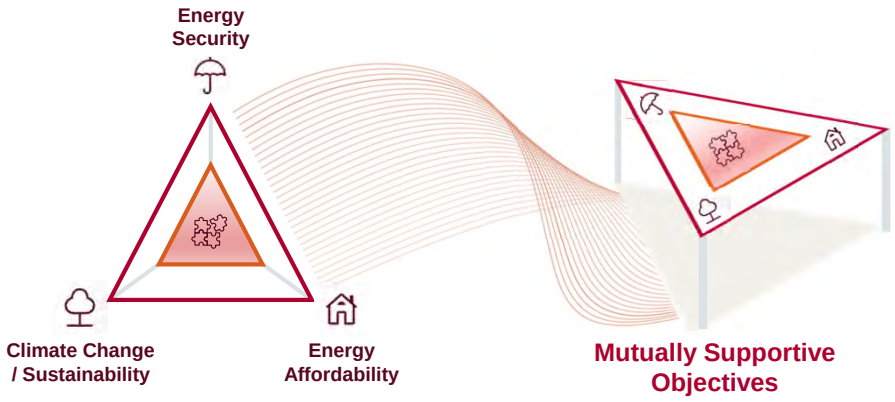
First, with the powerful geopolitical forces now at work, it is clear that interventions by governments are becoming as important as traditional market forces for commodity trajectories.

Second, and this is where I will focus my attention today, there is the energy transition driven by the imperative to reach net zero greenhouse gas emissions.

The needs arising from this transition could add as much as 25% to total demand for our key products over and above traditional sources by 2035 on a copper equivalent basis.

Energy trilemma to energy tripod

A shift in the energy market paradigm is taking place…



Low-cost renewables (needed to reach climate goals) will increase energy security reducing scope for price disruption over time

US Inflation Reduction Act provides ~$200 billion incentives and support by 2030 to firm these linkages

Europe's REPowerEU Plan will allow members to access around €300 billion in loans and grants to accelerate renewable investment and increase energy efficiency and security[1]

[1] €225 billion of the remaining Recovery and Resilience Facility (RRF) loans plus new grants resulting in a total amount close to €300 billion, European Commission.

The outcomes of COP 26 in Glasgow signalled a decisive shift in society's intentions with all significant emitters affirming pledges to achieve net zero.

But lets not be under any illusion.

Governments will have to implement aggressive policies to induce the enormous investments, new technologies, recycling and primary commodity supplies that will be needed to construct a carbon-free economy.

We envisage emission penalties or decarbonisation

incentives eventually well in excess of $100 per tonne of CO2 if warming is to be kept below even 2 degrees….

More recently COP 27 took place against a backdrop of economic dislocation.

Governments were constrained as they grappled with inflationary pressures exacerbated by severe commodity market disruptions related to war in the Ukraine and the ongoing impacts of COVID.

But these disruptions also highlighted a fundamental shift in energy market paradigms.

The conventional wisdom is that the world faces a so-called energy trilemma.

According to this view, it is difficult to balance the three goals of energy security, energy affordability and environmental sustainability.

You can’t have them all at once.

But I believe that the world is moving past the energy trilemma toward an alternative energy tripod paradigm.

Under this paradigm, the three goals can be mutually reenforcing.

This is because the proliferation of low-cost renewables, that are going to be critical for

achieving climate goals, will also increase energy security over time.

And greater energy security will reduce the risks of energy market disruptions in a fragmented world.

It is clear that an energy tripod logic is at the heart of the recent US Inflation Reduction Act which applies significant dollars to activate the links between energy security, price stability and reducing greenhouse gases.

It also seems reasonable to assume that competitive pressures and the energy tripod will induce other governments to adopt their own IRA style frameworks.

Encouraging the development of secure supplies of critical and strategically important minerals is an important aspect of this with important implications for mining project economics and regional premiums….

I would now like to turn to a more detailed discussion of the implications of decarbonisation for our commodities…..

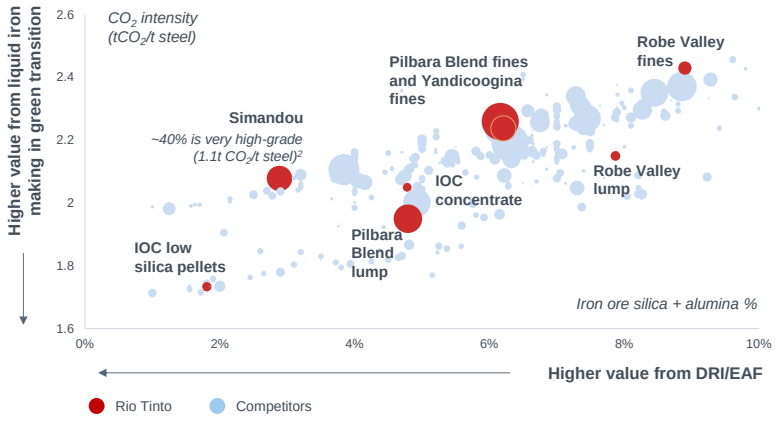
All of our products are needed in the energy transition and at last year's capital markets day I majored on copper and lithium where strong market structures will be driven by renewable electrification, the uptake of EVs and difficulties in

bringing on new supplies at pace.

This year I will focus on iron ore and aluminium.

Steel decarbonisation will affect the value of iron ores

Iron ore products – Steelmaking CO_2 emissions (BF/BOF)[1]



Industry decarbonisation efforts are focusing on direct reduction and liquid iron solutions:

- Direct reduction does not remove impurities, and significantly benefits high grade iron ore value
- Liquid iron solutions will start with incremental blast furnace abatement followed by more transformative solutions
- During the transition to green steel, ores with low iron making CO_2 emissions are well positioned

[1] Represents steelmaking emissions per tonne of liquid steel for each iron ore feedstock under today's BF/BOF technology (China average archetype). Product volumes (represented by the bubble size) and silica + alumina content represent 2021 levels, except Simandou (blocks 3 and 4) which starts production at a later date.
[2] The part of the Simandou resource that is very high grade resource has silica + alumina of ~1.6% and CO_2 emissions 1.1t CO_2/t steel under gas DRI/EAF. Does not include Scope 1 and 2 iron ore emissions (scope 3 downstream only). Source: Rio Tinto

The Chinese steel industry emits around 2 billion tonnes of CO2 per year.

CISA, China's iron and steel industry association, has developed gradual, though ultimately very ambitious, decarbonisation plans.

The initial phase will focus on optimising raw material inputs in traditional iron and steel making.

Essentially, this will mean less coking coal, less lower quality iron ore and more use of scrap.

CISA envisages that a shift toward up and coming iron and steel making technologies such as green

hydrogen-based direct reduced iron is only likely to gather pace after 2040.

This timing provides space for the large scale development of high quality iron ore assets, a substantial greening of the electricity grid and the technological breakthroughs that will be needed to decarbonise iron and steel making.

Nigel Steward, our Chief Scientist, will discuss these potential breakthroughs in detail.

The key observation is that ores with lower impurities and, more generally, ores with low CO2 iron making emissions will increase in value in the transition toward decarbonisation.

This chart shows that Rio Tinto is positioning toward a well-balanced iron ore portfolio which will be resilient to the various ways in which steel decarbonisation could play out.

Pilbara Blend Fines will continue as base load for conventional steel making even as that process improves its carbon footprint, and Pilbara lump will be increasingly valued as a low CO2 substitute for sinter.

And over the longer run, further beneficiation of Pilbara ores together with our technology partnership approach that Nigel and Alf will discuss,

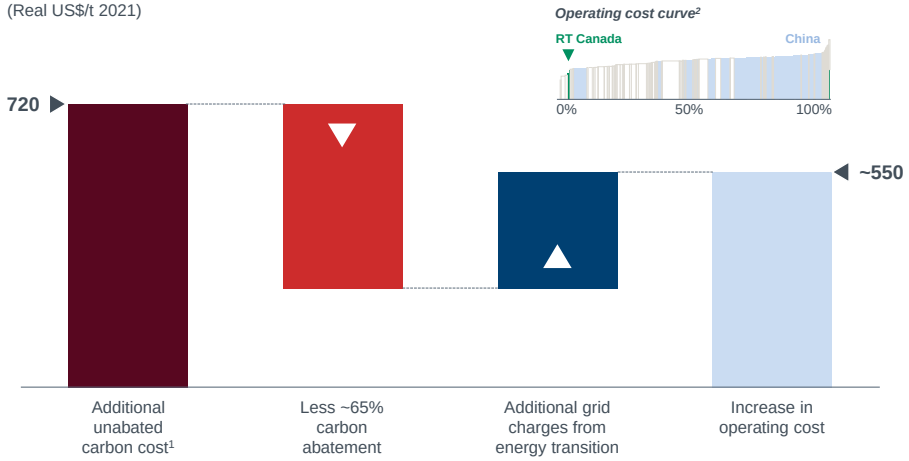
could deliver significant value.

Our IOC products are some of the highest grade iron ores in the market while Simandou will potentially provide a large DRI feedstock complemented by a premium blast furnace product.

Simon will discuss our portfolio approach in much greater detail in his presentation.

Hydro-based aluminium even more attractive

Chinese aluminium smelter cost sensitivities
(Real US$/t 2021)



Over half of current Chinese smelting produces >14t CO_2 per tonne aluminium vs. global average of 12t CO_2 per tonne of aluminium

Decarbonising electricity grid can abate about 65% of Chinese CO_2 from the current captive power model

Switching to grid-based power will incur network costs that initially rise with increased intermittent generation

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¹ Using a total carbon intensity (direct and indirect) based on an average marginal coal-fired aluminium smelter in China and a $43 per tonne carbon penalty consistent with IEA's 'Stated Policies' scenario by 2040, World Energy Outlook 2022
² Operating cost curve consistent with a ~$43 carbon penalty in China

I will now turn to aluminium.

The global average emissions intensity of aluminium production is around 12 tonnes of CO2 per tonne of primary metal, although our hydro-powered smelters emit less than 2 tonnes.

So the sector as a whole will need to make very significant adjustments on its path toward net zero.

These adjustments will be reflected in

higher marginal costs and therefore a higher structural basis for aluminium prices.

The Chinese industry, which produces over half of the world's primary aluminium with an average emissions intensity of around 14 tonnes of CO2, has already published plans for reaching peak carbon by 2030 and full decarbonisation by 2060.

For example there is an expectation that by 2030, 30 per cent of the power used for aluminium production in China will be from renewables, both hydro and more expensive firmed intermittent sources.

Two existing policies supporting carbon emission reductions are particularly noteworthy.

First, there is a production cap of 45 million tonnes.

China is only about two million tonnes away from this right now.

Second, aluminium producers are being shifted away from using coal-fired, self-generated power toward the grid where smelters will benefit from sector-wide decarbonisation.

But the quid pro quo is that they will also face higher system-related charges.

The chart shows the potential net effect of China's reforms on the marginal cost of primary aluminium production.

In this example, the cost curve steepens by around

$550 per tonne, once second round effects are taken into account.

Later on, Ivan will discuss the implications of this kind of positive structural shift for our aluminium business in North America where low carbon metal is strategically important both for our customers and governments……

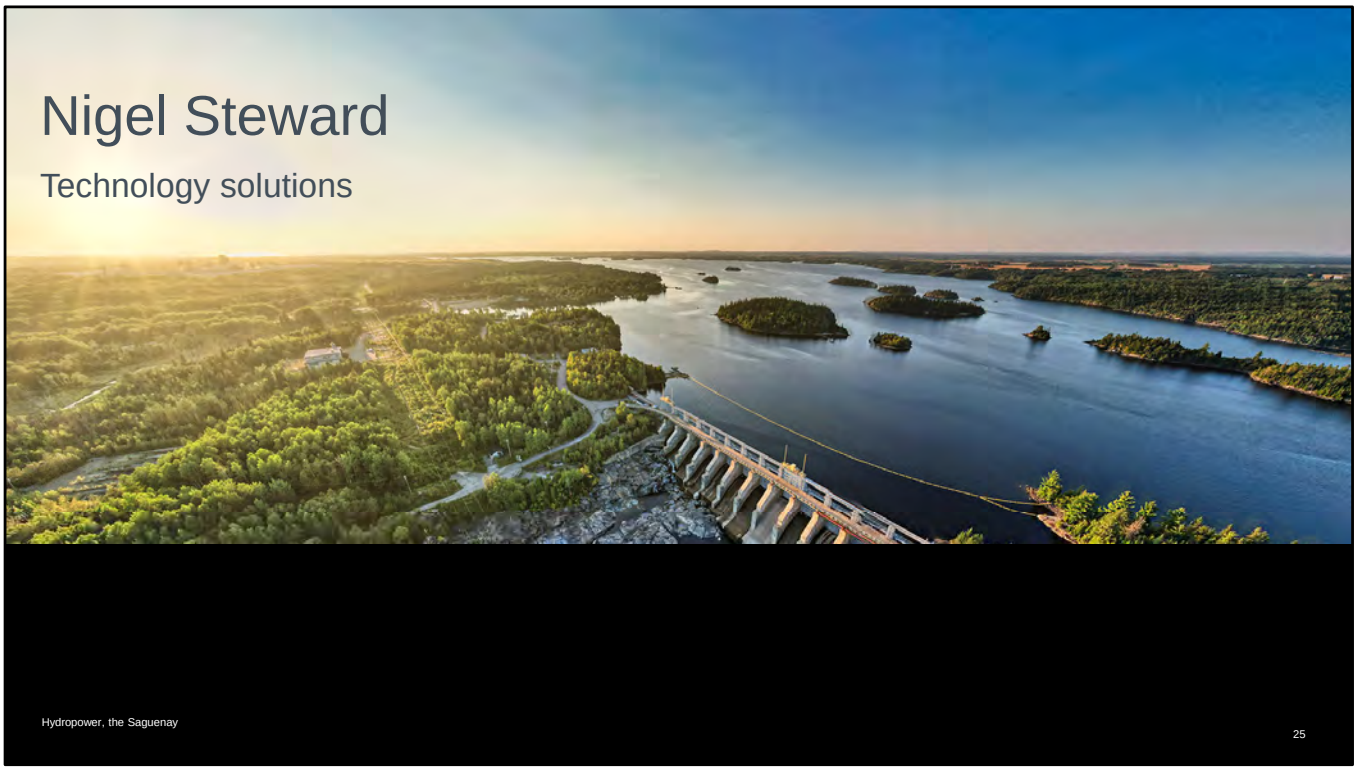
Wrapping up now, I will end where I started.

Our job is to find better ways to provide the materials the world needs.

And there will be substantial needs across our product portfolio from traditional sources such as urbanisation and from newer drivers arising from societies' growing demands to address the threat of climate change.

The key challenge for our industry will be to provide for those combined needs at pace, reliably and with a low carbon footprint in partnership with society.

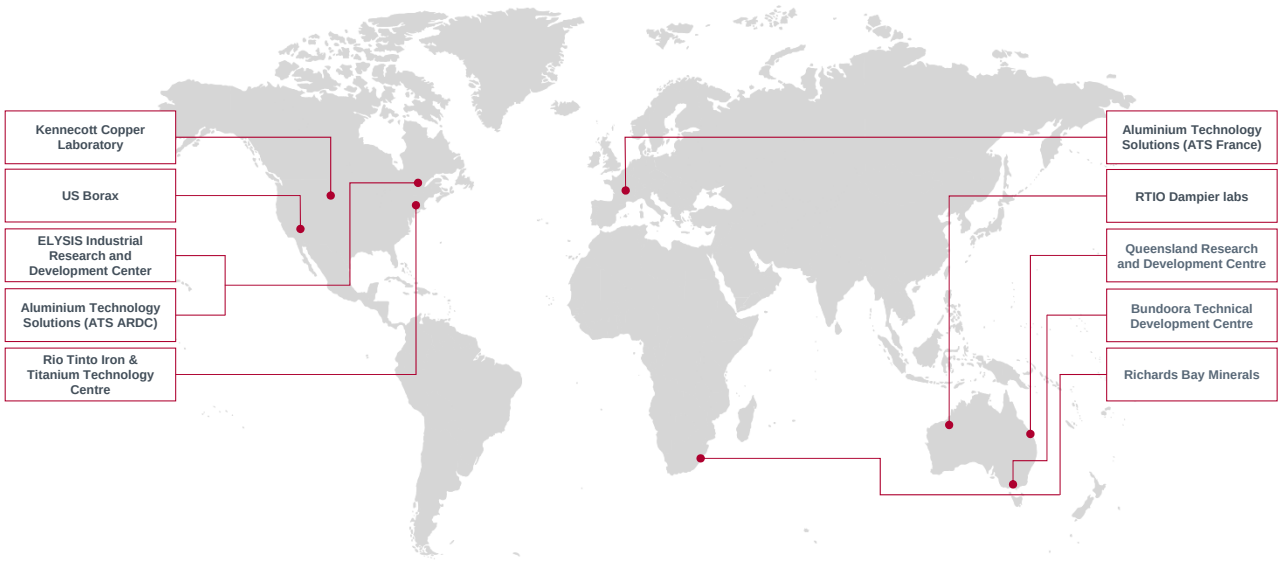
I'll now hand over to Nigel who will take you through our Technology pathways.



Thank you Vivek.

I will speak to the Innovation organization that exists within Rio today and how we're using technology in three key areas – to decarbonise our business, to unlock growth opportunities that energy transition offers and finally to develop low and zero carbon materials like green steel.

A strong global R&D footprint…



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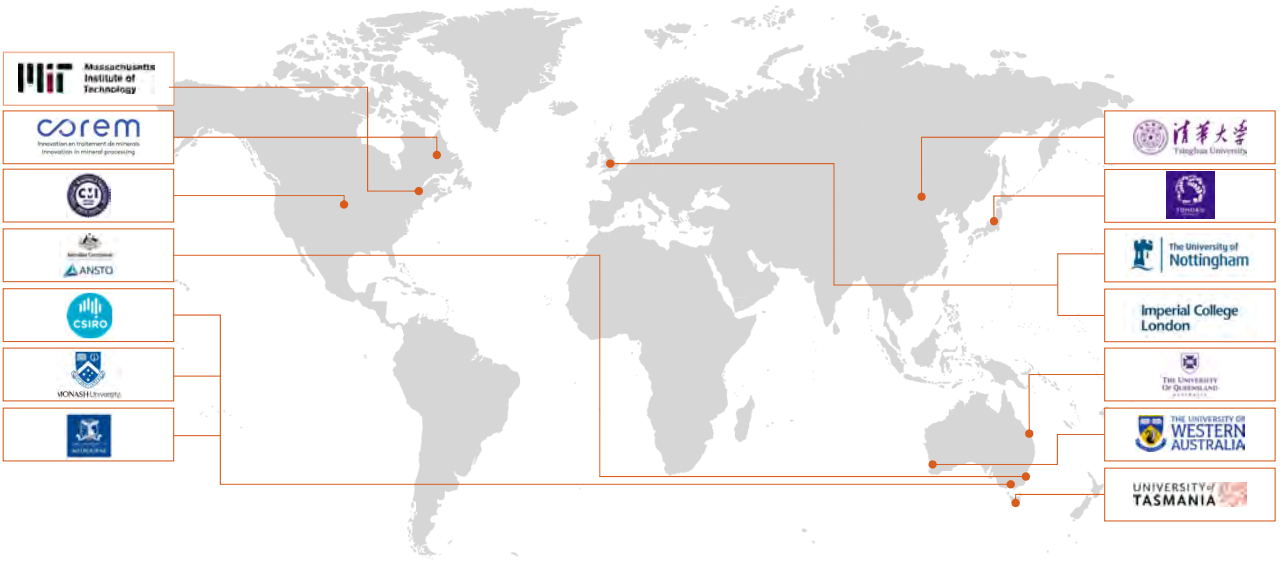
It's no secret that Rio has a proud history in R&D and innovation.

We have been at the forefront of automation – trucks, trains and drills – and remote operations in our industry.

We are reimagining a digital future for our almost 150 year old company, leveraging technology, data science, machine learning and artificial intelligence across the whole value chain.

Innovation is not only core to our DNA, it provides us with a clear competitive advantage.

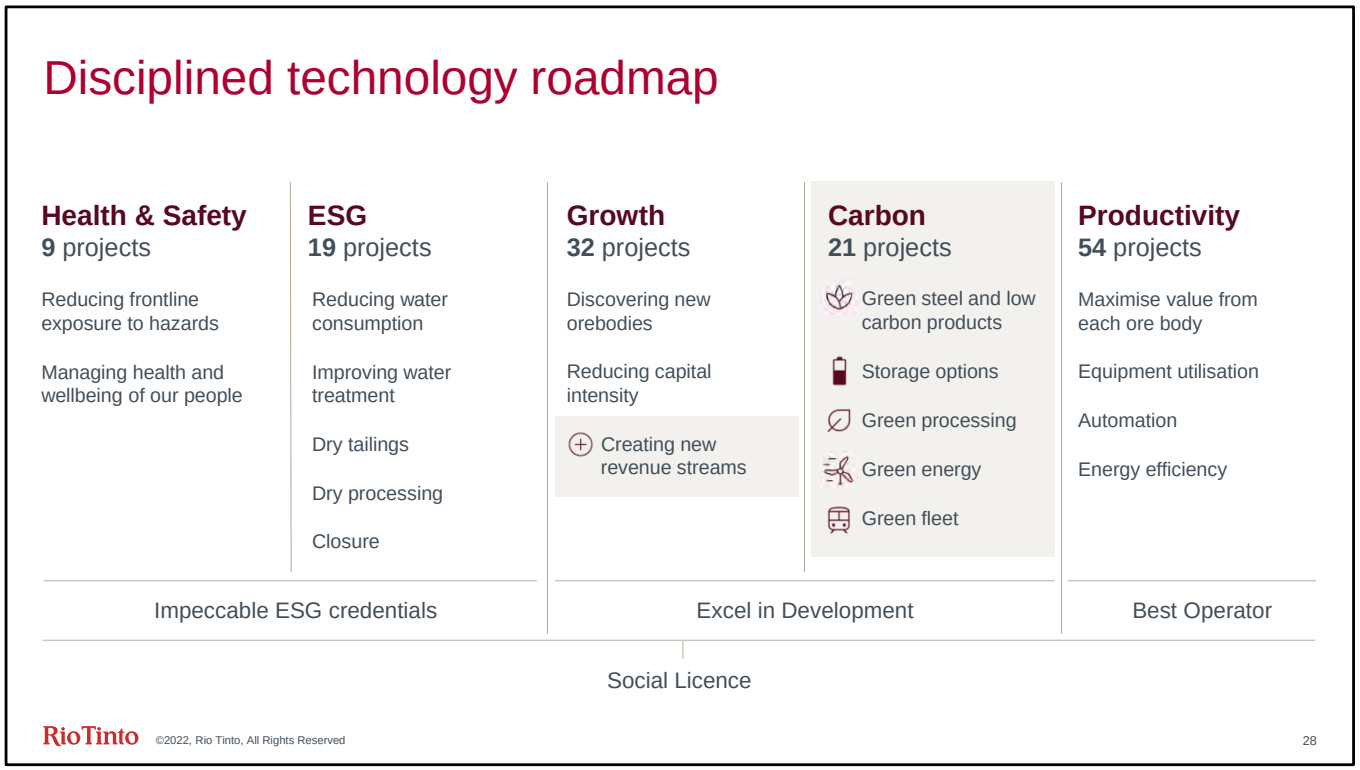
…complemented by partnerships



We have an ambitious strategy in decarbonisation and growth and last year we made the decision to double our annual R&D spend to $400M

My role as Chief Scientist was recreated in 2021 after a 10-year absence to drive the creation, sourcing and delivery of technologies to support the execution of Group strategy. We have brought together our considerable global technical resources – which you can see on this slide – and we've also recruited to bolster our capability in battery materials.

Today we have 535 people dedicated to R&D, spread across Canada, France Australia, the United States, the UK and in China, where we established an Innovation and Technology Centre earlier this year. Our inhouse resources are augmented by an ecosystem of partners across the globe including universities, government research labs and start-ups. Arguably, one of the largest Technology and R&D activities in our industry.



We are disciplined in our approach, with 5 components to our technology roadmap, aligned with our strategic priorities.

Health and safety, lightening our overall environmental footprint, supporting growth, decarbonising our business and our products and improving productivity.

Today I will focus on carbon, talking to the energy transition including renewables, storage, hydrogen and repowering our fleet, then ways that we are using processing technology to create new growth

streams, and finally, green steel.

Although 75% of electricity used at our managed operations is from renewable sources, electricity generation still accounts for 45% of our carbon emissions and is naturally a key focus for us.

Over the next 10 years wind and solar deployments will help to address this. However – both generate intermittent power that needs to be firmed, potentially using fossil fuel, to support the 24/7 needs of our operations. We see zero carbon firming solutions becoming available in this decade.

Beyond 2035, we expect new battery systems to

become competitive, including lower cost flow batteries and other lower cost chemistries currently under development.

Other energy sources we are monitoring are geothermal, which has been around for decades but is seeing renewed interest, small modular reactors and fusion, which would be transformational but is at least 20 years away in our view.

I’ll now touch on long duration energy storage in more detail as well as hydrogen.

We operate in more than 35 countries and we need different firming solutions to give us flexibility and certainty of power for operations and to cater for weather anomalies and seasons.

There are four types of long duration energy storage – thermal, chemical, electrochemical and mechanical.

Mechanical storage is capable of providing firm power to high power processing assets and large

mine sites that require vast amounts of energy to be stored. It is currently prohibitively expensive however we are working with start-ups on this challenge.

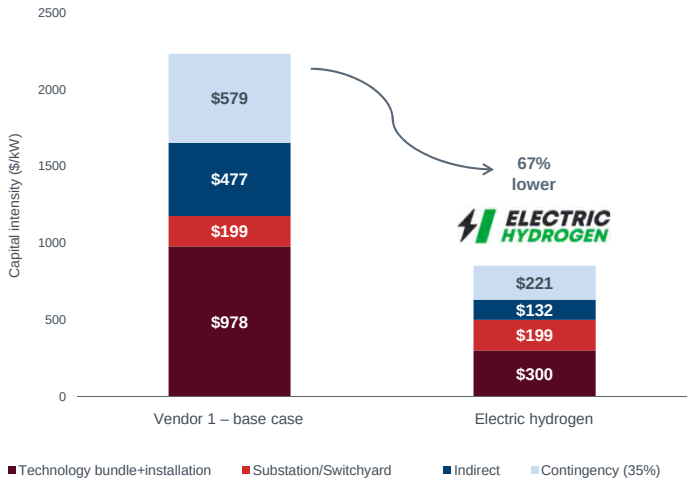
In the interim, firming will have to come from conventional power sources such as hydro, nuclear or gas turbines. Alternatively, demand will have to be modulated, and we are developing such a capability in our aluminium smelters to flex power demand as a function of renewable electricity production.

Li-ion battery electrochemical storage is cheaper, but remains expensive. But more importantly, it also suffers from insufficient storage capacity for our sites.

The firming of electricity via storage still requires development

The good news is that certain thermal storage technologies can provide firm, low-cost power to our energy intense alumina refineries and other hydrometallurgical plants that require steam, and we are actively pursuing these technologies at present.

Hydrogen requires abundant low-cost green energy and lower capital costs



Rio Tinto investment in Electric Hydrogen start-up to lower cost of hydrogen

Potential hydrogen uses:

- Reductant for zero-carbon steel making
- Ilmenite reduction at RTFT and RBM
- Fuel for calcining in our alumina refineries

Currently uneconomic, as well as energy and capital intensive

Competitive green hydrogen will need very low-cost green electricity at scale and lower capital costs

Hydrogen leakage: ~1% per day of hydrogen is lost when stored in liquid form – global warming potential 5-16x that of CO_2 driving the production of hydrogen close to its point of use

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Source: Ocko and Hamburg, "Climate consequences of hydrogen emissions" Atmos.Chem.Phys., 22, 9349-9368, 2022

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There is a lot of hype about green hydrogen. We expect to use it as a reductant for zero-carbon steel making, for ilmenite reduction at RTFT and RBM and for calcining in our alumina refineries. In these use cases we exploit hydrogen's unique chemical properties rather using it as an energy carrier.

At the moment though, hydrogen is very expensive and will require a technological breakthrough to be economically viable.

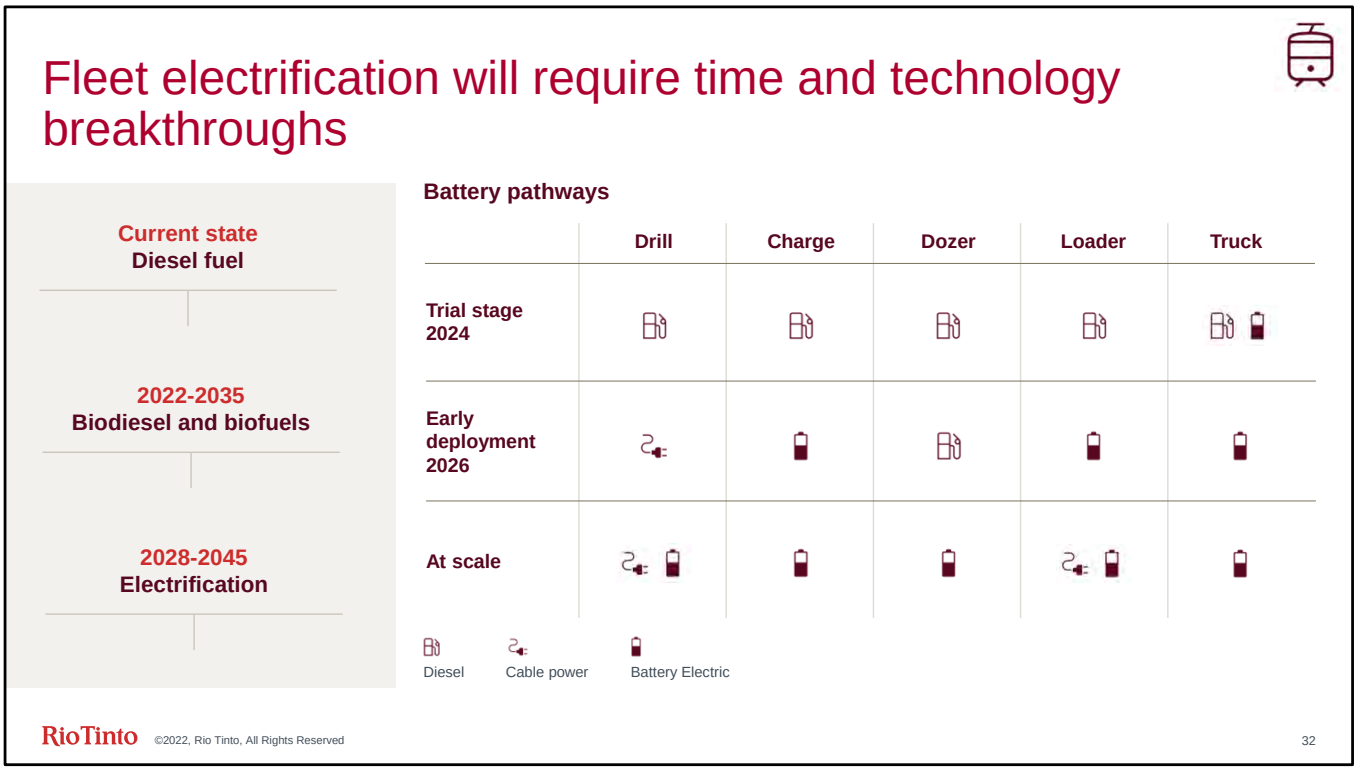
It is very energetic material to produce; approximately four times more per tonne than

aluminium, but it can provide a great deal of energy back to decarbonise some hard to abate industry sectors. There will be very high-power requirements to generate sufficient hydrogen to meet future demand; however, the electrolyser supply chain to deliver green hydrogen is not yet well established and it will take time before it will be a material contributor to decarbonisation.

Competitive green hydrogen requires very low-cost renewable electricity at scale, it also needs lower capital costs.

We have invested in Electric Hydrogen, a start-up that has reduced capital intensity by a factor of three relative to competitor options through better process design and system engineering, as well as a scientific breakthrough.

Hydrogen use will also be impacted by leakage from storage and transport facilities; an estimated 1% per day is lost when stored in liquid form, and hydrogen has a global warming potential 5-16 times that of carbon dioxide over 100 years, making it potentially more damaging to use than burning natural gas. Therefore, our intention is to consume hydrogen close to its point of generation.



Carbon emissions from the use of diesel in our mobile fleet and rail account for 13% of our Scope 1 & 2 emissions and we are targeting battery electrification to eliminate these emissions.

However, current battery technology, as found in electric cars, cannot deliver the energy density required for large mining vehicles. They can provide sufficient power but cannot store enough energy, which means short run times and long charge times. Using today's technology the battery for a haul truck would weigh about 15 tonnes and

last between 90 and 150 minutes.

We expect batteries will develop over time and have been working extensively with HME OEM suppliers and leading an industry-wide programme seeking charging solutions for battery trucks. As part of this, we will have the first battery-powered truck in the Pilbara with Caterpillar in 2024 and Komatsu in 2025. We are also leading a programme to introduce smaller and more energy efficient equipment into mine sites including automated road-sized electric trucks. These are significantly lower cost, with greater energy efficiency in comparison to the larger HME.

As we make progress on electrification, which we expect would be mass deployed between 2030 and 2035, we also need an interim step to accelerate our progress towards net zero.

Biofuels provide this. We are already piloting biofuel at Boron, with trials also planned for Kennecott.

The good news is that high grade bio-diesels can be used in current equipment with no need for engine modifications. We are also exploring bio-methanol and bio-ethanol options with two start-up companies Biofuels also support us in moving to net zero emissions for our shipping vessels and support our Scope 3 reductions.

However, a key consideration of us is that the supply chain for biofuel in Australia is not yet well developed, which limits the speed at which we can transition to this across our portfolio.

Our expectation is that biofuels will be a potential transition solution but will disappear over the longer term in favour of battery electrification.

Breakthrough technologies create new revenue streams

Green aluminium

Low carbon aluminium

Apple has used the world's first aluminium from zero carbon smelting at an industrial scale ELYSIS cell

AP4X amperage increase implementation at the Alma smelter resulted in a 2.7% increase in production of low carbon aluminium

Processing waste


Rio Tinto Fer et Titane


Nuton™ technology pilot plant, Bundoora, Australia

Critical minerals from waste

Scandium production at Rio Tinto Fer et Titane (RTFT) from spent acid stream

Tellurium production at Kennecott delivering a new domestic supply to the US Solar industry

Spodumene concentrate produced at RTFT

Copper from waste

Nuton™ and related sulphide leaching technology targeting legacy copper waste and traditional orebodies with detrital challenges

Commercialising through strategic partnerships in the Americas

Carbon mineralisation


Tamarack, Minnesota

Storing carbon as rock

Rio Tinto-led team exploring carbon storage potential at the Tamarack nickel joint venture in central Minnesota

I've spoken about many of the ways we are using technology to reduce carbon in our business, now I'll turn to the opportunities.

Breakthrough technologies are opening up new revenue streams for Rio.

We have the ELYSIS zero-carbon aluminium smelting. And at the Alma smelter we've implemented a higher amperage AP4X cell technology which enables us to produce 2.7% more low carbon aluminium leveraging our hydropower assets.

At RTFT in Quebec, we became the first producer of scandium oxide in North America, using an innovative process we developed to extract high purity scandium oxide from waste streams without the need for any additional mining. Scandium is an essential material in Al-Sc alloys in automotive and aerospace applications.

In a similar vein, At Kennecott, we've started producing tellurium – a critical mineral used in solar panels – from by-product streams generated during the refining process.

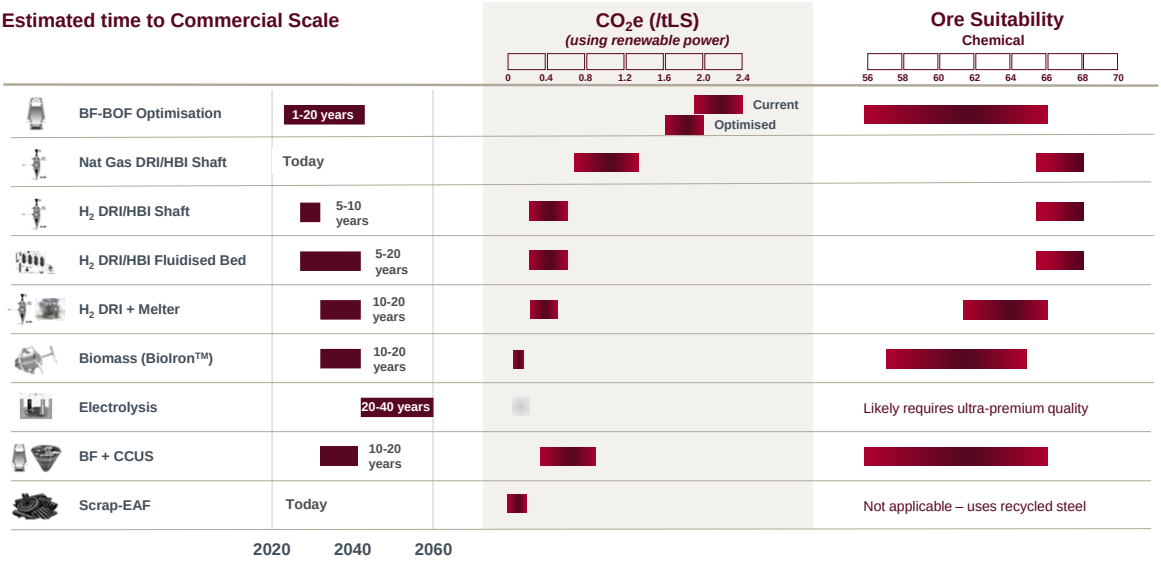
Another technology we've advanced is copper heap leaching, called Nuton. It offers the potential to economically unlock low-grade copper sulphide resources and copper-bearing waste, and achieve higher recoveries on oxide and transitional material. It also has environmental benefits, including more efficient water usage, lower carbon emissions, and the ability to reclaim mine sites by reprocessing waste.

The final example I'll talk to today is carbon mineralisation. In February, the US Department of Energy's ARPA-E Innovation Challenge awarded $2.2 million of funding to a Rio Tinto-led team that is exploring carbon storage potential at the Tamarack nickel joint venture in central Minnesota.

We are also contributing $4 million to the 3-year project.

Carbon mineralisation uses natural chemical reactions to convert captured carbon dioxide into rock and permanently store it underground. It has the potential to be an important technology in meeting global climate goals.

Green steel pathways: range of potential technology options available



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Turning now to green steel. Steel is one of the most efficient materials for construction and manufacturing and has an essential role to play in the development of low-carbon infrastructure, transportation and buildings.

But it is carbon intensive, making up 8% of global CO2 emissions.

In green steel making we essentially want to remove the oxygen from iron – today we do that with carbon but we can also do it with hydrogen, aluminium and sodium for example or,

electrochemically.

There are a range of technologies for decarb steel making that exist or are progressing through R&D. Those in the R&D stage have some years to go before they become viable commercial-scale solutions. We are tracking or actively investing or researching into all of them. Furthermore, after a decade of research, just last week we announced we had proven a low-carbon ironmaking process using raw sustainable biomass and microwaves, known as BioIron™.

Each technology has particular grade requirements These requirements are clearly understood, and we are partnering with customers and technology providers to ensure that technologies are developed that either provide the required ore feed to the technology, or that the technology is capable of receiving a broader range of ore qualities.

We will leverage our extensive technical capabilities to find the most capital efficient and lowest cost solutions offering the highest returns

Our technology journey

Achieved

- Creation of Chief Scientist's Office – driving R&D integration and delivery across the company
- One of the largest and most balanced technology and R&D portfolios in the mining industry
- Leading on automation and remote operations
- First producer of zero carbon aluminium from ELYSIS™ and first scandium producer in North America

Improving

- Growing capabilities in battery materials
- Biodiesel and biofuels for our mobile fleet
- Introduction of smaller and more efficient equipment at mine sites – e.g. automated road-sized trucks
- Partnering to support the production of zero carbon steel

Developing

- Ramp-up of solar and wind deployment to meet an increasing proportion of our electricity needs
- Battery electric haul trucks
- Accelerating ELYSIS™, Nuton™, and production of Lithium and critical materials
- Storing CO_2 in rock through carbon mineralisation

Excelling

- Providing firmed zero carbon energy to support 24/7 operational needs
- Innovation leader in providing materials produced with a zero carbon and superior ESG footprint to drive the energy transition
- Being fastest to translate new ideas into sustained business value

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Technology will bring changes we cannot yet imagine – we need to remain open-minded and that is why we are taking a portfolio approach to R&D and not focusing on one particular technology at the exclusion of others.

To wrap up, we have built an industry-leading Technology and R&D organisation, partnering with universities, governments, companies and start-ups to accelerate technology deployment to support our strategy, and already we have delivered some key breakthroughs

We are improving our battery materials capabilities, reducing our carbon footprint through net zero biofuel deployment and partnering with customers and technology developers to support the decarbonisation of steelmaking

We are developing renewable energy deployment to electrify our business with battery powered haul trucks and trains. We are creating opportunities for new revenue growth by supplying the critical materials required for the Energy Transition through technologies such as Nuton, ELYSIS

Our aim is to be the Innovation leader in providing materials produced with zero carbon and superior ESG footprint to drive the energy transition, and to be the fastest at translating new ideas into sustained business value

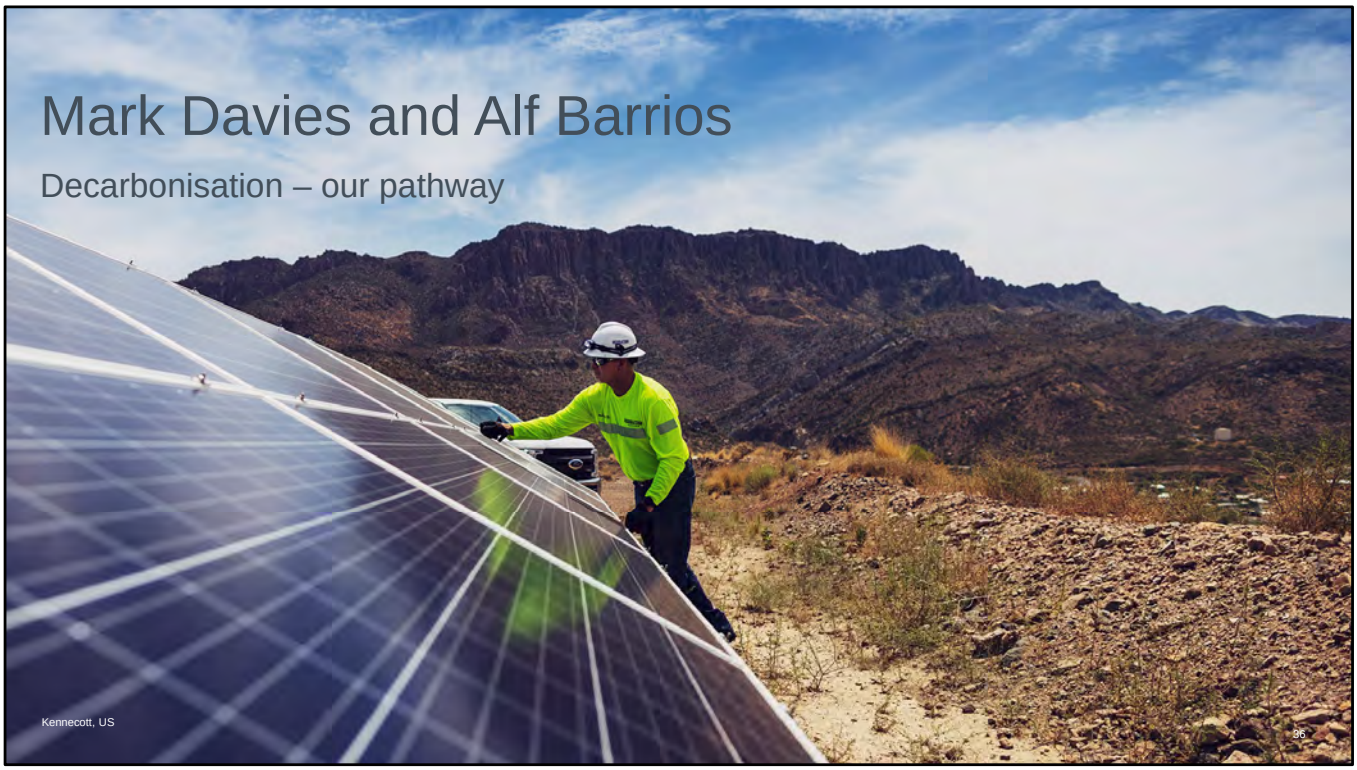
In closing, there are challenges in achieving net zero, but also opportunities. There is fierce competition and the pathway to success is uncertain.

What is certain is that we won't achieve our net zero aspirations without innovation in technologies and in our products.

Now over to Mark who will take you through our decarbonisation pathway.

Mark Davies and Alf Barrios

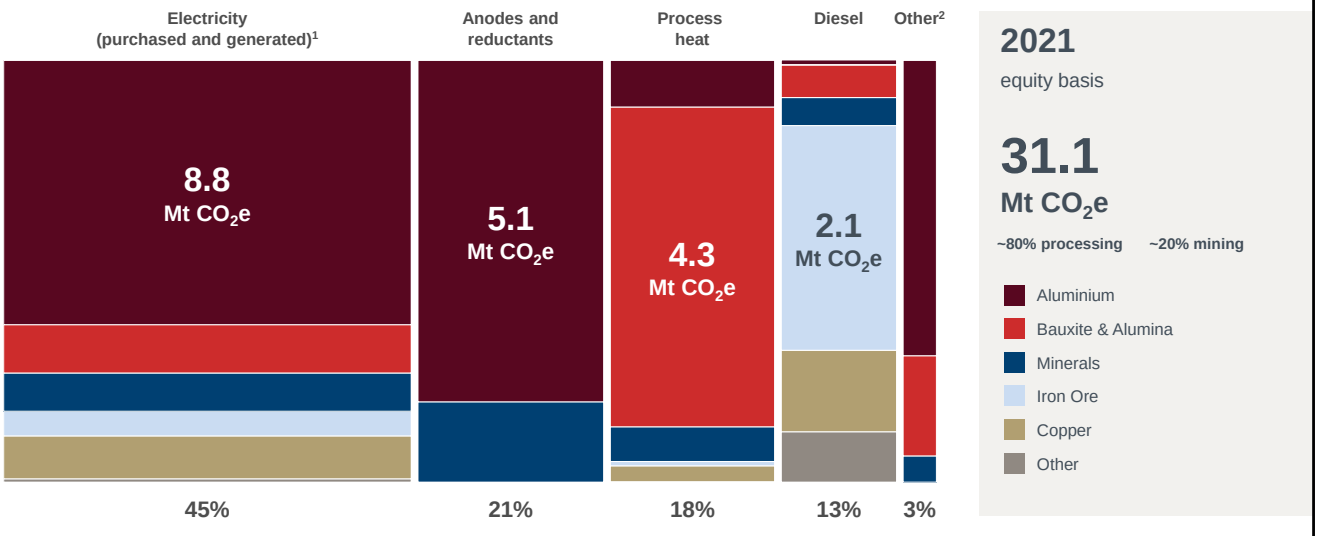
Decarbonisation – our pathway



Kennecott, US

Processing accounts for the majority of our carbon footprint

Our scope 1 and 2 emissions



[1] Electricity emissions based on current Scope 2 carbon accounting approach as outlined in the published Scope 1, 2 and 3 Emissions Calculation Methodology 2021
[2] Other includes land management and process emissions

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Rio Tinto has a significant carbon footprint, across all our scope 1, 2 and 3 emissions. We have made real progress over the last 12 months and have set up abatement programs and dedicated teams to work towards delivering our 2030 targets in a cost-effective way.

In contrast to much of the industry, our emissions are driven predominantly via our processing activities with our scope 1 & 2 footprint equivalent to 31.1 million tonnes of CO2.

Electricity accounts for 45% of the total, despite

75% of consumption at our managed operations coming from renewables.

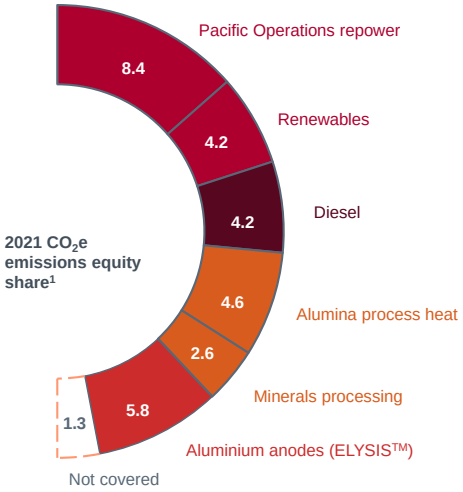
The combustion of carbon anodes in our aluminium smelters emits about 2 tonnes of CO2 per tonne of metal produced and together with reductants used in minerals processing, this is our second highest contributor at 21%.

Emissions from our alumina refineries are the third largest at 18%, so despite having one of the lowest carbon intensity aluminium businesses in the world, 70% of our total emissions are from our bauxite, alumina and aluminium operations.

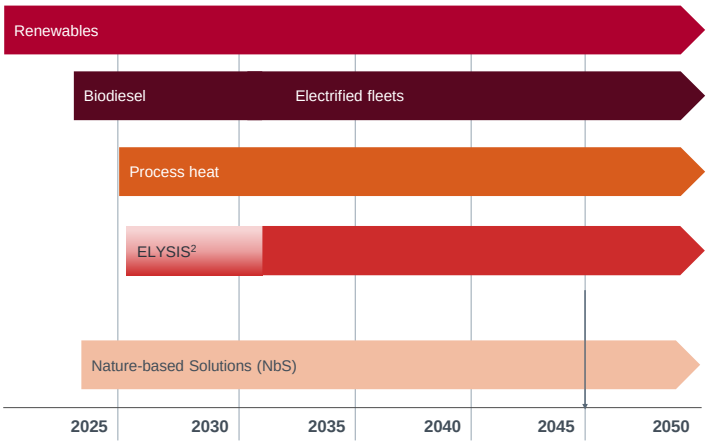
Diesel represents about 13% of emissions, with more than half of this coming from the Pilbara.

Executing our ambitious plan towards net zero by 2050

Six large abatement programmes…



…with Nature-based Solutions part of the plan



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[1] Six global programs cover 94% of group emissions, with residual emissions contained in processing facilities and land management
[2] ELYSIS expected to be deployed for growth rather than abatement between 2026 and 2033

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We set ambitious climate targets a year ago to reduce our scope 1 & 2 emissions by 15% by 2025 and 50% by 2030. However, we have learnt that implementing major Decarbonisation projects takes time, we need to engage with Traditional Owners and secure approvals from regulators and it's important we get these relationships right. We also need to be disciplined about our capital investment.

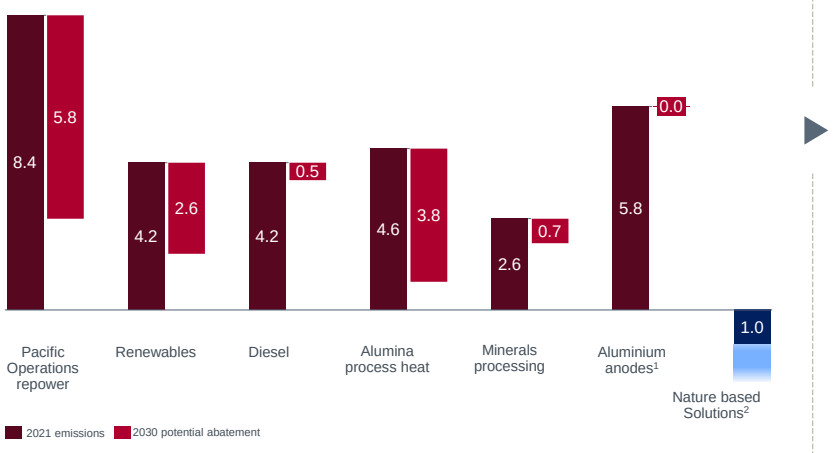
We have not advanced our abatement projects as fast as we would like, so our emissions have stayed roughly flat and our capital spend on Decarbonisation is lower than we anticipated a year

ago.

However, we now have a clear understanding of the key levers and we have set up six large abatement programs focused on renewables, ELYSIS, process heat and diesel. This accounts for 95% of our emissions.

Pursuing an abatement pathway to reach our 2030 target

Mt CO_2e emissions by major abatement programmes – equity share



2018 CO_2e emissions baseline	**32.5**
Emissions reductions to 2021	(1.4)
2021 CO_2e emissions	**31.1**
Growth	1.0
Abatement programmes	(13.4)
Other[3] required (includes NbS)	(2.4)
2030 CO_2e emissions (50% reduction from baseline)	**16.3**

New projects will need to be carbon neutral or have emissions mitigated elsewhere in the portfolio

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[1] Aluminium anodes pre-2030 is contributing to growth of Net Zero Aluminium rather than abating existing production tonnes and is therefore showing no abatement to 2030
[2] Nature-based Solutions projects are expected to result in CO_2 removals and avoided emissions
[3] Other will flex over time based on abatement project delivery, growth, closures and asset changes

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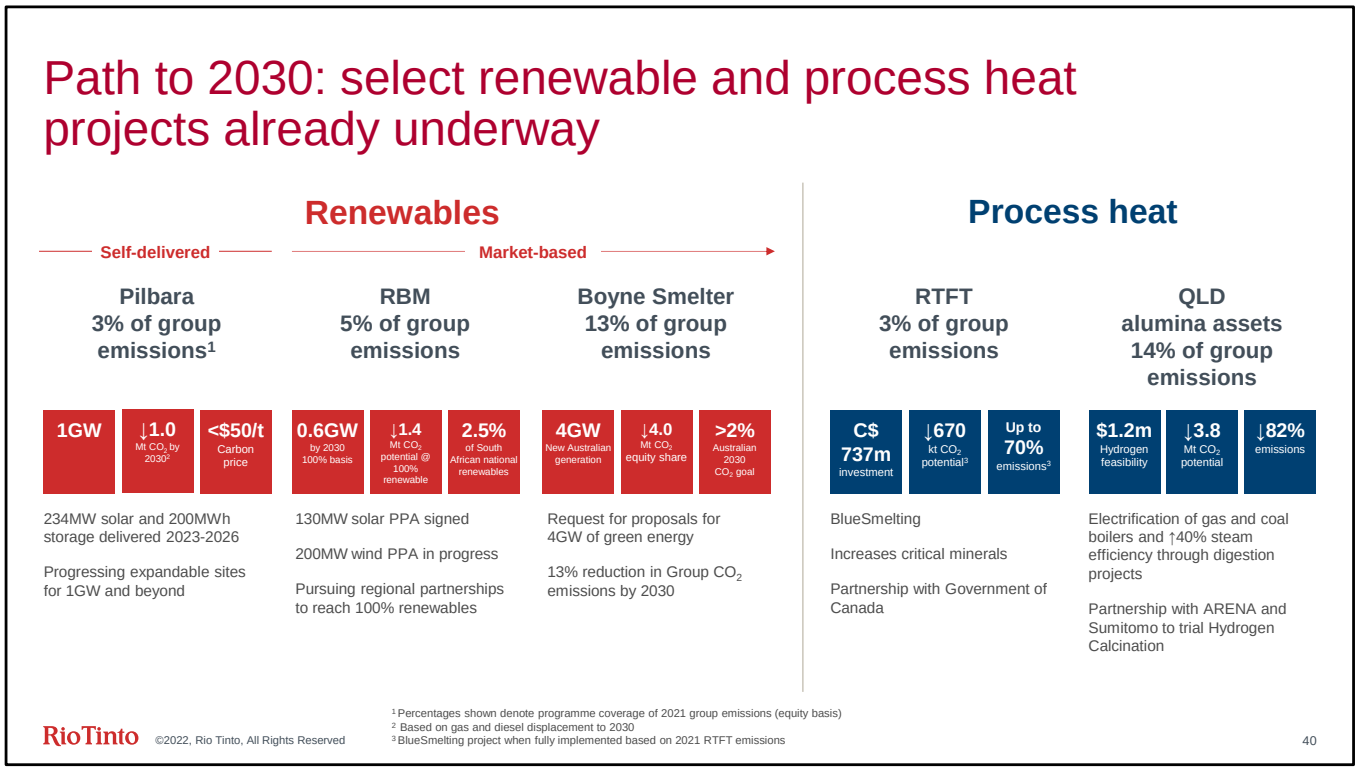
As I said earlier, we have teams in place and a pathway to significant emissions reductions by 2030, aligned to our six abatement programs. What you see here is the abatement resulting from execution at full potential excluding any adjustment for risk.

Offsets will play a role in our Decarbonisation strategy and we are developing high integrity nature-based solutions projects at and near our sites.

ELYSIS R&D is progressing well with the pilot cell

operating at the ELYSIS Industrial Research and Development Center in Saguenay since November 2021. As you will hear from Ivan later today, we are working towards a small deployment of ELYSIS in our operations, which will enable Net Zero Aluminium smelting.

Some of the technology we need to get to net zero by 2050 doesn't exist today, so we need to contribute, support and partner to make it a reality. That's why we're focused heavily on R&D - establishing the office of the Chief Scientist, and you heard from Nigel earlier today, and increasing our target spend to $400m a year.



I'll now give you some examples of work that is underway both in renewables and process heat.

We have established a new dedicated Energy Development team to enable renewables projects, both those we develop ourselves and solutions we'll purchase from the market.

So far we have completed investments of just under $100m in capex.

We are progressing work towards 1GW of renewable power in the Pilbara, with Phase 1 planned to deliver 234MW solar and 200MWh

storage from 2023-2026.

The first 34MW has already been delivered at Gudai-Darri, and long-lead investment approved for the next 100MW. We are planning to spend approximately $600m in capital for solar, storage and transmission as part of this initial phase, which is proposed to displace approximately 30% of our gas usage by end 2026.

Planning for Phase 2 is also underway with expandable sites having been selected for approximately 600MW of renewables – which will provide a credible transition towards fleet electrification once this technology is available - and ultimately enable full decarbonisation. These large renewable hubs are currently being progressed through approvals.

It makes sense for us to invest to develop renewables in the Pilbara as we own much of the infrastructure and operate the grid as part of our integrated operations. In other locations, power purchase agreements are a better option for us as other investors focused on renewables can develop large solutions at a more attractive cost of capital, offering us real operating cost savings.

We’ve signed a 130 megawatt solar power purchase agreement for Richards Bay Minerals in South

Africa, with a further 200 megawatts of wind in progress. We have partnerships in train to have RBM 100% powered by renewables by 2040.

And finally on the renewables side we have an RFP in progress to secure 4 GW of renewable power to provide a competitive future for our Queensland aluminium and alumina assets. Where we are continuing to work with stakeholders aiming to deliver a 13% reduction in total emissions by 2030.

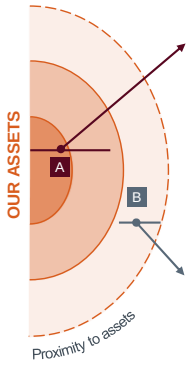
On the process heat side, we are leveraging extensive technical know-how from decades of innovation and operation to reduce emissions.

We developed Ilmenite smelting in Sorel in the 1950s and are investing $537 million to help reduce emissions by 70%. We are working in partnership with the Government of Canada and supporting technological innovations including BlueSmelting, a new ilmenite smelting technology that allows us to reduce and eventually eliminate the use of anthracite in the process.

At our Queensland Alumina operation, our double digestion project can deliver abatement but is also good for business with a positive NPV and potential opex savings in the order of $80 million per year from reduced bauxite, raw material and energy costs.

Increased role of Nature-based Solutions to support our ambitious targets

Two-pronged approach to secure high-quality credits



A

Developing Nature-based Solutions

- High-quality projects on or near our assets
- Connection to >4 million hectares of land
- Eight large-scale projects progressed to feasibility studies
- Potential ~500k hectares of land under conservation, restoration and sustainable management
- Community and biodiversity benefits

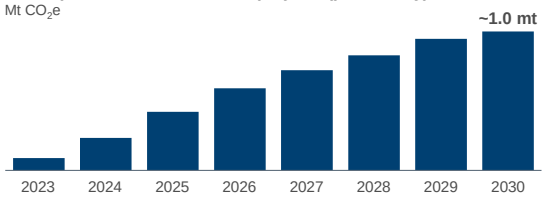
B

Market Activity

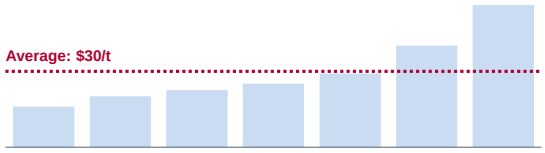
- Securing high-quality carbon credits
- Identifying options to move into co-financing and co-development for the long-term

Assessments show scale and favourable economics

Development run-rate first four projects (preliminary)
Mt CO_2e



Estimated development cost
$/t CO_2e



Projects range in price (~$20-$50/t)[1]

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[1] Range reflects project types (conservation, land management, reforestation) and landscapes (forest, mangroves, pastoral), with allocation for biodiversity and socio-economic benefits

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As I mentioned earlier, in addition to the six large abatement and replacement programs, nature-based solutions will be a key component of our strategy.

Earlier this year we set up a small team to lead this work, and we have made rapid progress.

We have access to more than 4 million hectares of land globally – that's roughly the size of Denmark – and with natural climate solutions we can use it for not only carbon offsets, but significant biodiversity and local social and economic benefits as well.

There are two parts to our approach – the first relates to developing nature-based solutions at or near our assets and the second is to secure high quality carbon credits in the regions we operate in. The two-pronged approach recognises that some of our abatement projects will have long lead times or require technology development - and we need a solution in the near term to ensure we meet our objectives in a cost-effective way.

This year, we completed studies at five high-potential landholdings within Rio Tinto's portfolio, focused on Australia, Madagascar, South Africa, and Guinea.

The scale of these projects is significant, with the potential for about 500,000 hectares of land under conservation, restoration, or sustainable management – with this first round of projects generating of up to 1mt CO2 offsets per year by 2030 with further reductions available in future projects.

To ensure projects are high quality, a range of activities - including restoration, livelihood and conservation - are incorporated into project design. This also helps reduce social and environmental risks for our operations and is highly complementary to our work in Simandou and

Madagascar.

We are now progressing the first round of sites, while in parallel completing carbon and biodiversity assessments on the next set of priority sites.

Projects are competitive and on average ‘lock-in’ a 30-year carbon price at less than $30/tonne - however, this does require some upfront expenditure.

We are scaling up Nature-based Solutions close to our assets

Generating carbon credits and positive outcomes for people and nature

For example – a 500 hectare community-driven project:

- 640,000 seedlings from local village nurseries
- 2,300 community members involved
- Tree species with strong carbon capture yields (~8 - 12t/ha)
- ~90% of investment going directly to community members for services

Additionality | Permanence | Human Rights & Social Safeguards | Ecological safeguards | Real Carbon Reductions

RioTinto

Having spent some time with the team over the last week I wanted to share with you an example of what nature-based solutions actually look like using one of our early small-scale projects in Madagascar.

We had 2300 community members involved in growing and planting over 640,000 saplings across 500 hectares of land. This project not only protected biodiversity and endangered forest habitats, but also addressed local community needs – with over 90% of the spend going directly to communities for saplings and planting activities

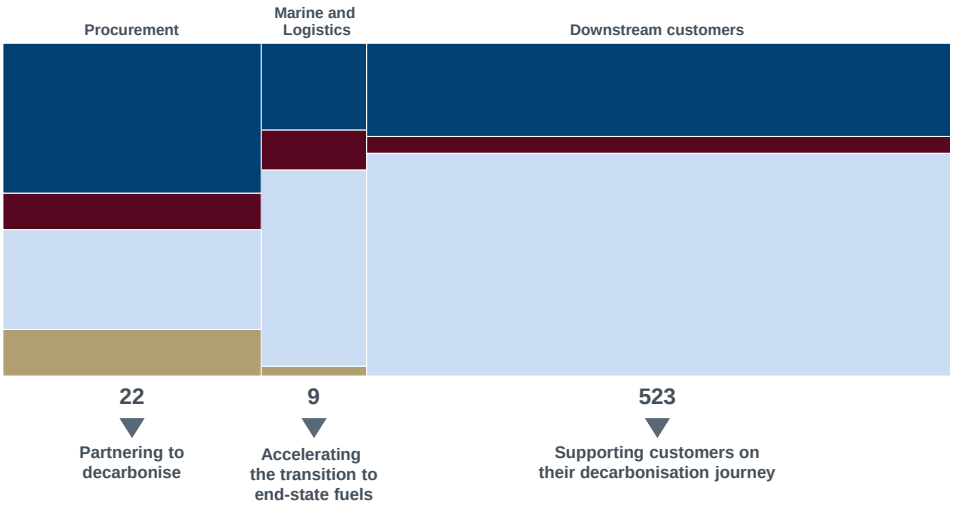
The species planted also have relatively high carbon capture yields of between 8 and 12 t/ha.

Such an approach can be scaled to restore vast areas of degraded forest land.

These activities and our work to secure high quality credits follow integrity criteria based on international best practice. This aims to ensure the eventual carbon credits represent real avoidance or reductions, and that people and nature are not negatively impacted by the projects.

I'll now hand over to Alf to discuss scope 3.

Supply chain emissions: scope 3



2021
equity basis

554
Mt CO_2e

- Aluminium
- Minerals
- Iron Ore
- Copper

Thanks Mark, I'll now shift the focus to Scope 3 emissions and how we are supporting our customers, and our customers' customers, in their decarbonisation journeys.

As you can see, these are material emissions, especially the downstream.

Since we spoke to you last year,

Jakob and I have seen a sea change in the desire from our customers to enter into long-term partnerships and contracts with Rio Tinto to help address the challenges they are facing to meet

their climate change aspirations.

Supporting our customers in their decarbonisation journeys

Multi-commodity, low-carbon and critical minerals

- Prioritising growth in materials needed for the transition
- Comprehensive green offer, with technical support
- Deeper partnerships with end-customers (OEMs)

Providing traceability to the end consumer

- Responding to customer traceability, transparency needs
- Over 110 customers signed up for START platform
- QR codes piloted on Corona beverage cans to enable more informed choices for consumers

RioTinto 44

The conversations we're having with customers are around 3 key areas:

Providing materials necessary for the energy transition, as Vivek highlighted;

Providing low carbon products, like our Canadian aluminium, and zero carbon products like ELYSIS, which Mark and Ivan are touching on, and;

Support in decarbonising their processes, as Nigel highlighted.

For example, on the first, we are seeing automotive OEMs reaching out to us further up the value chain

to secure the materials they need for their EV aspirations, such as lithium, copper and low carbon aluminium.

Our recent partnerships to develop more secure and sustainable supply chains with Ford and Volvo Group are prime examples.

With Ford, in 2022 we formed a partnership for battery and low-carbon materials, and to explore Ford becoming the foundation customer for Rincon.

With Volvo Group, our partnership covers multi-commodity supply for their green transition, and as a customer of their trucks, we also collaborate on developing small autonomous electric vehicle technology for our operations, as mentioned by Nigel.

On providing low carbon products, a great example is our continued partnership with ABInbev, with whom we launched this year a specially-marked Corona beverage can with the lowest CO2 footprint in the world – made from Rio Tinto aluminium, including ELYSIS.

The cans included a QR code, leveraging START, Sustainability, Traceability, Assurance from Rio Tinto, our blockchain technology which we launched in 2021.

This provides customers with 14 key ESG KPIs and

now has over 110 customers signed up.

Consumers can scan the QR code with their phones and be directed to a webpage to see exactly how the products were made from the mine to their hands – and make more informed choices on what they buy.

Supplying our customers with low carbon products is not only addressing our emissions at sites but also those generated in shipping our products to customers.

Last year we committed to reduce our CO2 emissions intensity in shipping by 40% by 2025, five years ahead of the IMO deadline.

We are well on track on delivering with over 30% reduction to date. And we have successfully trialled a fuel blend with biofuels, with a 26% CO2 emissions reduction.

We also committed last year to have net zero vessels in our portfolio by 2030. As the largest shipper by tonnage in the world, we have a role to play and are actively exploring partnerships.

Currently, the end-state fuel solution is not clear, but we are focussing our efforts on green methanol and green ammonia.

Supporting our customers - steel decarbonisation

In the third area, supporting our customers on their decarbonisation, steel is the biggest Scope 3 contributor – representing over 65%.

Last year we introduced a new programme – working closely with Simon, Sinead, Bold and Nigel and their teams - around 6 main pillars which seek to find the best ways to process our iron ore in low carbon ways, while at the same time positioning Rio Tinto to be a leading participant in the market.

These pillars look at the full value chain from iron ore through to producing green steel. Since then,

our dedicated Rio Tinto Steel Decarbonisation team has progressed significantly, advancing 49 projects,

together with over 30 partners, with a spend of $75M in 2023 – providing optionality.

On the Blast Furnace Optimisation pillar – we have extended our collaboration with over 20 customers, such as Baowu, POSCO, Nippon Steel and Shougang, working to achieve 20-30% reductions.

As Nigel previously mentioned, in a very exciting development, we have successfully proven the effectiveness of our BioIron pathway, which uses sustainable biomass as a reductant and microwave energy.

This is shaping up as an attractive solution for producing near-zero CO2 steel with Pilbara ores. We are now planning the development of a larger-scale pilot plant to further assess its potential.

Hydrogen-based DRI continues be a leading contender in green steel technology.

We are working with BlueScope on a pilot project to explore the use of green hydrogen to directly reduce Pilbara iron ores into a product that could then be processed in an electric melter to produce low carbon steel.

My strong belief these partnerships with customers

are at the heart of the added value Rio Tinto can deliver.

We are in this together and need to work in partnership to address the challenges – finding better ways to provide the materials the world needs.

No one company will solve these challenges alone.

I will now pass to Simon.

Thanks Mark and Alf for the introduction and hello everyone

I'd like to acknowledge all the First Nations people on who's land our Iron Ore business operates.

Reflecting on my own journey, I would like to thank all the Traditional Owners in Western Australia that have invested so much of their time with me over the last 18 months. The insight and perspectives they have shared have shaped our approach to the reset of our relationships.

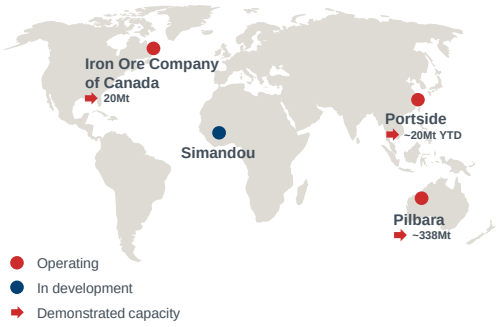
Two things I would like you to take away from today:

Why we have the best positioned global iron ore portfolio

Our recent progress in the Pilbara. And the momentum that we will carry into next year.

A global portfolio with products for today and tomorrow

Unrivalled global resource portfolio

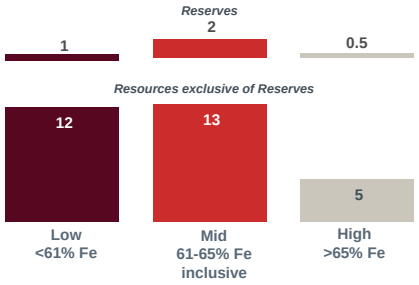


Strategic differentiators

- Pilbara Infrastructure
- Joint Venture Partnerships
- Scale & Resilience
- Product Grade Spread

Resources for a compelling product suite

Global Mineral Resources & Ore Reserves[1]
Billions of dry tonnes, published grades



Pilbara
Pilbara Blend
Green steel application pathways

Iron Ore Company of Canada
High-grade, low-impurity products with Direct Reduction Iron market presence

Simandou
Blast furnace feed or Direct Reduction Iron products

China Portside
Global blending capability providing greater customer access

[1] See supporting references for categorisation of Rio Tinto's Mineral Resources and Ore Reserves on slide 3

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I'll start with our global portfolio.

This is a fantastic business.

Today we supply around 19% of the contestable iron ore market

Our flagship Pilbara Blend Product remains the industry baseload.

Our operations are complimented by our portside blending business in China.

Three things that distinguish us:

Firstly, unparalleled scale across this global

footprint

Secondly, growth and replacement options, including Simandou and Rhodes Ridge, which positions us to meet future customer needs. We have options across the full suite of products - low grade, mid-grade and high grade, particularly important as we transition to a green steel future

Finally, partnerships that provide ongoing market access. Partnerships have always been part of our heritage. From 50 years of the Robe River JV with our Japanese partners, and Channar with the Chinese steel industry.

Simandou, which Bold is progressing, will help to facilitate another, multi-decade partnership with our largest shareholder, Chinalco, and Baowu, our largest iron ore customer.

In the Pilbara, we’re also strengthening this relationship with Baowu through the Western Range Joint Venture.

Delivering in 2022

	2022 Outcomes	Looking forward
Best operator	Record material movement. Strong H2 production Strong performance at IOC Safe Production System delivering	**We approach 2023 with momentum**
Excel in development	120Mt of Pilbara mines commissioning Unlocked Western Range Project and Rhodes Ridge JV Simandou JV incorporation	**Mine developments provide replacement or growth options** **Rhodes JV underpins our competitive position for decades**
Impeccable ESG credentials	34MW Gudai-Darri solar farm commissioned Initial funding for 100MW Pilbara coastal solar farm as part of Phase 1 BioIron™ successful pilot	**Progress towards a lower cost renewables powered business** **Developing green steel pathways at the next level of scale**
Social license	Three fold increase[1] in spend with indigenous businesses Agreements with Yinhawangka and Yindjibarndi PKKP remedy and co-management agreements	**Positioning for a future defined by access to country**
People at our Heart	Everyday Respect report released with actions in place Village upgrades and enhanced amenities Improved diversity and 7% uplift for Respect on employee survey	**Building a values based performance culture**

[1] Three fold increase in Pilbara Iron Ore indigenous spend since 2018

This year we delivered on the focus areas I spoke to you about at last years capital markets.

On best operator, I talked in detail about the three parts of our operating system.

In the mines we were struggling to keep pace with depletion and rail and port capacity was in excess of mining rates, which continued into 2022.

We are now finishing the year strongly in the Pilbara.

IOC will produce more in 2022 than it has for each of the last 5 years. A great achievement for Sinead

and her team supported by Arnaud's SPS team.

On excel in development, securing a new JV agreement to enable development of Rhodes Ridge, together with the environmental and heritage approvals for Western Range gives us greater confidence going forward.

As Mark outlined, we recently approved early works on a 100 MW Pilbara coastal solar farm. Construction begins in 2023 and when developed it will produce electrons 90% cheaper than the gas turbines it replaces, or around 20 cents per tonne at current gas prices.

Probably the achievement I am most proud of is we have gone another year fatality free in Rio Tinto. We have more work to do further reduce our risk exposure - there is nothing more important than our people going home safe each and everyday.

Competitive advantage in the last 20 years has been about access to infrastructure. The next 20 years it will also be determined by access to country.

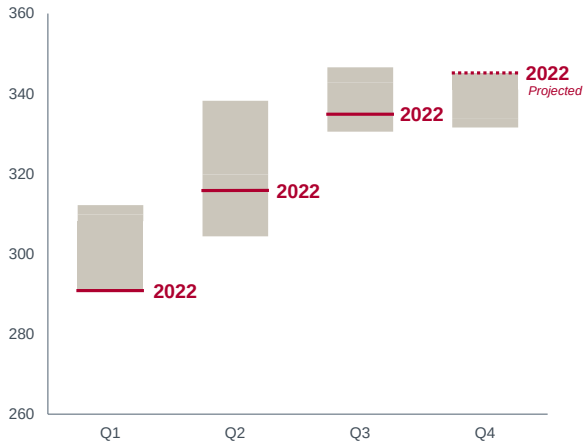
Our organisation is better connected to Traditional Owners and the communities where we operate.

Last week I signed an agreement with the Puuti Kunti Kurrama and Pinikura peoples to create the Juukan Gorge Legacy Foundation as part of remedy for the destruction of the rockshelters in Juukan

Gorge. This is a significant step forward on what remains a long journey. I would like to thank the PKKP people, their elders, and the Corporation for their guidance and leadership in reaching this agreement.

Momentum building quarter on quarter

Mine production ranges by quarter[1]
(2019 to 2022, Mt/a)



	2023 focus areas	Next 5 years
Mines	Ramp-up new mines Drive productivity with SPS Asset reliability and pit health	Next tranche of mine developments Low-cost volume creep
Rail & Port	Mitigate system interface losses Track health and cycle time	High density ore upgrade Blending (Pilbara and China) to optimise product mix Replace stockyard equipment

[1] Minimum and maximum range is based on annualised quarterly figures for the period 2019-2022
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Turning now to how we are placed in 2023.

The chart on the left-hand side shows the range of production levels by quarter over the last few years.

First half in 2022 was challenging – ongoing mine depletion was not being replaced, with the delays to our new projects. Although production was at the lower end of the last 5 years, we maintained a disciplined focus on mine health to move the waste we needed.

This approach means we are now finishing the year with better momentum.

We are ramping up our new projects. Improved pit health is translating to reduced wait for feed in our crushers.

In 2022, we will achieve our highest ever total material moved. Compared to the same time last year, our blasted in-pit stocks have doubled and our run-of-mine stockpiles in front of our crushers has increased by 20%.

In terms of mine production, last month was our best October ever for mine and rail.

We are seeking to improve performance quarter on quarter, and are on track for one of our highest ever halves.

We are still not operating as well as we know we can, and there are many areas where we can improve.

In 2023 we will focus on ramping up Gudai-Darri and Robe Valley to full rates.

In the next 5 years, we will continue to drive productivity improvements with further SPS deployments, and execute low cost creep opportunities.

These include extending the use of the incremental Gudai Darri crushing and screening plant we installed to accelerate commissioning, lump

scalping to liberate 3Mt of lump in 2023 and 2024, and road training material from Brockman 4 to Brockman 2 to utilise available crusher capacity.

Performance uplift across early SPS deployments

↑ **6%**
at deployed sites
Employee satisfaction

↓ **Up to 46%**
improvement at deployed sites
All Injury Frequency Rate

Tom Price

↑ **19%**
AHS equipment utilisation

↑ **14%**
HG production daily rate

Brockman 4

↑ **33%**
Weekly total material movement

↑ **9%**
Monthly Production from baseline

2021
Pilots at West Angelas, Yandicoogina

2022
2 full deployments at Tom Price & Brockman 4

2023
Further deployments across mines, rail, ports & ops centre

Deliver up to 5Mt production uplift in 2023

RioTinto

SPS is a structured approach that brings together cultural change to empower the frontline, design best practice and then replicate across the system.

In 2021 we piloted SPS at two of our sites — West Angelas and Yandicoogina

The success of these pilots gave us confidence to undertake full deployments this year at Tom Price and Brockman 4.

The results are impressive. We have seen an uplift in engagement, safety and key productivity metrics. There are some examples shown on this slide, but

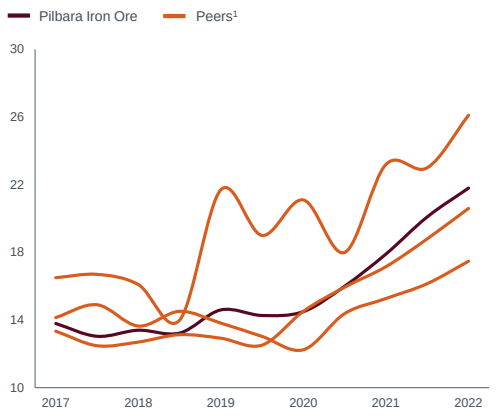
I’ll talk to this in more detail on an upcoming panel.

The systematic approach and structured process of SPS is yielding results. We are now targeting a 5 Mt uplift from SPS in 2023.

Costs reflect investment in improving asset health and mining sector input prices

2022 Forecast vs 2021

Unit cost history
(US$/t FOB)



Uncontrollable

Sector input prices

↑ **2 x**
Diesel

↑ **5 – 10%**
Materials & Labour

Economic

↓ **12%**
Exchange Rate

↑ **>7%²**
Inflation

Controllable

Work Index

↑ **12%**
Mine Work Index

↑ **4%**
Total Maintenance hours

Productivity

↑ **+340Mt**
2022 H2 production rate

↓ **7%**
Plant unscheduled loss

↑ **4%**
Truck effective utilisation

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¹ Unit cost for peers are based off publicly available sales, revenue and EBITDA data, with adjustments made for comparison to RTIO's reporting method and products
² Cost inflation sourced from Australian Bureau of Statistics, Producer Price Indexes

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Turning to costs – in 2022 our costs increased by around $2/t.

The total increase was around $4/t. Around ¾ from input price escalation, mainly labour and energy, and the remainder due to 12% higher work index and additional investment in maintenance.

These increases were partially offset by productivity in the second half, inventory movements and exchange rate, which offset around $2/t of the increase, resulting in 2022 costs of around $21/t.

As we look forward, some of these headwinds begin to moderate.

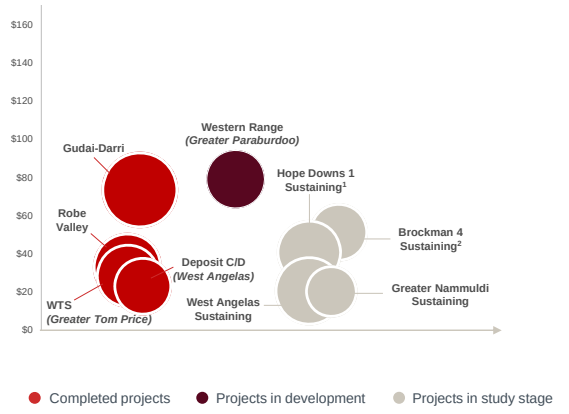
The rate of increase in our mining work index slows to 5%. We will offset this increase with productivity.

Our US dollar EBIDTA unit costs will increase due to inventory movements, with 2023 guidance of between $21.0 to $22.5/t

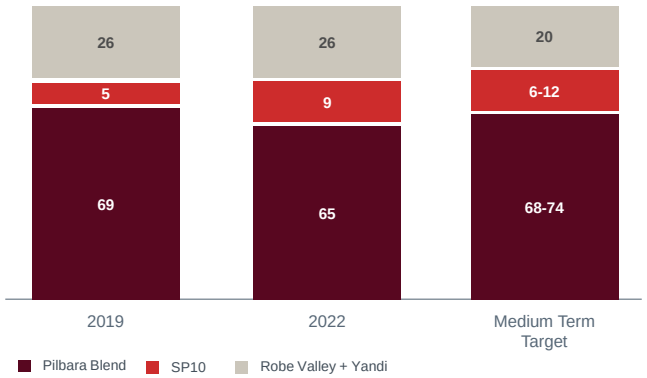
As we look forward, more stability in our mines and the next tranche of mine replenishments provide a structural cost improvement.

We are delivering an improved mine portfolio that maximises Pilbara Blend

Mine Capital Intensity
(US$ / tpa)



Shipments by Product
(%)



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[1]Hope Downs 1 sustaining includes Bedded Hilltop and Hope Downs 2
[2]Brockman 4 sustaining includes Brockman Syncline 1

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Mark's team have done an immense amount of work to deliver 120Mt of projects during a global pandemic. Equipment defects and access to labor meant completion was later than planned.

We have learnt a lot that we will carry into the next tranche of replacement mines and their capital intensity of the next phase will be lower and more in-line with previous similar projects.

We have also begun order of magnitude study at Rhodes Ridge, which we expect to complete in 2023, and we are considering how we simplify our

other mine developments as we integrate Rhodes into our planning.

Study work on Gudai-Darri phase 2 is ongoing. With what we have learnt with the Phase 1 development both about the ore body, the social surrounds, and the optionality that the incremental tonnes plant has provided, we are re-visiting the development pathway of the broader ore body.

Risks to approvals time frames in the Pilbara are increasing. Through the dedication of our teams and their commitment to genuine partnerships, we are starting to find a way through.

The chart on the right shows the product split in the medium term. SP10 provides us with important flexibility in our system, protecting volumes and Pilbara blend grades as we resolve resource access constraints.

For SP10, the next few years will be towards the bottom end of range shown. As we push past 345 million tonnes, SP10 levels fluctuate depending on timing of project approvals and overall production levels.

In 2022 we expect Sp10 levels to be a bit below last year. In the second half we have bought a bit more SP10 to market than planned and conserved Pilbara Blend, as product spreads between SP10 and the 62

index narrowed in China to around 10%.

Western Range represents our first co-designed mine with Traditional Owners

Strong ties with China's leading steel maker

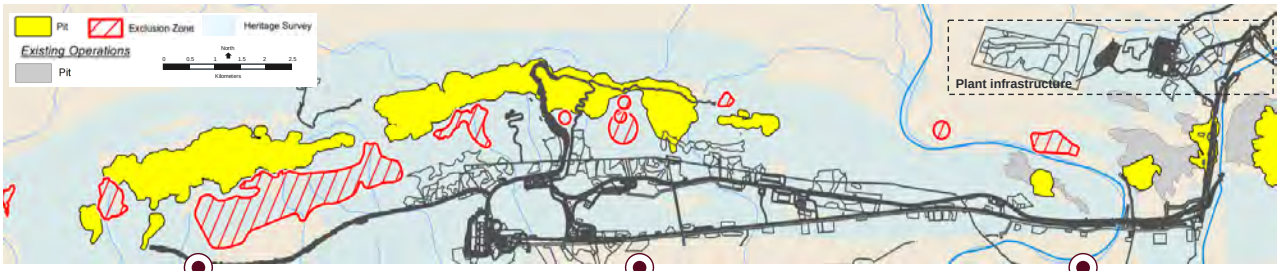
Agreed new Western Range JV with China Baowu Steel Group (Baowu, 46%)

Strengthen Pilbara Blend

25Mt/a of Pilbara Blend process capacity through the Paraburdoo mining hub with first ore in 2025

Tier 1 asset

High grade 165Mt @ 62.0% Fe[1], leveraging existing infrastructure with low cost mining



Cultural heritage protected

Significant sites identified by the Yinhawangka Traditional Owners are protected

Impact minimised

Rigorous and ongoing consultation informed mine designs and infrastructure layout

Return to Country commitments

Integrated closure planning and progressive rehabilitation to limit the development footprint

RioTinto

[1] See supporting references at Slide 3

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We are changing the way we work with Traditional Owners to better protect heritage. We acknowledge that we have a long way to go.

Over the past two years we have made major changes to our mining sequences as we have worked through the review of heritage sites in our mining footprint.

These changes have had an impact. For example, when we compare the current mine plan for one of our largest sites against the 2019 mine plan, only 20% of ore will be mined as originally scheduled.

The slide shown here is an example of a new model for working with traditional owners.

Western Range on Yinhawangka Country is the first mine we have co-designed.

Together we worked through various mine design scenario's to design the footprint, and jointly developed the Social and Cultural Heritage Management Plan.

At Western Range we have learnt about the connectivity between sites of significance. We are engaging traditional owners in the Pilbara on social surrounds for new mines and existing operations.

Co-design lead to better heritage and environmental outcomes, and better certainty for mine development.

Rhodes Ridge will underpin our competitive position for decades to come

Large, high grade and compact

Iron Ore Resources and Reserves[1]
(Billions of tonnes)

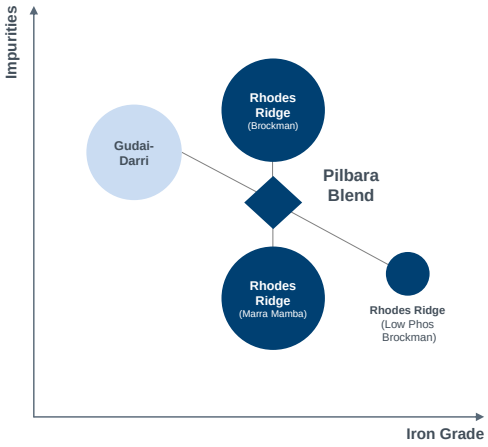
Area
(km²)

Rhodes Ridge (Australia)
6.7Bt @ 61.6% Fe
Resources
Including:
5.7Bt @ 62.3% Fe
0.5Bt @ 64.0% Fe
6.7
1,800 km²
30km x 60km

Simandou Blocks 3 & 4[2] (Guinea)
2.8Bt @ 65.5% Fe
Resources
2.8
+ Blocks 1&2[2]
1,250 km²
25km x 50km

Carajas[3] (Brazil)
2.9Bt Resource at 62.8% Fe
6.1Bt Reserve at 65.8% Fe
Resources exclusive of Reserves
2.9
Reserves
6.1
3,750 km²
75km x 50km

Perfect for Pilbara Blend



[1] See supporting references at Slide 3
[2] Rio Tinto owns 45.05% of Simandou Blocks 3 and 4, which contains a Mineral Resource of 2.8Bt at 65.5% Fe. Simandou Blocks 1 & 2 are owned by Winning Consortium Simandou (WCS). UBS 'Global Research and Evidence Lab' dated 25 May 2022 estimated Mineral Resource of ~2.7Bt and Ore Reserve of ~1.8Bt at 65.5% Fe
[3] Based on publicly reported data. Vale's Carajas Resource (Northern System) is sourced from the Form 20-F as filed with the Securities and Exchange Commission on April 14, 2022. Vale reports Mineral Resources exclusive of Ore Reserves and therefore exclusive Mineral Resources have been shown with Ore Reserves for visual comparison purposes

RioTinto 54

In October we unlocked a pathway for the Rhodes Ridge development and entered Joint Venture agreements with our partners.

These deposits are among the largest and highest quality undeveloped resources globally, and entry into new agreements was a very significant step for our business.

5.7 billion tonnes of mineral resources above 62% iron content, including 0.5 billion tonnes at 64% Fe grade.

The high grade from Rhodes Ridge is a perfect

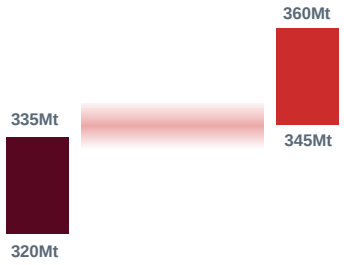
contribution to the Pilbara Blend and provides green steel options as we position for the future.

We have commenced an Order of Magnitude study targeting a 40mt/a development before the end of the decade.

Rhodes will transform our production base and underpin our business for decades.

We are committed to working closely with the Traditional Owners, the Nyiyaparli and Ngarlawangga Peoples to establish a Social and Cultural Heritage Management Plan that protects sites of significance, minimizes impacts during construction and operations phases and establishes ‘return to country’ commitments.

System outlook and guidance



2023 Guidance[1]

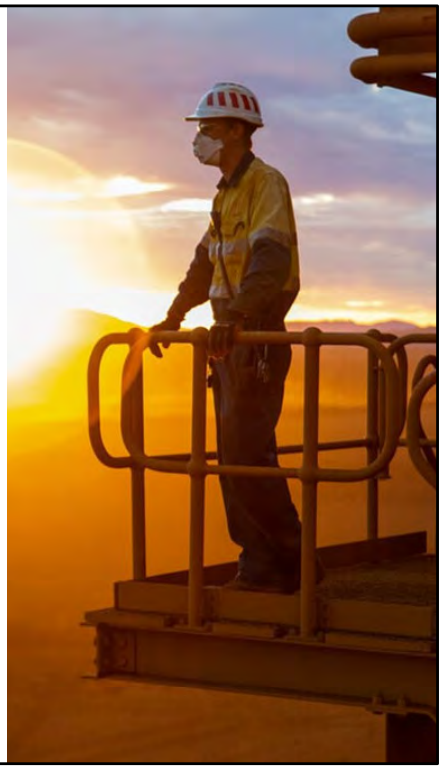
Shipments: 320 – 335Mt (100% basis)

Unit costs: $21.0 - $22.5/t (0.70 A$:US$)

Sustaining capital: ~$1.8 billion
Decarbonisation investment: $0.3 billion

Mid Term Guidance[1]

Shipments: 345 - 360Mt (100% basis)



[1] Subject to market and other conditions

We finish 2022 with momentum.

We expect this year's shipments to be at the low end of our 2022 guidance of 320 to 335 million tonnes.

This demonstrated level of 320 million tonnes forms the bottom of our 2023 guidance.

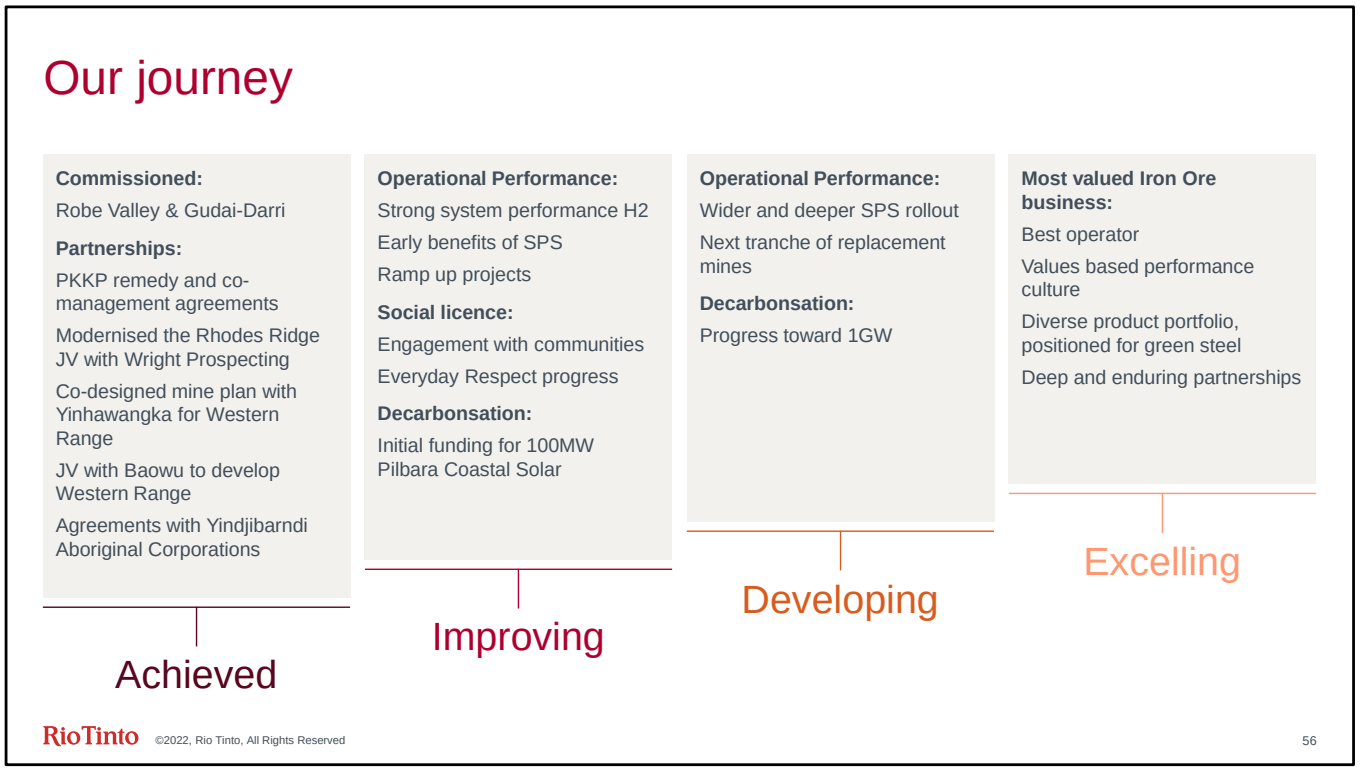
The top end is derived by:

- taking this year's end of year forecast,
- remove the impact of projected 2023 depletion of around 17 million tonnes

- then add the incremental tonnes we expect to deliver next year from Gudai Darri, Robe River and SPS.

- Which gives us that top end of guidance of 335mt.

Longer term, the combination of our superior infrastructure position, coupled with an improving mine portfolio has us well positioned to lift production to 345 – 360Mt in the mid-term.



In summary, we are making progress on our journey.

We are securing our future;

Connecting more closely with our communities

Derisking future cash flows by decarbonising our business and positioning for green steel

And progressing the development of Rhodes Ridge

These actions will underpin our competitive position for decades.

Our iron ore business has unrivalled scale, superior

infrastructure and a global resource mix from which to optimise value in all market scenarios.

We are on track for a strong second half, and approach 2023 with momentum.

The operational improvements we are seeing, combined with a values-based performance culture will enable us to deliver in the near term and lay the foundation for our return to best operator.

Thanks for listening and I'll now hand over to Menno to facilitate the first round of Q&A.

Q&A 1

Panel session 2

Best Operator

Arnaud Soirat, Simon Trott, Kellie Parker

Moderated by Isabelle Deschamps

Weipa operations, Queensland

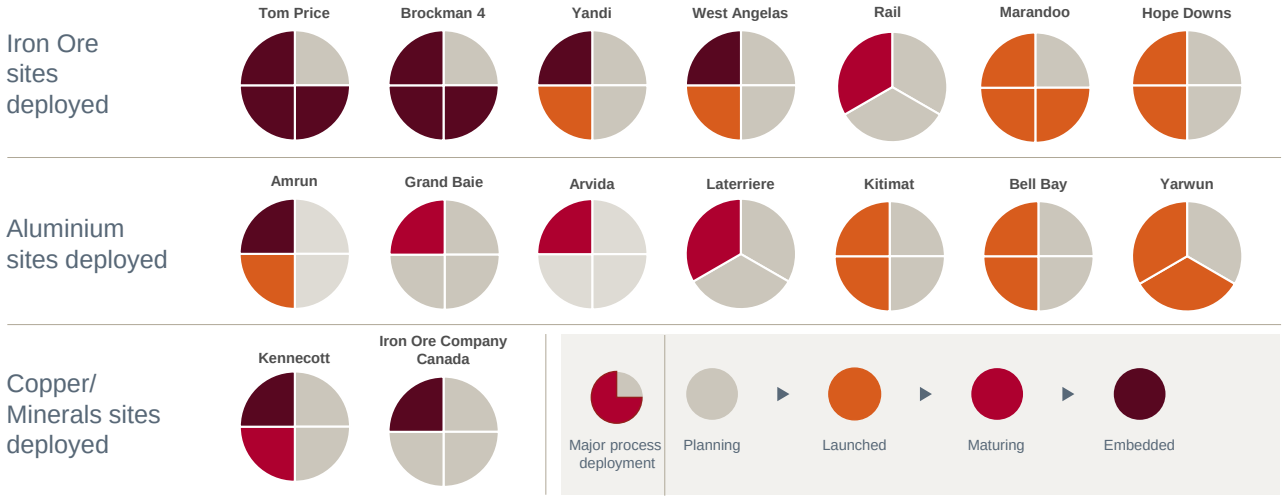
Safe Production System (SPS)

Best operator

Building a lasting competitive advantage with our people. We want to empower them to safely run assets that are in control, capable and performing better than any of our competitors.

Care	Courage	Curiosity

Site-by-site progression: 30 deployments in 16 sites (end of November)



2022 performance uplift at deployment sites

Safety

8% ↑

Year on year improvement in AIFR

People

3% ↑

People Survey scores higher than the rest of their site

Equipment utilisation

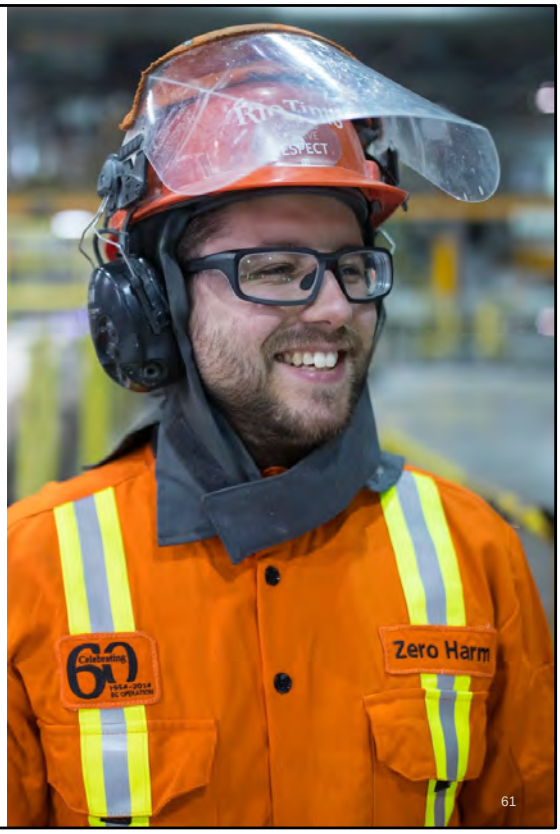
5% ↑

Improved online time when compared to the same period last year

Variability

↓ 7%

Process variability reduction



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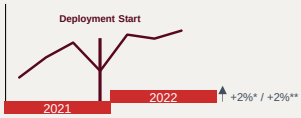
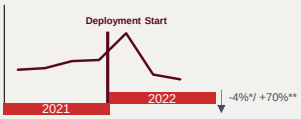
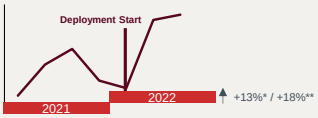
Improvements across safety, people and productivity

SPS impact	Kennecott concentrator	IOC concentrator	Amrun fixed plant
Safety Practices and training have improved safety* performance *AIFR measured at the asset 	**AIFR** **42%** improvement YTD compared to 2021	**AIFR** **44%** improvement YTD compared to 2021	**AIFR** **29%** improvement YTD compared to 2021
People Our measure of engagement over bi- annual surveys show significant improvements in empowerment across lighthouse sites 	**Employee Satisfaction** **6%** improvement compared to the rest of the site. Strongest in empowerment and inclusion	**Employee Satisfaction** **5%** improvement compared to the rest of the site across collaboration, empowerment and resources	**Employee Engagement** **64%** improvement compared to the rest of the site in employee participation in the people survey
Productivity SPS supports operating time by addressing asset stability and availability 	**Operating Rate** (monthly) 	**Standard Deviation** (quarterly controllable) 	**Operating Time** (quarterly without shipping constraint) 

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* Absolute change – from deployment start date (data excludes shipping constraints)
** Improvement change – from deployment start date (data excludes shutdowns & shipping constraints)

Performance uplift across early SPS deployments in Iron Ore

↑ **6%[1]**
at deployed sites
Employee satisfaction

↓ **Up to 46%[1]**
improvement at deployed sites
All Injury Frequency Rate

Tom Price

↑ **19%**
AHS equipment utilisation

↑ **14%**
HG production daily rate

Brockman 4

↑ **33%**
Weekly Total Material Movement

↑ **9%**
Monthly production

2021
Pilots at West Angelas, Yandicoogina

2022
Full deployment at Tom Price and Brockman 4

2023
Further deployments across Mines, Rail, Ports & Ops Centre

Deliver up to 5Mt production uplift in 2023

RioTinto

[1] All metrics relate to Pilbara Iron Ore

Global priorities in 2023

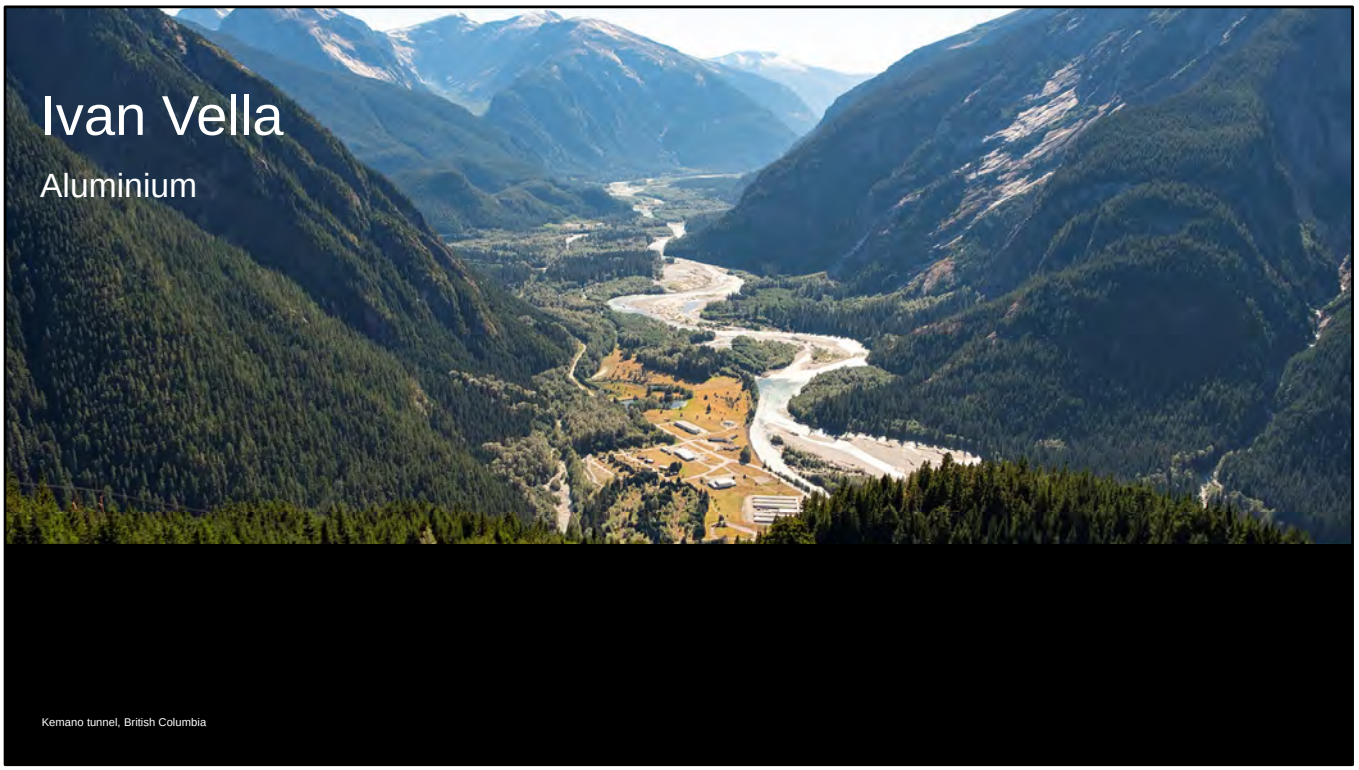
Deployment sites	New sites			Total Sites*
	2021	2022	2023	
Iron Ore	2	5	2-6	9-13
Aluminium	1	6	1	8
Copper	1	0	0	1
Minerals	1	0	1	2
Total	**5**	**11**	**4-8**	**20-24**

Priorities in 2023:

- Rolling out at new sites and going deeper at existing sites where we have already deployed to increase sustainable impact
- Focus on improving asset health and performance to stabilise production variability
- Identify key Kaizens (problem solving opportunities) to address high-priority improvements, with replication across Rio Tinto
- Upskill our people through training programmes

RioTinto

* 43 eligible sites across Rio Tinto



Good morning and good evening, it is a great pleasure to be here today and share an update on the work we have been doing across our global aluminium business over the last 12 months.

In the next 15 minutes:

I want to share some reflections on the attractiveness of the aluminium industry and some short-term trends we are seeing.

I will also describe the work we are doing to improve our operations and bring some of our assets back to full operating capacity, while

deploying the Rio Tinto safe production system.

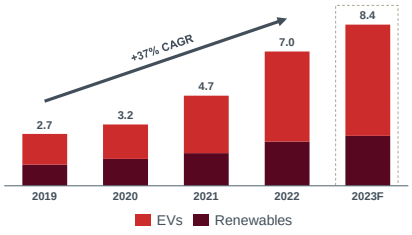
I will talk through actions we are taking to decarbonise our business and of course grow our low-carbon aluminium business in the attractive North American region.

And finally, I will give you a short update on the work we are doing more broadly about Rio Tinto's positioning in North America and how we can support the energy transition.

Positioned to meet customers' needs in energy transition

Energy transition demand

Aluminium consumption from green applications
Mt

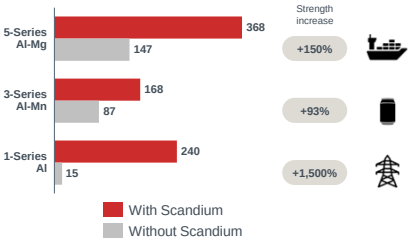


Sources: Rio Tinto, CRU

Energy transition-led demand drives overall growth – 9% of total aluminium demand but over 60% of growth in 2023

Material innovation – Scandium

Aluminium yield strength
Mega Pascals, for selected aluminium alloy series



Source: scale-project.eu

Leveraging Rio Tinto's leading Scandium production to develop high strength and high-performance aluminium alloys

Commercial value proposition

Aluminium has a key role to play in delivering a net zero world

RioTinto 66

Earlier today Vivek shared some insights around the macro drivers we are seeing across the world. The aluminium industry is heavily affected by these megatrends.

We continue to validate our conviction of the structural shift in the industry.

The demand for aluminium in green applications is driving most of the growth in our sector.

This includes electric vehicles, packaging, and of course the build-up of renewable capacity and supporting power networks.

We are seeing our customers becoming more ESG conscious in their purchasing behaviours.

Most have introduced net zero carbon emissions targets for their products, and some are already committing to purchase ultra-low carbon primary aluminium.

Our customers are also starting to look beyond low carbon content, for aluminium that is produced responsibly.

We have been doing some exciting work in the development of Scandium-Aluminium alloys.

The attractive strength properties of these alloys have been known for some time, but their application has been constrained by the limited scandium availability.

We now have a unique opportunity. We can now combine scandium from our Iron & Titanium business with our aluminium production.

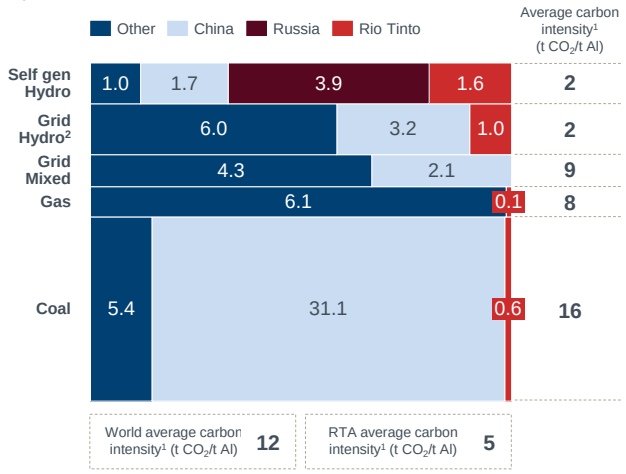
And we see growing opportunity for this alloy in in a range of areas such as aerospace, vehicle components and power related equipment.

This is just one example of how we are finding better ways to meet the evolving needs of our customers in the energy transition.

Privileged low-carbon hydro resources in North America

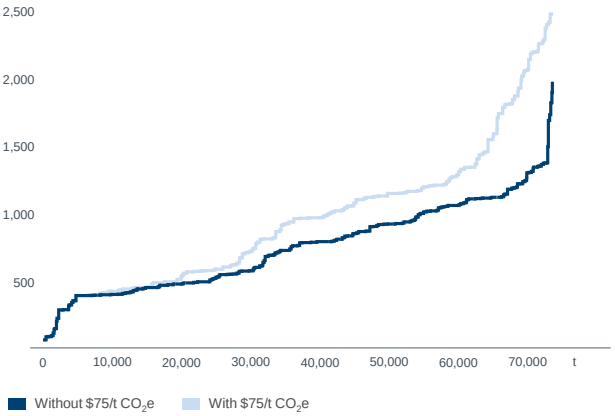
Global aluminum production by energy source

Mt



2023 global aluminium smelters energy cost curve

$/t



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¹ Scope 1 and 2 emissions for aluminium smelting only ² RT grid hydro including JVs in Canada & New Zealand, plus Bell Bay and ISAL
Sources: Rio Tinto, CRU

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Looking at the supply side, we've got a leading position in the most privileged segment of the industry.

Along with only a few other competitors we have access to low-cost self-generated hydro power. This is a unique and highly constrained segment with little potential for growth.

This segment which reflects zero carbon energy at very low costs is particularly attractive.

It is an exclusive club, even more so as we observe more of the market self-sanctioning the use of

Russian metal.

More than half of the industry relies on coal-based power, particularly in China.

And this is also becoming a constrained segment, as illustrated by China's 45 Mt cap on aluminium production.

It is also a segment that will face increasing economic challenges from the energy transition.

And over the past 12 months, we have seen governments take action to accelerate the energy transition while protecting growth and jobs

And of course shoring up the supply of strategic materials like aluminium.

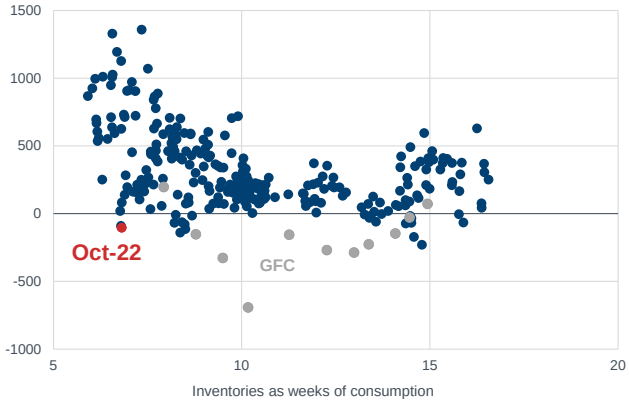
Governments from Canada, the US and Australia have all been clear about their support but also their expectations as we decarbonise our operations.

And the combination of these demand and supply trends are confirming our conviction in the future of the aluminium industry.

Current market conditions are short term and cyclical

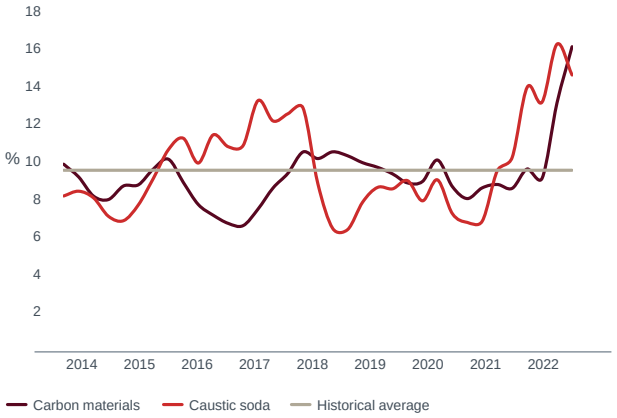
Smelter operating margin and global inventories as weeks of consumption

75th percentile smelter margin, 2022 $/t, 2000-2022 monthly data



Raw materials are high this cycle in relation to LME

Carbon materials and caustic soda costs as percentage of aluminium and alumina prices respectively at typical usage rates



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Sources: Rio Tinto Market Analysis, CRU, LME, Rio Tinto Market Analysis, CRU. Grey dots denote Global Financial Crisis

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Aside from this structural shift, aluminium is and will continue to be a cyclical industry.

There are strong relationships between raw material, energy cost and metal prices.

The industry is currently facing a significant margin squeeze.

The chart on the left shows the correlation between margins at the 75th percentile of the global aluminium cost curve and the relative size of metal inventories.

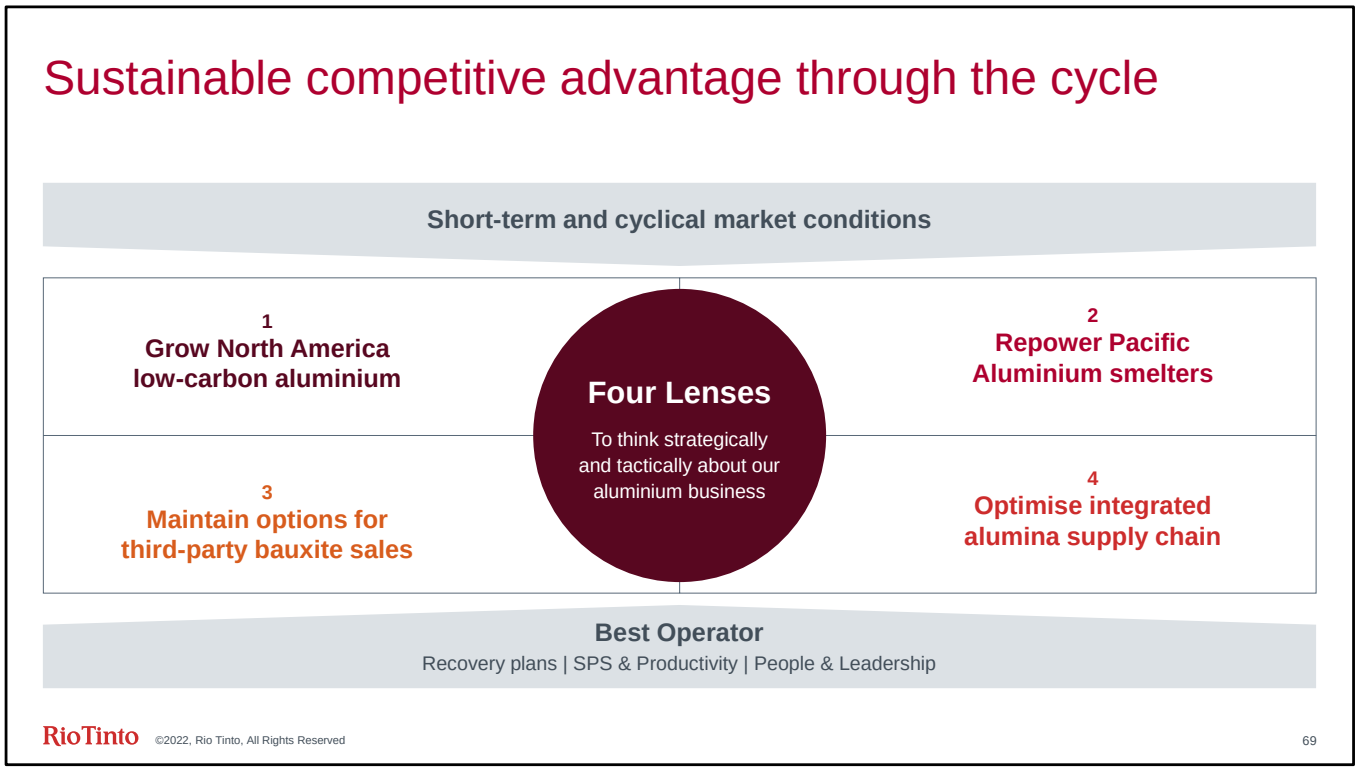
Typically, aluminium producers have seen higher

margins when inventories are so low, but this is not true today.

And we see the current context as an anomaly most likely due to the very negative economic sentiment we see in key markets.

The global energy crisis is also creating further impacts.

And this can be seen on the chart on the right. The impact of energy prices has stretched the relationship between raw material costs and LME prices to peaks higher than we've seen in previous cycles.



Rio Tinto has a global portfolio of assets across the aluminium value chain. We tend to look at these through four lenses:

Our ambition is to grow our Canadian assets. This is the highly competitive part of our business and ideally positioned to supply the structurally short North American market.

By contrast our smelters on the East Coast of Australia and New Zealand carry much more difficult contexts. We are challenging ourselves to deliver more value as we seek to re-power these

smelters on competitive terms with green energy sources.

As the industry's largest 3rd party bauxite supplier, we have developed a significant presence in the seaborne bauxite market and we are looking to maintain our options.

And finally, the integrated bauxite and alumina value chain is the lens that links all the other components together. Through our asset base, we have a long-Pacific and short-Atlantic position, which we are continuously optimising to provide secure low-cost feed to our smelters.

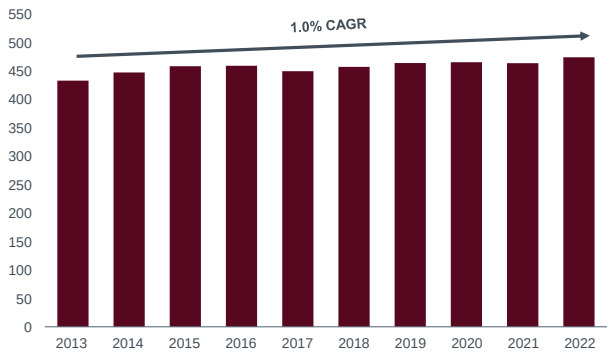
Across each of these four lenses we are working on strengthening our business.

We are consolidating our position as the pre-eminent integrated aluminium business in the western world.

Best Operator focus to protect margins and unlock growth

Alma
Stable performance and continuous production creep

Production
Kt, Rio Tinto equity share



Safe Production System

Grande Baie, Saguenay Lac Saint Jean

Implementation of best practice rituals focused on operations and asset management

Reduction of aborted casting events

Optimisation of casting furnace filling time reducing delays in casting process

Rolling out end-to-end implementation across Quebec

RioTinto

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In 2022, some of our assets have continued to shine and really showed their stability and strong performance coming out of a difficult period dealing with Covid-19.

Through this period, I have been so impressed with the team's deep focus on safety and their continued progress in controlling critical hazards.

However, we have also had some challenges in Boyne Smelter in Queensland and in Kitimat Smelter in British Columbia.

We are working hard to address these challenges

and bring these assets to full capacity.

The operational challenges and instability issues that we have seen this year have reinforced the need to continue investing in our people and the health of our assets right through the cycle.

Our work in implementing SPS will be a key part of institutionalising high levels of productivity and strong engagement from our front-line teams.

While we are still in the early days of our SPS journey, we are already seeing an increase in employee engagement.

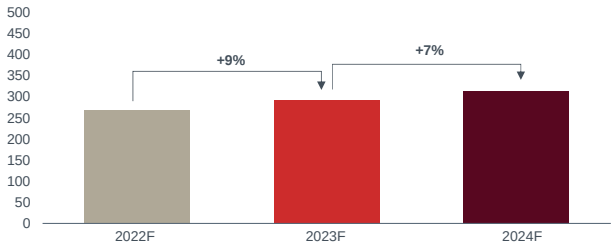
Both VAP production and process stability have improved at our cast houses where SPS has been deployed.

As we continue the deployment of SPS across all our assets we expect to further improve the reliability and performance of our operations.

Returning Boyne and Kitimat to Best Operator

Boyne smelter

Production
Kt, Rio Tinto equity share



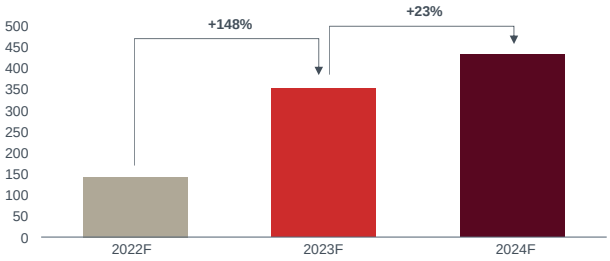
Complete line 3 recovery

Restore overall asset health

Re-establish technical capability

Kitimat

Production
Kt, Rio Tinto equity share



Complete pots restart in 2023

Stabilise and return to best performance in 2024

Complete workforce transformation

Let me give a bit more detail about our ongoing recovery and restart programs at BSL and Kitimat.

At BSL, we had a cell excursion at line 3 in the second quarter. The cause of this was a combination of underlying asset health issues and a decline in technical capability over the past 5 years.

This excursion happened at a time of high absenteeism rates related to Covid and it was compounded by high levels of staff turnover.

We stabilised the line but lost over 70 cells. The

recovery is progressing well, we are fixing the underlying issues and we expect to complete this work in the first half of next year.

And at Kitimat, since the end of the strike just over a year ago, we have been working diligently to ramp-up to full capacity and stabilize operations.

But we have experienced a variety of equipment related issues and the full ramp up is now expected to be completed later in 2023.

A big part of the focus at Kitimat continues to be building a strong respectful culture right across the site.

We have been working with the local union and this transformation while it will take some time, we all jointly believe this will result in a much more engaged and effective workforce.

We have also taken the time to review the bottlenecks and the health of the full suite of assets on this site.

We have a program of sustaining capital projects to address the issues we have identified.

With these changes, we expect Kitimat to become a high performing smelter and one of the flagships in our entire aluminium portfolio.

Strengthening our green aluminum leadership

Innovation and Partnerships

Green energy

Repowering coal-based assets in partnership with governments and communities, starting with Boyne smelter

Leveraging hydropower resource in Canada

AP60

Lowest carbon intensity technology available at scale

Supports transition from Arvida smelter closure

VAP and recycling

Arvida and Laterriere recycling projects

Alma billet centre

ELYSIS™

Assessing pathways to accelerate deployment

Shift from carbon to oxygen emissions

RioTinto 72

We are actively investing in our business to strengthen our leadership position in this aluminium industry.

And as I mentioned earlier, our access to self-generated hydro power is a source of competitive advantage and we are working hard to protect and consolidate it.

In the Saguenay in Quebec and at Kemano in British Columbia, we have commenced a program to both refurbish and lift the capacity of our existing hydro power stations.

We recently finalized the Kemano Tunnel 2 project, which provides redundancy and ensures Kitimat continues to have some of the lowest power cost in the aluminum industry.

Meanwhile, in Australia, we have identified a pathway to turn BSL into the industry's first large-scale aluminium smelter operating fully on firmed solar and wind renewable power.

We are making great progress, working closely with the governments and renewables developers, to progress an innovative solution which would see the delivery of 4.5GW of renewable capacity.

We have recently announced that we are increasing our billet production with a USD $188 million project at Alma.

We have taken some initial steps at expanding our recycling footprint with our post-consumer scrap recycling project and Shawinigan announcements.

And we are looking for opportunities to extend this further, as we believe strongly in the need for recycled metal to complement our primary production.

We are currently assessing the potential for growth in the Saguenay.

The first area of focus is replacing the existing

production capacity of the Arvida smelter which is due to close in a few years. When it closes we can replace that with an expansion of the AP60 smelter.

AP60 is the lowest carbon intensive technology that we have ready now and implementing it will halve the carbon emissions from the site for the same metal output.

And finally, we are continuing to make great progress with ELYSIS which is truly a breakthrough technology for the aluminium sector. As Mark mentioned earlier, this is a technology that helps us remove carbon from our entire smelting process. Construction of the large 450 kiloamps demonstration cells at Alma is progressing well and we expect commissioning in 2023.

In addition, we are accelerating the first deployment of ELYSIS

We're working on that study right now and looking to commence construction in 2023.

Advancing these projects requires us to have strong relationships with government and First Nations.

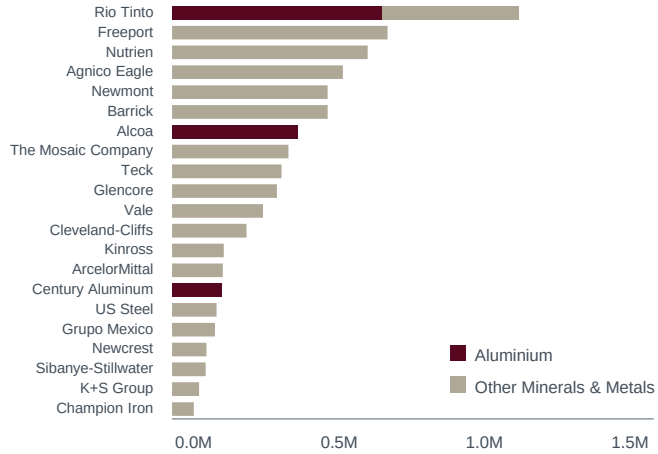
With First Nations groups we are working hard to ensure our objectives and pathways are aligned. And in some parts of our business these relationships have been fragile and our focus on

deepening these have been welcomed.

Playing a bigger role in North America's energy transition

Largest mining and metal producer in North America

Copper equivalent basis, 2021 actual production*



Rio Tinto has the foundation to grow in North America

Well-positioned industrial sites forming an integrated value chain

Unparalleled hydropower and port infrastructures

Deep customer relationships across aluminium, copper, high grade iron ore, titanium, battery materials and critical minerals

Strong government partnerships

Deep technological and R&D capability (Sorel, Saguenay, Salt Lake City)

RioTinto

* 2021 production in the USA and Canada, aggregated by producing company in copper equivalent terms using long-run consensus prices, for the following minerals and metals: alumina, aluminium, cobalt, copper, gold, iron ore, lead, molybdenum, nickel, palladium, platinum, potash, silver and zinc.
Sources: Rio Tinto Market Analysis

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Rio Tinto has the vision to becoming the leading supplier of green materials to support the energy transition in North America.

We are already the largest diversified mining company operating in North America today.

We have deep technological capability and advanced critical minerals research centres in several locations across this region.

We have a competitive energy access and port infrastructure in multiple locations.

We have great partnerships with Governments, and

we want work with their support to invest in meeting their demands for critical and strategic minerals.

We operate a set of privileged industrial sites across Canada and the US, which would be very hard, if not impossible, to replace today given all the current environmental constraints.

And together these are the factors that mean that Rio Tinto has the foundation to grow and deliver the materials North America needs to energy transition.

In short, I am very excited about the potential for the aluminium business and for Rio Tinto in North America.

Our aluminium journey

Achieved

Commissioned:
Laterrière recycling furnace

Under-construction:
ELYSIS 450kA cells

Committed investments:
Arvida recycling centre
Alma billet expansion

New low-carbon partnerships:
Ford and Volvo MoU
AB InBev – Corona / ELYSIS

Improving

Operational performance:
Kitimat and Boyne recoveries
Alumina refineries stabilisation
SPS deployment

Social licence:
Partnerships with governments and First Nations

Development:
Capital intensity

Developing

Low-carbon growth:
AP60 expansion
Unlocking green energy
ELYSIS deployment model

Decarbonisation:
Boyne repowering
Alumina new technology pilots

Excelling

Industry leadership:
Industry leader in providing the green aluminium our customers need, with favourable position in the North American market

We have a fantastic suite of assets, and we are focused on what is needed to be the Best Operator.

We are delivering the recovery plan for the assets particularly BSL and Kitimat

We are focusing on the deployment of SPS

We are working to reduce Capital intensity for new projects such as the AP60 expansion

We are also continuing to invest in our people and leadership

Together this is part of a broader vision for Rio Tinto

to become the leading producer and partner of choice for green materials.

I want to thank you for listening.

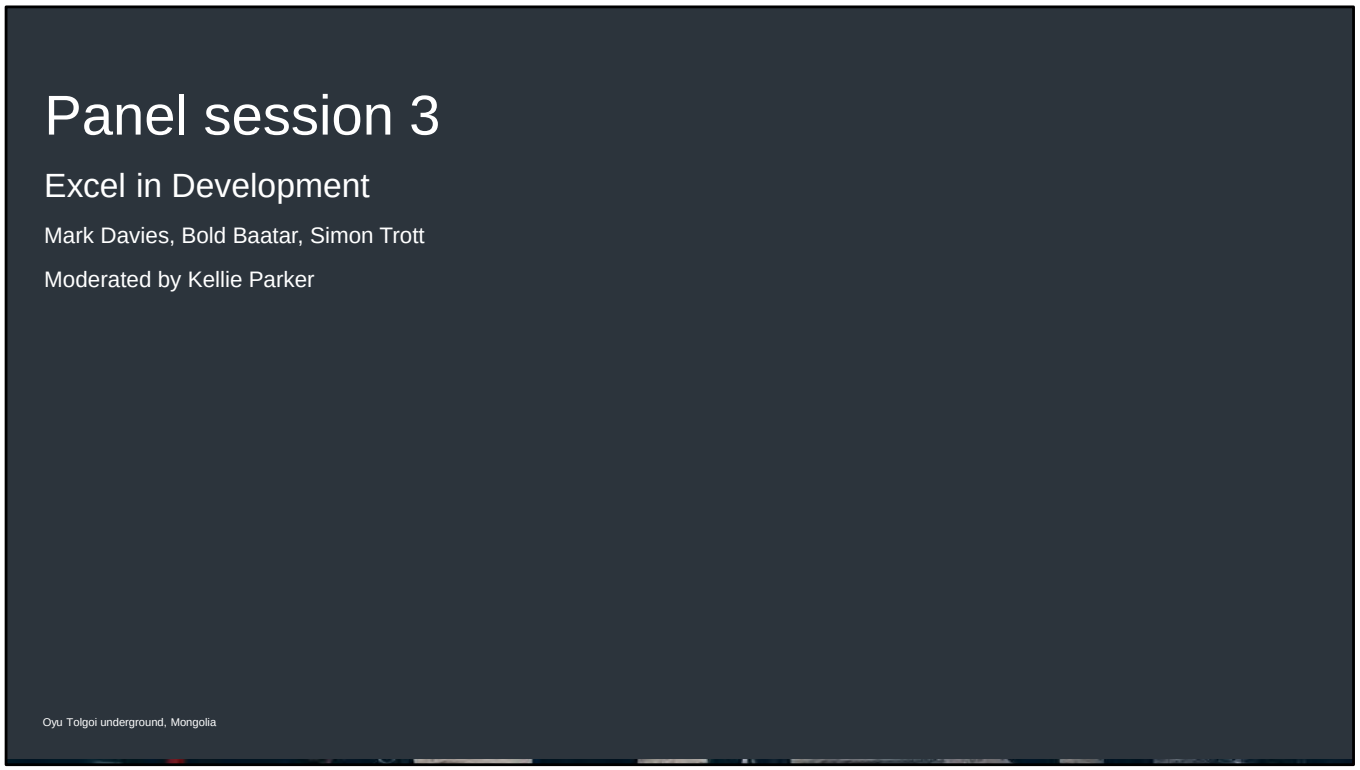
Now I will hand over to Kellie for our final panel. They're going to share some of our progress on improving our projects and growth pipeline.

Panel session 3

Excel in Development

Mark Davies, Bold Baatar, Simon Trott

Moderated by Kellie Parker



Oyu Tolgoi underground, Mongolia

Strengthening our partnership in an attractive investment destination

- Mongolia remains highly prospective for resources, with a young, resilient and skilled population
- January agreement delivered opportunity to reset relationship and commitment to continued dialogue and partnership
- Reforming, Pro-FDI Government focused on long-term development principles, including New Economic Revival Policy
- Both sides committed to avoiding future misalignment and delivering OT ramp up
- 20,000 employees, 97% Mongolian workforce – average age of 28 and over 500 national suppliers
- Made in Mongolia campaign of local suppliers; and continued growth of MBSSC delivering innovative group-wide shared services
- Investment in long term Mongolian development – investing $50m on South Gobi Town Development

Strengthening policy environment, growing FDI

Political stability and government Reform Agenda

Talented local workforce

Supplying US-made copper and critical minerals

World-class producing assets with significant growth pipeline

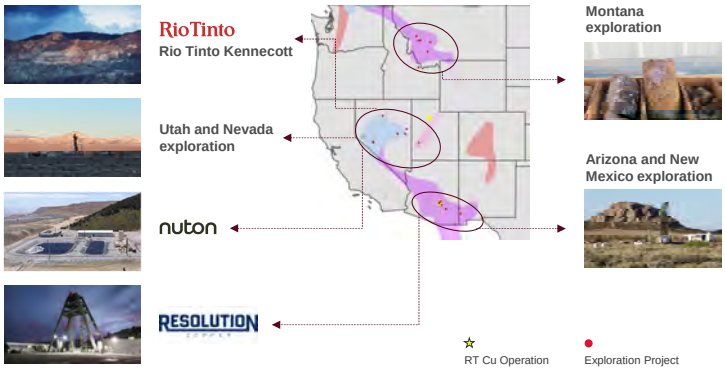
Market leading low carbon, low water leaching technology

Advantaged exploration portfolio leveraging +100 years of fieldwork

Focused on domestic US production

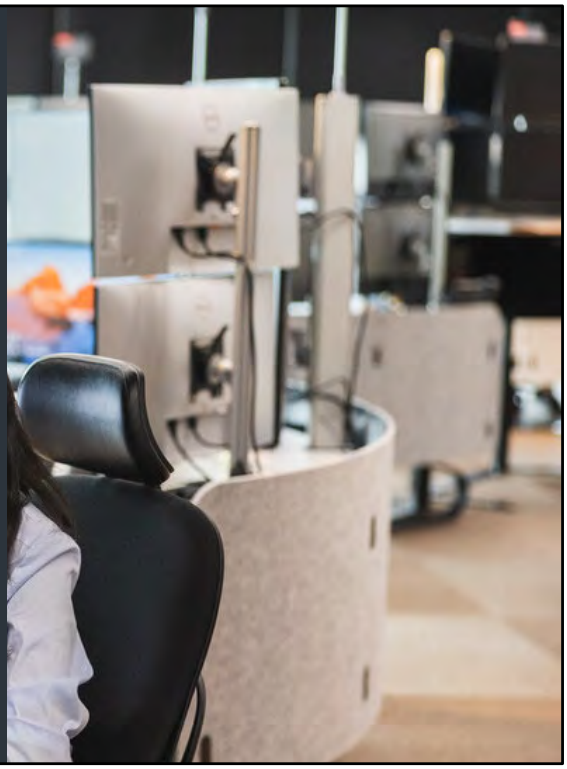
- Rio Tinto operates one of only two operating smelters in the US – **Kennecott,** a key asset in the drive for the increasing US domestic supply of copper and critical minerals (including Tellurium)
- Our **Nuton** technology, the product of 30 years of in house R&D, provides the potential to produce refined copper from legacy, existing and new mines using nature-based leaching technology with low water, carbon and energy intensity
- **Resolution**, one of the largest undeveloped copper deposits globally will provide 25% of America's copper once built. Permitting progress continues to be made and remains a priority focus for 2023

An exciting future for Rio Tinto and American Copper



Peter Cunningham

Capital allocation and financials



Brisbane Integrated Operations Centre

Thanks Kellie. Good morning and good evening everyone.

Over the last few hours, the team has outlined the dynamic change within our business with significant progress delivered in the last 12 months.

My role is to bring this together through the financials.

Critically we will continue to allocate our capital with great discipline.

We remain committed to attractive shareholder returns, underpinned by strong and resilient

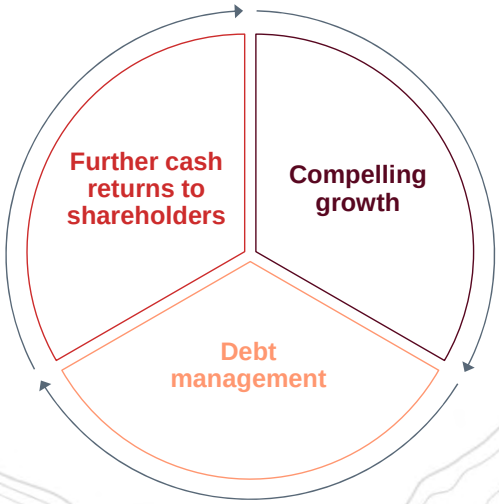
cashflows and our balance sheet.

Disciplined allocation of capital remains at our core

1 **Essential capex**
Integrity, Replacement, Decarbonisation

2 **Ordinary dividends**

3 **Iterative cycle of**



Let's start with capital allocation.

We will continue to invest consistently through the cycle, balancing near-term returns to shareholders with reinvestment and de-risking future cash flows.

Essential capex remains our priority for capital allocation. It includes sustaining capex to ensure the integrity of our assets, high-returning replacement projects and decarbonisation investment.

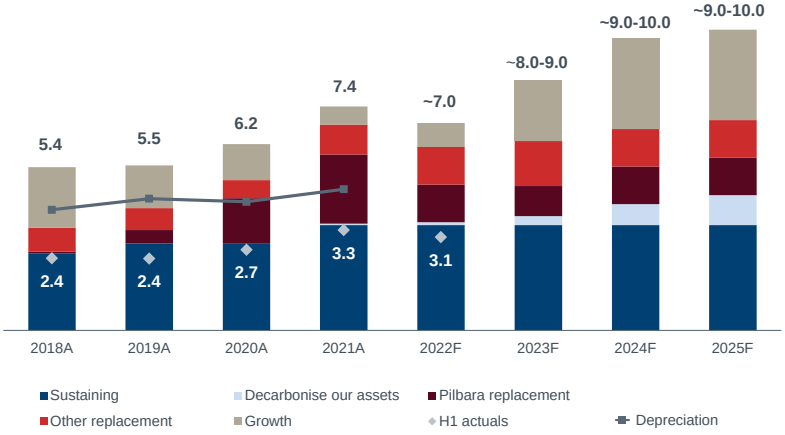
This is followed by ordinary dividends within our well-established returns policy.

We then test investment in compelling growth against debt management and additional cash returns to shareholders.

Disciplined investing for growth and decarbonisation

Capital expenditure profile (Rio Tinto share)

$billion



Lowered original 2022 guidance due to stronger US dollar and rephasing of decarbonisation and development projects

Ambition to grow and decarbonise reflected in 2024-25 capex of ~$9-10 billion including up to $3 billion in growth investment, depending on opportunities

Direct decarbonisation investment of ~$7.5 billion* to 2030, predominantly in second half of decade. Long term contracts and opex in addition

Average annual sustaining capital of ~$3.5 billion

Replacement capital remains $2-3 billion per year

RioTinto

* Estimated investment as of 30 June 2022 (Rio Tinto share of capital investment)

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Turning to our capital expenditure profile. We expect to invest just under $7 billion this year, compared to original guidance of $8 billion. The reduction reflects a stronger US dollar and updated phasing of decarbonisation and project spend.

We still expect a disciplined increase in capital expenditure.

Our annual spend on sustaining capital is stable at around $3.5 billion on average, although we will have some years with one-off items such as the Kennecott smelter shut in 2023. Our replacement

capital, which delivers very attractive returns, remains in the $2 to $3 billion range.

We expect growth capital to be around $2 billion in 2023, putting total capex in the $8 to $9 billion range, with the major source of uncertainty being ramp-up of spend at Simandou.

In ‘24 and ‘25 we still expect capital in the $9 to $10 billion range as growth projects progress.

Our best estimate of the capex to decarbonise our business remains at $7.5 billion until 2030, including about $1.5 billion over the next three years which will be back-end dated. We also require new long-term power contracts for our aluminium business to meet our targets.

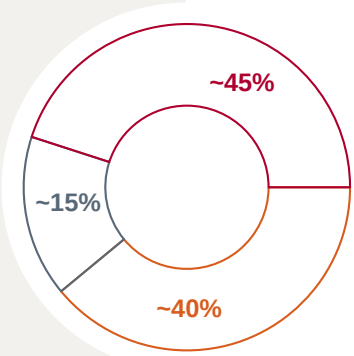
Looking ahead, our incremental operating expenditure on building new teams and energy efficiency initiatives remains around $200 million in addition to R&D investment that Nigel went through.

Ambition to invest up to $3 billion in growth per year

Rio Tinto share of growth capital

Represents the Group's economic investment in key growth projects through 2023-2025

Introduced to better represent our share of investment for capital projects which are jointly funded with other shareholders (e.g. Simandou) – better reflecting our approach to capital allocation



Committed capex

Oyu Tolgoi

Advanced projects

Simandou

Studies progressing towards approval in period

Rincon and other lithium

Resolution Copper

Kennecott underground

AP60 expansion

We believe that $3 billion remains the right amount of annual growth capital for us to target. Over the next three years our largest project is expected to be our equity share of Simandou at around 45%. At the OT underground our spend will start to wind down following first sustainable production in the first half of next year. We expect the remainder to be invested in copper and lithium and potentially aluminium as we progress studies on our AP60 smelter expansion, as Ivan outlined.

But, as I have mentioned before, investment in growth is highly dependent on the timing of

commitments as we prove up the value of opportunities.

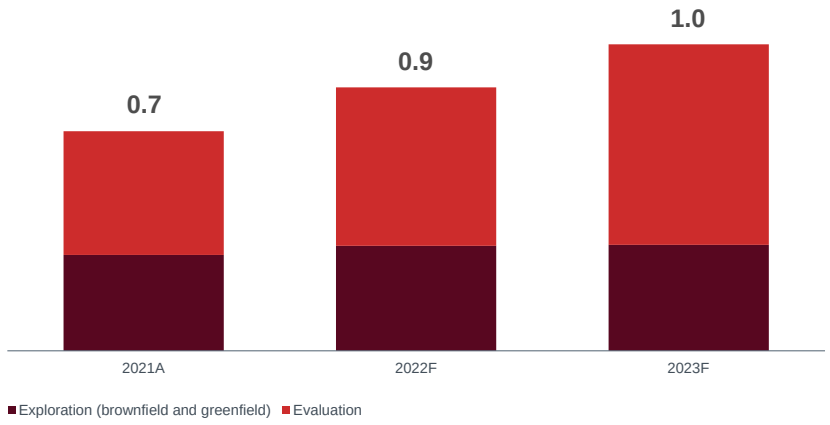
If we cannot develop value-accretive options, we will follow our capital allocation framework.

Simandou is a clear example: it is in our capital guidance but is dependent on us reaching agreement to commit to the project with our JV partners, the Government of Guinea and WCS on the infrastructure pathway.

Building a portfolio of options

Exploration & Evaluation (E&E) spend

$billion



- Expenditure rising in line with development of project portfolio
- Includes $250 million per year of central greenfield exploration
- Fully expensed via the P&L
- Progressing studies on Rincon, Resolution, Kennecott underground, Pilbara replacement and Rhodes Ridge in 2023
- Spend in addition to E&E in 2023 includes $400 million in R&D and $170 million in decarbonisation studies expenditure

To drive long-term value, we are also spending more on exploration and evaluation.

Our budget for greenfield exploration remains around $250 million, mainly focused on copper, with a growing battery minerals programme.

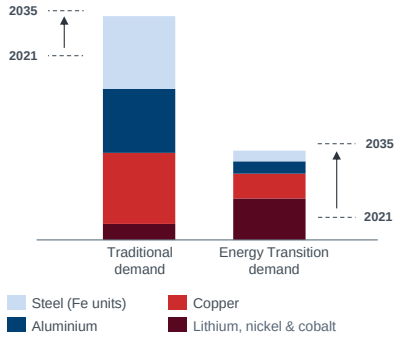
Spend on our evaluation projects is gathering momentum as we advance studies where we expect near-term investment decisions. We are also focused on longer-term studies such as the Rhodes Ridge iron ore project following modernisation of the joint venture.

This disciplined spend is critical to ensure we have the right portfolio to keep creating value for decades to come, benefiting from the energy transition.

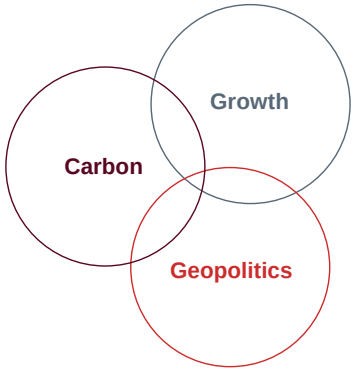
Energy transition drives additional long-term value

Total commodity demand by 2035*

<2°C scenario
Copper equivalent basis



Key drivers of future scenarios



Growth options

(up to $3bn / annum)

Li
- Rincon
- Other Lithium

Cu
- Oyu Tolgoi
- Kennecott
- Resolution
- Winu
- Nuton™

Al
- ELYSIS™
- AP60

Fe
- Simandou
- Rhodes Ridge

Growth options resilient to future scenarios, whilst maximising exposure to upside from the energy transition

RioTinto * Copper equivalent demand uses average annual prices from 2017-21 with finished steel demand in iron ore equivalent units 83

As Vivek mentioned earlier, we see a significant uplift in new demand from this transition – adding as much as 25% over and above traditional sources of demand on a copper equivalent basis across our key products by 2035.

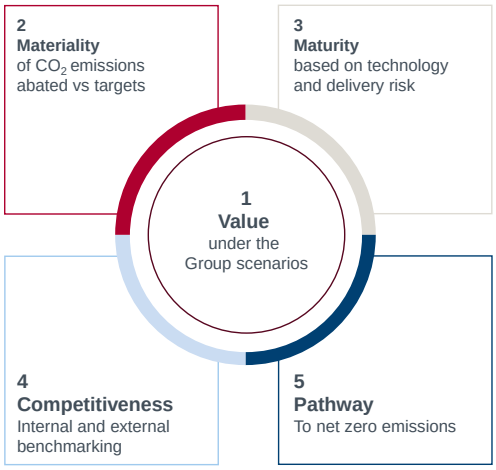
When I think about decarbonisation, it is a positive for our industry.

The world will need more aluminium, more copper, more high-grade iron ore and more lithium - and this is where we are focussing our growth investments.

However, we will only invest in quality assets which will give robust returns under a range of economic, geopolitical and carbon scenarios, creating a resilient portfolio with significant upside to the energy transition.

Robust and broad-based approach to decarbonisation

Our approach to decarbonisation evaluation



Decarbonisation components	2030 CO_2e emission abatement %[1]	$7.5bn Capex %
1. Commercial solutions - Repowering Pacific smelters - Grid connected renewables (RBM, Kennecott)	~40%	0%
2. Capital solutions: with a carbon price of -$50/t to +$50/t - Pilbara renewables: 1GW Phase 1 (234MW + storage) - Alumina process heat (QAL double digestion)	5-10%	~15%
3. Capital solutions: with a carbon price of >$50/t to <$100/t - Alumina process heat (Full electric conversion[2]) - Minerals processing (Electric boilers)	~20%	~15%
4. Capital solutions: Pilbara renewables 1GW Phase 2 system build out (with a carbon price <$50/t) - Renewables expansion & investment in transmission infrastructure to support fleet electrification / full decarbonisation	~5%	30-40%
5. Solutions under review - Diesel (fuel alternatives) - Alumina process heat - Minerals processing	15-20%	TBD[3]
6. Nature-based Solutions[4] - High-quality projects on or near our assets	~5-10%	5-10%

[1] Reduction from closure of operations and replacement with lower carbon emission is expected to contribute up to10% of abatement reduction to 2030, new projects will need to be carbon neutral or emissions mitigated elsewhere in the portfolio. [2] The electrification of the boilers will require new commercial renewable energy contracts as well as capital. [3] Additional capital spend required to meet abatement target is under continual review, current analysis indicates total spend unlikely to exceed $7.5 billion. Uncertainty remains to the timing of availability of scale technology solutions for HME and logistics, and limited savings have been built into the plan for diesel solutions before 2030. [4] Nature-based Solutions projects are expected to result in CO_2 removals and avoided emissions.

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We are applying similar thinking to our approach to decarbonisation. It's about de-risking cash flows for the longer term while remaining very disciplined - we will also be well positioned to benefit from any carbon incentives if these are rolled out more widely.

Our framework guides our decision making.

These projects can have very different technical risk profiles – from "tried and tested" to pioneering technology - and trades-offs between transitionary and long-term solutions.

Many require a carbon price to compete at the challenging internal hurdle rate we set for investment.

The framework has five key elements – value, materiality of abatement, maturity of emission reduction, competitiveness versus internal and external benchmarks and alignment with the net zero 2050 target.

This ensures our investments are phased in the most logical way, prioritising near term work around energy inputs and where we already see attractive economics.

Up to 2030, there are six buckets with different economic characteristics. As Mark outlined, the most important contribution will come from commercial solutions - predominantly the repowering of our Pacific smelters.

As these are grid connected, we are seeking to achieve this through strong government partnerships and long-term contracts, without using our own capital.

But we will need to be convinced that the assets will remain competitive over the coming decades.

The second and third components relate to Capital solutions. Here we see technically deliverable projects at two ranges of carbon price with around

30% of our decarbonisation capex to 2030.

The analysis shows that economics, capital and carbon abatement are not always closely correlated. The economics of investments in bucket 3 benefit from other value drivers - many reduce our exposure to volatile input costs.

The renewables spend in our Pilbara system is a significant component of our decarb capex at around $3 billion by 2030.

However, it comprises two distinct phases. Phase 1 is no regrets and competitive at a carbon price of less than $40 per tonne – more on that shortly. Phase 2 is a larger build-out to 1GW by 2030, with significant investment in transmission infrastructure.

This will support full decarbonisation post 2030, for which we will estimate will require close to 3GW. 2030 is clearly a key year for our targets, but it is an artificial cut-off, with full build-out beyond this point leveraging phase 2 infrastructure.

We will keep optimising this plan to lower or change the timing of spend. This is where the work of our global diesel team and the renewables plan intersect.

We need to time our investment in renewables to align with battery technology solutions for our

heavy mobile equipment.

The fifth component – Solutions under review - is reliant on technology development and this is where we see the economics firming over time. You heard Nigel talk to these earlier. They include heavy mobile fleet electrification, minerals processing and the removal of the more complex parts of process heat in alumina refining. We anticipate that up to one third of our decarbonisation capex to 2030 will be invested in these projects but we continue to look at a range of pathways.

The sixth and final component relates to nature-based solutions, as Mark referenced, where we will develop high-quality assets at or near our sites at an average carbon price of around $30 per tonne.

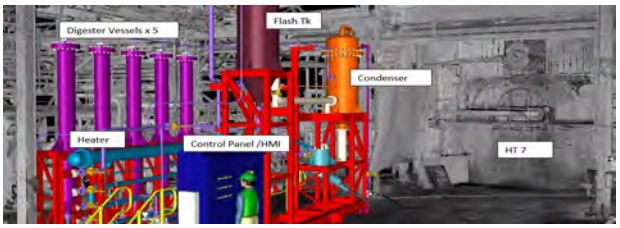
Value accretive decarbonisation at a modest carbon price

Renewables
Pilbara: Phase 1 – solar plus on-grid battery storage

Value accretive at ~$40/t carbon price

- 200MW solar plus 200MWh of on-grid battery storage solutions delivered 2023-26
- Capex $0.6 billion
- Builds on 34MW already installed at Gudai-Darri. Long lead investment approved for 100MW - Pilbara Coastal Solar
- 6PJ of annual gas displacement by end 2026, delivering gas savings of ~$55 million pa at current prices
- Abatement reduction of ~300kt pa CO_2e emissions, upside based on tracking rather than fixed assembly for some assets

Alumina process heat
QAL double digestion*



Value accretive at zero carbon price

- Energy efficient digestion process
- Capex $0.3 billion
- ~$80 million pa opex cost saving by reducing bauxite, raw material and energy costs
- Abatement reduction of ~350kt CO_2e emissions
- 2023 pilot plant; replication opportunity at Yarwun

RioTinto

* All QAL double digestion metrics on 100% basis.

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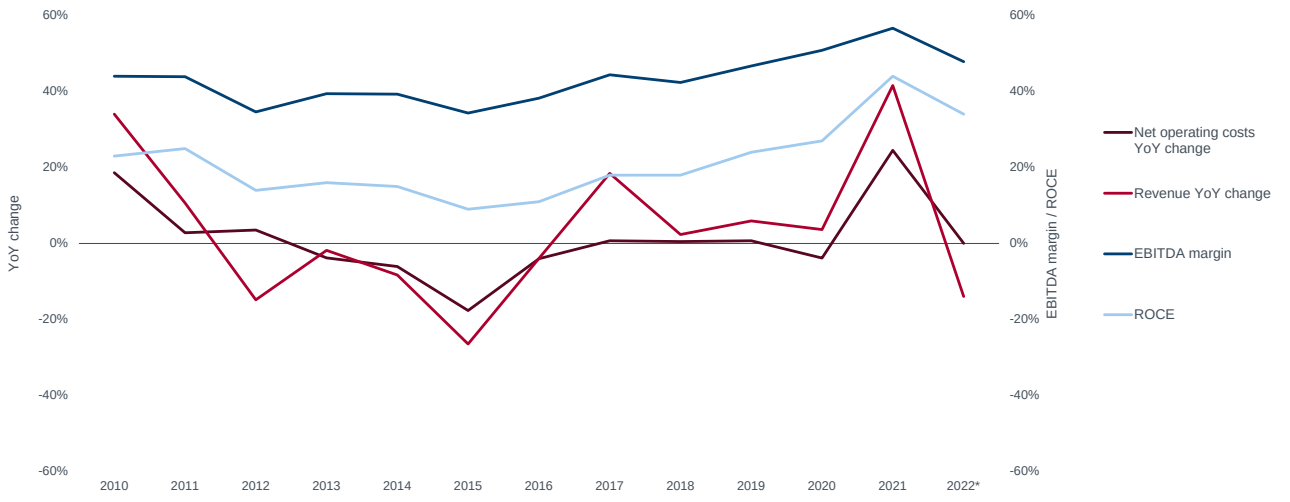
Let's now take a closer look at two of our near-term projects. Phase 1 of Pilbara renewables comprises around $600 million investment in 200MW of solar and 200MW hours of storage, in addition to our existing 34MW Gudai-Darri solar farm. We expect this to abate around 300 thousand tonnes of CO2 per year and reduce annual gas costs by $55 million at current prices.

The second is at the Queensland Alumina Refinery, where we are working on converting its three high-temperature digestion units to a double digestion configuration. By investing around $250 million, we

save around $80 million in annual operating costs and CO2 emissions reduce by 350 thousand tonnes a year on a 100% basis. Implementing a flow sheet change at a complex brownfield site is of course not without risk. But there is also potential production upside at QAL and the process could be replicated at the Yarwun refinery.

Attractive EBITDA margin and ROCE throughout the cycle



RioTinto * 2022 based on consensus

Let's turn to costs. We have experienced cost pressures from COVID, the commodity cycle and broad-based market inflation. Our focus has been to remain disciplined, recognising that pressure has been broadly equal across industry cost curves.

As you can see from this chart, our EBITDA margin has been very resilient over the longer term, with revenues and costs moving in tandem, although cost rises and declines can take more time to flow through. We are experiencing this now, particularly in aluminium.

Looking through this volatility, it is the quality of our assets and our position on the cost curve which ensures the resilience and consistency of our cash flow margins and returns through the cycle.

Let’s now take a look at the balance sheet.

Balance sheet is strong

Disciplined approach is unchanged, we intend to maintain it throughout the cycle

Balance sheet strength is an asset. Offers resilience and creates optionality

Commitment to minimum A Investment Grade rating through cycle

Moody's: A2 (stable), S&P: A (stable)

Our financial strength allows us to simultaneously:

Reinvest for growth (up to $9-10 billion per year in total capex depending on opportunities)

Accelerate our own decarbonisation ($7.5 billion to 2030, long term contracts + other indirect investment)

Continue to pay attractive dividends in line with our policy (consistent six-year track record)

$billion	2022 H1	2021 FY
Net cash generated from operating activities[1]	22.2	25.3
Capital expenditure[1]	7.2	7.4
Dividends paid[1]	16.5	15.4
Net cash (debt)	0.3	1.6
Cash and liquid resources	13.7	15.2
Revolving credit facility (5 year maturity)	7.5	7.5
Net (cash) debt/Underlying EBITDA[1]	-0.01x	-0.04x
Gearing	-1%	-3%
Weighted average debt maturity	10 yrs	11 yrs

RioTinto

[1] Rolling 12 months

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We were in a modest net cash position at 30th June but we expect to move to a net debt position by year-end following payment of our $4.3 billion interim dividend in September.

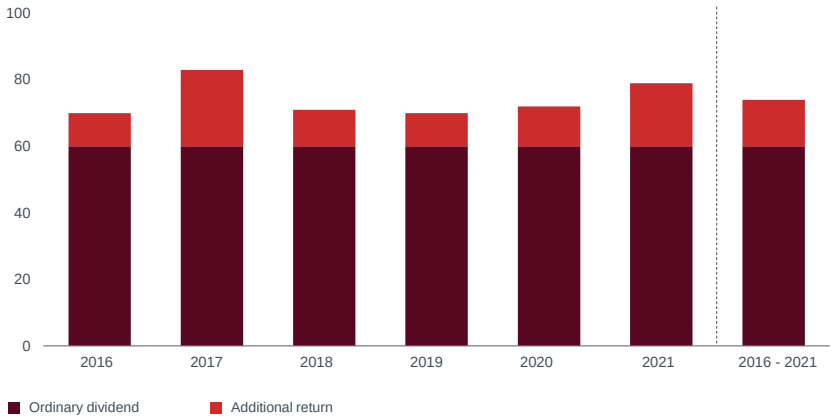
We've chosen not to have a net debt target but have adopted a principles-based approach to anchor the balance sheet around a single A credit rating.

This enables us to run our business consistently and maintain investment, regardless of where we are in the cycle.

Attractive dividends remain paramount

Shareholder returns[1] of 40-60% of underlying earnings on average through the cycle

Pay-out ratio (%)



Consistent six-year track record of shareholder returns

Our second highest interim dividend ever in 2022 ($4.3 billion)

60% average pay-out on ordinary dividend over the past six years

74% average pay-out in total over the past six years

[1] Excluding divestment proceeds returned to shareholders

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We have remained very consistent with our shareholder returns policy, with the pay-out ratio giving us some flexibility to the macro environment. It remains a core part of our equity story. Over the last six years we have paid out 60% on the ordinary dividend, with additional returns taking our average pay-out to 74%.

We will maintain our capital discipline

Attractive shareholder returns, underpinned by a strong balance sheet

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Our approach is about creating long-term value for shareholders.

In the short term that means delivery of strong and resilient cash flows from our quality portfolio of assets which we are strengthening further through our SPS programme as outlined today. Over the longer term, we are set to benefit from value-accretive growth in those materials that will be privileged in a decarbonising world.

At all times we will continue to pay attractive dividends in line with our policy.

With that, let me pass back to Jakob.

RioTinto

Q&A 2

Appendix

Product group level guidance

	2023 Production Guidance
Iron ore shipments	320 – 335Mt[1] (100% basis)
Copper	
Mined Copper	550 – 600kt
Refined Copper	180 – 210kt
Aluminium	
Bauxite	54 – 57Mt
Alumina	7.7 – 8.0Mt
Aluminium	3.1 – 3.3Mt
Minerals	
TiO_2	1.1 – 1.4Mt
IOC pellets and concentrate[2]	10.5 – 11.5Mt
B_2O_3	~0.5Mt
Diamonds	3.0 – 3.8m carats

	2023 Unit cost guidance[3]
Pilbara Iron ore ($/tonne)	$21.0 – $22.5
Copper C1 (US cents/lb)	160 – 180

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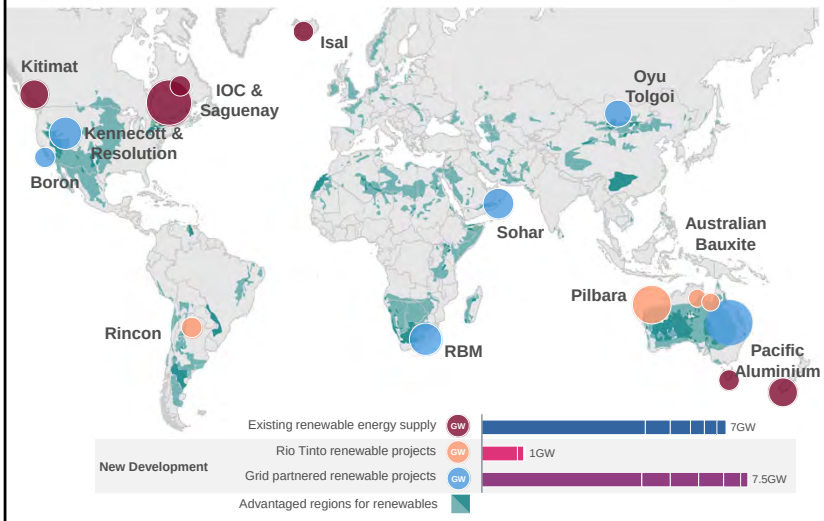
[1] Pilbara shipments guidance remains subject to risks around commissioning and ramp-up of new mines and management of cultural heritage
[2] Iron Ore Company of Canada [3] FY23 guidance is based on A$:US$ exchange rate of 0.70 and excludes COVID-19 response costs

Decarbonisation abatement programmes

Programme	Description & Key Sites	Funding mechanism	Example project - Economics
Pacific Operations Repower	**Renewables: smelters** Boyne | Tomago	- Long-term market contracts - Government partnerships	- Commercial solutions achieved through government partnerships and long-term contracts - Assets will need to remain competitive
Renewables	**Solar & wind renewables** Pilbara | Weipa QMM | Kennecott | RBM	- Capital - Build own operate - Long-term market contracts	- Phase 1 – 200MW solar + 200MWh of on-grid battery storage is value accretive at a carbon price of <$40/t driven by $55 million reduction in gas displacement costs at current prices
Diesel	**HME & Diesel switching** Ph I: Bio-fuels Ph II: Fleet electrification Pilbara | IOC	Capital: - Land acquisitions (non-edible feedstock) - HME	- Bio-fuels: comparable cost to diesel* & de-risking of technical risk in fleet electrification - Diesel cost savings post fleet electrification
Alumina process heat	**Electrification of boilers** **Process & energy efficiency** **H_2 calcination – replacement** Vaudreuil | QAL | Yarwun	- R&D - Capital	- QAL double digestion is value accretive at zero carbon price driven by reducing bauxite, raw material and energy costs - A subset of projects are value accretive at a carbon price of $50/t to 100/t
Mineral processing	**New technologies** **Electrification of boilers** IOC | RTIT | Borates	- R&D - Capital - Government / industry partnerships	- IOC steam plant fuel reduction - 40MW electric boiler conversion is value accretive at a zero carbon price - Technology and economics remain progressing on a number projects - The electrification of the boilers will require new commercial renewable energy contracts as well as capital
Aluminium anodes	**ELYSIS™ technology** All smelters	- R&D - Capital	- Commercial scale technology from 2024 - Value generation through scale-up later
Nature-based Solutions	**High quality offsets** 8 large scale sites	- Capital land acquisitions - Operating costs	- Development costs of high-quality projects on or near our assets are currently estimated at $20-50/t CO_2e, the range reflects varying project types and landscapes

* At our Boron site due to Californian subsidies.

Rio Tinto Energy Development is dedicated to developing and partnering for renewables



45 energy industry professionals recruited to focus solely on delivering new renewable supply to Rio Tinto's operations

Globally resourced team ensures industry best practice is delivered across all our sites

No one size fits all approach – optimise for security, LCOE, capex, ROCE, NPV

Partnerships and PPAs common in our major grids (e.g. Pacific Australia), direct investment preferred for our integrated production systems (e.g. Pilbara, Saguenay)

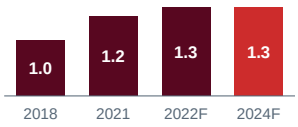
RioTinto

Note: Majority existing renewables are hydro powered, new development is wind and solar with lower capacity factors

Industry cost headwinds are being offset by elements within our control

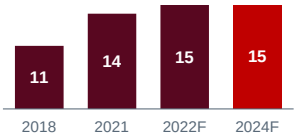
Increases in work effort is reducing as new mine capacity is introduced

Material movement (Bt)



x

Effective flat haul (km)



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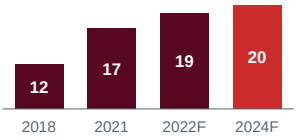
Work index (Bt.km)



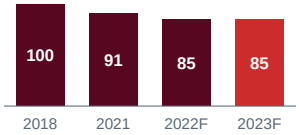
Productivity initiatives are delivering consistent improvements

Truck Effective Utilisation

Index 2018 = 100

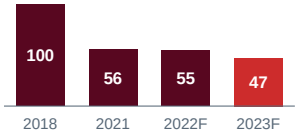
Fixed Plant Unscheduled Loss

Index 2018 = 100



Train Temporary Speed Restriction

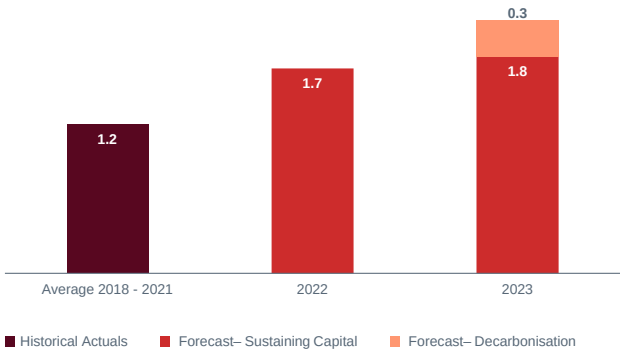
Index 2018 = 100



RioTinto

Sustaining investments are improving asset health

Sustaining capital by year
(US$bn)



Investment in our assets continues
(US$bn)

- Uplift in decarbonisation investment
- Improved asset health lifts production
- Facilities upgrades with improved safety and cost performance
- Increased drilling (capitalised) to support future developments
- Increased installed asset base, including Gudai-Darri

We are decarbonising through partnerships and innovation in Canada

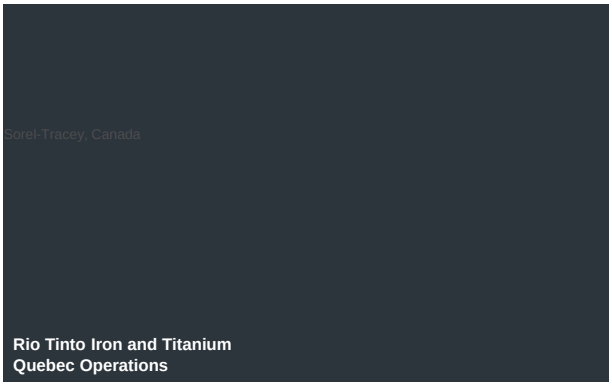
Partnering with the Government of Canada to decarbonise RTFT and boost critical minerals processing

C$737 million investment over eight years

Chief Executive Jakob Stausholm, Prime Minister of Canada Trudeau, Sophie Bergeron (MD RTIT & Diamonds) and Minister Champagne at the Blue Smelting construction site

Innovating to find new ways to deliver the emerging materials the world needs

First producer of high-quality scandium oxide in North America



Rio Tinto Iron and Titanium Quebec Operations

Iron Ore / Steel

Includes Pilbara iron ore and IOC operations

Global production & emissions
2021 Rio Tinto production & emissions (equity basis)

	Upstream	Total material moved	Mining		Shipping		Ore-based steel	Scrap-based steel
PRODUCT		10,000Mt 8t / t steel	2,400Mt @63% Fe	277Mt @61% Fe	55Mt CO_2e Seaborne iron ore	5.4Mt CO_2e	1,250Mt	700Mt
EMISSIONS	6.5Mt CO_2e		70Mt CO_2e 0.03t CO_2e/t ore	3.6Mt CO_2e 0.01t CO_2e/t ore	0.03t CO_2e/t ore	0.02t CO_2e/t ore	2,700Mt CO_2e 0.5t CO_2e/t steel	350Mt CO_2e 0.5t CO_2e/t steel

Upstream emissions from production of diesel, natural gas & explosives

70% - Diesel
30% - Power

Emissions by process step:
7% - Coke oven
20% - Sinter plant
64% - Blast furnace
9% - Steel converter
(Mostly metallurgical coal with a small fraction of natural gas DRI)

~80% power-related emissions
~20% coal or natural gas injection depending on source / location

Total

Total tonnes finished steel (including secondary)
1,780Mt

Total tonnes of emissions[1]
3,120Mt CO_2e

CO_2 / tonne steel[1]
1.8 CO_2e/t steel

[1] Note that these totals do include upstream and shipping so will not reconcile to our 2021 Climate Report

Copper

Global production & emissions
2021 Rio Tinto production & emissions

	Upstream	Total material moved	Mining		Shipping		Primary refined copper		Secondary copper
PRODUCT		12,000Mt 600t / t Cu	4,300Mt @0.6% Cu	100Mt @0.6% Cu	5Mt CO_2e	<0.1Mt CO_2e	20.5Mt	0.2Mt	9.5Mt
EMISSIONS	1.5MtCO_2e		70Mt CO_2e 2.7t CO_2e/t Cu	2.0Mt CO_2e 3.3t CO_2e/t Cu	0.3t CO_2e/t Cu	<0.01t CO_2e/t Cu	32Mt CO_2e 1.6t CO_2e/t Cu	0.2Mt CO_2e 1.1t CO_2e/t Cu	4.7Mt CO_2e 0.5t CO_2e/t Cu

Upstream emissions from production of fuel and explosives

~70% - Diesel
~30% - Power

Power (emissions depend on source / location)

Power (emissions depend on source / location)

Total emissions

Total tonnes of product (including secondary)	Total tonnes of emissions[1]	CO_2 / tonne copper[1]
30Mt	**107Mt CO_2e**	**1.6 CO_2e/t Cu**

[1] Note that these totals do include upstream and shipping so will not reconcile to our 2021 Climate Report

Aluminium

Global production & emissions
2021 Rio Tinto production & emissions

	Upstream	Total material moved	Mining		Shipping		Alumina		Primary Aluminium		Secondary Aluminium
PRODUCT		1,000Mt 16t / t Al	360Mt @47% Al_2O_3	54Mt @49% Al_2O_3	15Mt CO_2e	1.9Mt CO_2e	130Mt	7.9Mt	67Mt	3.2Mt	26Mt
EMISSIONS	6.8MtCO_2		4.7Mt CO_2e 0.02t CO_2e/t ore	0.8Mt CO_2e 0.01t CO_2e/t ore	0.2t CO_2e/t ore	0.04t CO_2e/t ore	160Mt CO_2e 1.2t CO_2e/t Al_2O_3	5.7Mt CO_2e 0.7t CO_2e/t Al_2O_3	780Mt CO_2e 11.6t CO_2e/t Al	15.4Mt CO_2e 4.9t CO_2e/t Al	13Mt CO_2e 0.5t CO_2e/t Al

Upstream emissions from production of fuel, caustic, lime, anodes, cathodes & explosives

~70% - Diesel
~30% - Power

Process heat:
Natural gas
Coal

Anodes: ~2 tCO2 / tAl
Power: ~0 to 15 tCO2 / tAl
(emissions depend on source / location of power: Hydro ~0, gas ~6, coal ~14 tCO2 / tAl)

Power (emissions depend on source / location)

Total

Total tonnes of product (including secondary)
92Mt

Total tonnes of emissions[1]
958Mt CO_2e

CO_2 / tonne Al[1]
10.4 CO_2e/t Al

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[1] Note that these totals do include upstream and shipping so will not reconcile to our 2021 Climate Report

Common acronyms

AHS	Automous Haulage System	**EC**	European Commission	**Mtpa**	Million tonnes per annum	**RTIO**	Rio Tinto Iron Ore
AIFR	All Injury Frequency Rate	**EMEA**	Europe, Middle East and Africa	**MACC**	Marginal Abatement Cost Curve	**RTX**	Rio Tinto Exploration
Al	Aluminium	**ESG**	Environmental, Social, and Governance	**MW**	Megawatt	**SPS**	Safe Production System
AL_2O_3	Aluminium oxide	**EU**	European Union	**MWh**	Megawatt hour	**S&P**	Standard & Poor's
ARDC	Arvida Research and Development Centre	**Fe**	Iron	**NbS**	Nature-based Solutions	**T**	Tonne
ASX	Australian Stock Exchange	**FOB**	Free On Board	**NPV**	Net present value	**t/ha**	Tonnes per hectare
ATS	Aluminium Technology Solutions	**FS**	Feasibility Study	**O&M**	Operation & Maintenance	**tLS**	Tonnes of liquid steel
B_2O_3	Boric oxide	**GHG**	Greenhouse gas	**OT**	Oyu Tolgoi	**tCO_2e**	Tonne of carbon dioxide equivalent
Bn	Billion	**GFC**	Global Financial Crisis	**Pa**	Per annum	**TiO_2**	Titanium dioxide
BF	Blast furnace	**Gt**	Giga tonnes	**PJ**	Petajoule	**tpa**	Tonnes per annum
BOF	Blast Oxygen Furnace	**GW**	Gigawatt	**PPA**	Power Purchasing Agreement	**TWh**	Terawatt hour
BSL	Boyne Smelter Limited	**H_2**	Hydrogen	**QAL**	Queensland Alumina Limited	**UB**	Ulaanbaatar
CAGR	Compound annual growth rate	**HBI**	Hot briquetted iron	**QMM**	QIT Madagascar Minerals	**USD**	United States dollar
CCGT	Combined Cycle Gas Turbine	**HG**	High grade ore	**R&D**	Research and development	**VAP**	Value-added product
CCUS	Carbon capture, utilisation and storage	**HME**	Heavy Mining Equipmet	**RBM**	Richards Bay Minerals	WA	Western Australia
CCS	Carbon Capture and Storage	**IEA**	International Energy Agency	**RE**	Renewable Energy	**WTS**	Western Turner Syncline
CO_2	Carbon dioxide	**IOC**	Iron Ore Company of Canada	**RRF**	Recovery and Resilience Facility	**YoY**	Year on Year
CO_2e	Carbon dioxide equivalent	**IRR**	Internal rate of return	**ROCE**	Return on capital employed	**YTD**	Year to date
Cu	Copper	**JV**	Joint Venture	**RM**	Richards Bay Minerals		
DRI	Direct Reduction Iron	**LCE**	Lithium Carbonate Equivalent	**RT**	Rio Tinto		
EAF	Electric Arc Furnace	**LCOE**	Levelised Cost of Energy	**RTE**	Round trip efficiency		
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortisation	**Mt**	Million tonnes	**RTFT**	Rio Tinto Fer et Titane		

Definitions

Calculated abatement carbon price	The levelised marginal cost of abatement at a zero carbon price **Calculation:** Discounted sum of all abatement costs over time at a zero carbon price / Discounted sum of all abated emissions over time *Discounted at the hurdle rate RT uses for all investment decisions*


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