Slide 1 - Welcome

Hello and thank you all for joining us this afternoon at the Rio Tinto Iron Ore Seminar. My name is John Smelt and I am the head of Investor Relations for Rio Tinto.

Before we commence with our presentation, I need to inform you of the safety procedures in case of the event of an unlikely emergency. There is a two stage alarm system. In the event of a first alarm, do not take any action. A second alarm with an evacuation announcement, will require us to leave the premises. There are fire exits on both sides of the room, but the best exits are on your left. They follow a clearly market route out of the hotel and the muster point is in the gardens opposite the hotel, on Macquarie Street.

Slide 2 – Cautionary Statement

I would now like to briefly outline the cautionary statements on the next few slides. Firstly, there is the general Cautionary Statement, relating to forward-looking statements and a general disclaimer.

Slide 3 – Mineral Resources and Ore Reserves

This slide is a required qualifier for the information in the Appendix, which covers our Pilbara Mineral Resources and Ore Reserves.

Slide 4 – Production Targets

And finally, this slide is an ASX requirement, which covers the supporting information relating to production targets.

You will see our target for the Pilbara is based mainly on Reserves, but with a small proportion of Inferred Resource in the production plan.

That is historically typical for our Pilbara operation production targets.

I would now like to introduce Andrew Harding, Head of Iron Ore, whom has organised this seminar on Rio Tinto's iron ore operations.

Slide 5 – Andrew Harding - Introduction

Hello and thank you for joining us. I would like to acknowledge the Gadigal people of the Eora nation – the traditional custodians of the land on which we meet today.

Before I begin let me tell you a bit about each of the people I have asked to join me today.

A great strength of Rio Tinto is the diversity and talent of our people. Not only does this make for a more interesting career but it also allows people to build up a diverse range of experience, and then share best practice and ideas across the Group. Each member of the team here today has benefited from this and has a wide range of experience from across the Group.

Vivek Tulpulé, here on my right, became Head of Economics and Chief Economist for Rio Tinto in 2005. Vivek and his team are responsible for assessing the economic environment and markets in which the company operates and providing an independent voice within Rio Tinto, separate from those of us in the product groups.

Vivek began his career as an economist in the Australian Government and held roles with the Department of Foreign Affairs and Trade, the Department of Environment and Heritage and the Australian Bureau of Agricultural and Resource Economics.

Bold Baatar, here on my left, became head of Iron Ore Sales and Marketing just two months ago, in addition to the role of managing director Marine which he has held since May 2014.

Bold previously spent 11 years as an investment banker at JP Morgan. Bold first worked with Rio Tinto as an advisor to the Group on its investments in Oyu Tolgoi and then formally joined the Group as President of International Operations for Rio Tinto Copper, overseeing a wide range of assets.

Greg Lilleyman, here on my left is our Group Executive, Technology and Innovation, a role he assumed in 2014. Greg joined the Group in 1990. He held a number of operational roles across the Pilbara, Hunter Valley and Canada within both the Iron Ore and Energy businesses. In 2011, Greg was appointed president, Pilbara Operations for Rio Tinto Iron Ore and then two years later assumed the role of head of productivity improvement with Technology & Innovation, before assuming his current role.

As you know, Iron Ore is a critical part of Rio Tinto, contributing approximately 40% of our revenues and 56% of our EBITDA.

We have the best mining assets in the world. And we fully appreciate the quality of these assets. But we also know that we have not just the best iron ore assets in the world, but the best iron ore business.

A sophisticated, integrated and sustainable business that creates, and will continue to create, significant value for shareholders.

A world-beating Australian business.

But it's also worth being clear: our iron ore product group is not just critical for Rio Tinto and its shareholders. It is also critical for our 15,000 employees across Western Australia and in Canada and for Australia as a whole.

In the last five years alone, Rio Tinto and its joint venture partners have paid around $10 billion in royalties to the Western Australian Government and tens of billions more in company taxes to the federal government.

We are very proud of this record.

I was appointed chief executive of the iron product group in February 2013. One of the challenges Sam set me, when I was appointed, was to continue to deliver on our value accretive expansions at the same time as optimising the business.

Since then, we have been through a challenging time for the industry, underpinning the importance of that optimisation.

I am proud to say that, in the years since my appointment, we have not only maintained but further enhanced our position as the best in class operator and benchmark for the industry - and in so doing so we have delivered some exceptional results.

One of the things I set out to do is to build upon and extend our culture of personal responsibility and success.

The first step in this was engagement with the workforce. By creating a culture of ownership and empowerment we have been able to deliver key strategic objectives of efficiency and improvement: not least in safety.

All of these achievements have been delivered using in house capabilities. This creates productivity and efficiency changes which are not a short term fix, but are long term and sustainable.

At our results in June, we announced the completion of our 360 expansion programme in the Pilbara.

The teams in Iron Ore and T&I have done an exceptional job, both with on-time delivery and at a capital cost significantly below initial estimates.

We now move from a phase of building, into a phase of optimising the value of these assets for shareholders.

This is an area where my team already has a lot of pedigree. At our recent half year results, through a continued focus on operating and financial discipline the Pilbara iron ore business delivered an FOB EBITDA margin of 61%, with a C1 cost of US$16.20/t.

And we are not just producing at the best cost, but as Bold will show, we then sell at the best price – based on stable and long term customer relationships, and meeting our customers' needs by providing the right product quality.

A key part of our success in productivity gains has also been the full and direct engagement of our employees and the adoption of technology and automation in our operations. In these times of constant reductions in capital expenditure across our industry, Rio Tinto has continued to extract value from investing in this manner, which both Greg and I cover in greater detail.

This has been a tough operating environment for all commodity producers and a period of exceptional volatility. We are clearly going through a period of adjustment as China moves towards a more consumer led economy. But as Vivek will set out, we see continued growth in global iron ore demand over the long term.

We are confident in our ability to deliver value through the cycle. We have the best assets, and the best people. Our business is robust and we see many opportunities to continue to maximise productivity and efficiency.

All the team here, are looking forward to telling you more about the business today and some of these opportunities, and we hope you find it a useful and informative session.

I am now going to hand over to Vivek, to talk about his perspectives on the iron ore market.

Slide 6 –Title Slide – Iron ore demand fundamentals

Thank you Andrew.

Good afternoon ladies and gentlemen. The focus of my presentation today is on long-term trends in steel and iron ore demand.

Slide 7 – Rio Tinto Economics and Markets

As Andrew has outlined, Rio Tinto is a business of significant scale with very long-lived assets.

For this reason, maximising shareholder value requires us to plan into the future with the allocation of capital across alternative investments being influenced by expected long-term trends in different markets.

To this end, the work of my team involves the production of regularly updated detailed economic forecasts across different future time periods and for different commodities for use by the Group in its planning and investment processes.

We report directly to Chris Lynch, which helps us provide an independent voice within the Group, particularly with the Product Groups competing for capital.

Our work is based on detailed assessments of commodity supply and demand.

We construct those assessments from primary research, on macroeconomic developments, industry costs, production trends and consumption drivers.

More often than not, this research is conducted on the ground in China, India and other key markets around the world.

We also draw information and analysis from a large array of internal and external sources.

For example, our marketing teams provide valuable insight into developments in our key markets as well as on the technical ins and outs of the production and use of the commodities we produce.

Today I will show you a range of forecasts of long term trends in steel and iron ore and of course any such forecasts should come with some caveats.

While we are confident in our view it is important to recognise, as I'm sure all of you do, that there are bands of uncertainty around any forecast.and when looking at long-term trends it is important to see through near term volatility and cycles.

Over the past year, Chinese steel production stagnated especially as residential housing inventories built up following a spate of construction spurred by the post GFC credit loosening.

But in recent times, we have seen those inventories reducing on the back of improved home sales and in some cities housing inventories have almost returned to normal levels.

With reported iron ore and steel stocks below normal levels, an improvement in building and infrastructure construction later this year could see better prospects for demand through 2016.

However, in the current environment it is of course critical to monitor all potential sources of risk to the near term outlook. For example we are watching for any leakage from the recent stock market declines into the real economy, and we pay close attention to trends in business activity across a range of enterprise categories and developments in government policy.

My colleague Bold will give more information on near term market conditions in his presentation.

More generally, uncertainty and volatility are facts of life for any business and always will be.

To cope with this, our approach is to capture risks through rich scenarios that allow the business to test its resilience and options in changing times.

Slide 8 – China's Transition toward high income status involves a structural transition to slower growth

In our forward projections for iron ore and steel demand, China continues to play an enormously important role with emerging markets also featuring in an increasingly prominent way over time.

In this context, China's development and its economic relationship with the rest of the world under the 'New Normal' is central to our thinking about the future of commodity markets.

From our perspective, six major macro trends have stood out for some time.

First, China will need to deal with a peak in its working age population.

Among other things this will place increased pressure on wages over time affecting China's competitiveness – especially in the more labour intensive sectors.

Second, there will be continued urbanisation, although at a slower pace than in previous years.

We expect 220 million new urban residents in the next fifteen years as compared with the 320 million people who urbanised between 2000 and 2015.

A key new aspect here is a greater emphasis on improving the quality of urbanisation.

This will require more focus on public infrastructure, better public services and reduced pollution.

Third, we envisage that consumption, especially of services, will contribute towards a greater share of economic activity.

The fourth trend is that as the economy matures we see a reduction in the rate of capital accumulation and also a shift in its structure.

So while we project reduced rates of construction growth in China, we also see a need for its factories to become more capital intensive as China moves up the value added manufacturing chain, which of course is a fifth major trend.

Sixth, the economic relationships between China and other emerging markets will become increasingly important.

This trend captures the ‘one belt one road concept’ as Chinese trade and investment provide resources to help accelerate development in other parts of the world.

Our assessment based on global competitiveness trends is that while China’s share of total global manufacturing trade will decrease slightly, its share of trade in more highly transformed manufactured goods will increase from 18 per cent today to 22 per cent in 2030.

Crucially, this category of exports will include steel intensive items such as machinery, ships and motor vehicles creating a new driver for Chinese steel demand.

Summing up, the net implication of the new normal for China is a trend toward slower but higher quality growth.

Our current assessment is for GDP growth to trend from levels of around 7 per cent a year toward realised growth of between 4 and 5 per cent by 2030.

It is important to note that although rates of GDP growth are slowing from their peak, this growth is off of a much larger base.

During the period we are talking about here, we expect that China will go from being the second largest economy in the world to the largest, effectively a doubling of their current base.

Before I move to a more detailed discussion on iron ore, I should attempt to dispel a couple of common misunderstandings about the term ‘new normal’.

Some regard the new normal as representing current economic conditions or alternatively as some future mythical stable state.

Instead, I think it is much better to think of the new normal as a process of significant adjustment involving difficult structural reforms, a reallocation of resources, changes to public sector incentives and inevitably macro-economic volatility.

Slide 9 - Continued global iron ore demand

This next slide captures key observations from our demand analysis.

Our research leads us to expect that the world will require around 3 billion tonnes of iron ore by 2030.

That is an increase in demand averaging about 2% per annum.

The key driver of this forecast is a view that global steel demand will grow by around 2.5% per annum.

In turn, this outcome is levered off an expectation of average global GDP growth of around 3% a year.

New supply will be required in order to meet the additional demand.

We expect that the international seaborne market will supply over 50 per cent of this growth.

As you can see from the chart China remains the largest part of the total story.

But following several years of very rapid growth in Chinese demand for iron ore, future trend growth is expected to slow substantially in line with the new normal trends I described earlier.

Instead, a majority of the growth in iron ore demand is expected to come from other emerging markets in the future.

I'll now take you through some of the analyses on which these conclusions are based.

Slide 10 - Robust growth in rest of world demand

Now, later in the presentation I will explain the underlying detail of our Chinese crude steel production and demand forecast.

But before that I will turn to our projection of steel demand in the rest of the world.

The first point to note is that we are expecting the demand for steel outside of China to increase by 65 per cent by 2030.

That is, from 920 million tonnes to just over 1.5 billion tonnes of crude steel.

The vast majority of projected growth shown on this chart is expected to be from emerging markets with emerging Asia and India and ASEAN in particular dominating that story.

GDP growth in emerging Asia excluding China is expected to average around 5 - 6 per cent per annum over the coming 15 years.

At the same time it is worth noting that steel use in these economies is currently relatively low.

For example, finished steel intensity in the ASEAN region is about 120 kg per capita and in India it averages only around 70 kg per capita.

To further illustrate trends, in India, the average steel intensity of urban residential apartment buildings is below 40 kg per square metre where as new buildings come in at around 60 kg per capita square metre.

Average residential floor space per capita is around 11 square metres and this will increase substantially in the period to 2030 as the economy grows..

In India and ASEAN current trends indicate that around 250 million people will urbanise over the next 15 years.

On this basis, as emerging Asian economies continue to urbanise and industrialise, their steel demand can be expected to grow substantially.

In particular, growth in building construction is expected to be the major driver of steel demand in the rest of the world.

That process will require increasing quantities of finished steel and increasing quantities of steel intensive construction equipment.

Transportation, including, ships and automobiles is another major component in the picture, with demand for steel in this category outside China expected to grow by around 3 per cent per annum.

The figures in the chart include steel that is produced and used in the rest of the world outside China as well as steel that is imported from China as either finished steel or steel embodied in more highly transformed goods.

Indeed, global growth in demand for steel and goods that embody steel will provide opportunities for Chinese exports contributing significantly to Chinese steel use – a topic to which I will turn next.

Slide 11 – China steel growth will continue

Our Chinese steel production and demand forecast is continually reviewed and refined and we devote significant resources to the question.

Our very latest reassessment of Chinese crude steel production remains in line with previous estimates, of around 1 billion tonnes at 2030.

This represents an average annual growth rate of around 1% per annum from today compared with 14 per cent per annum in the previous 15 years.

The chart shows our assessment of where this steel production will report.

First, steel will be used to add to China’s capital stock.

That is, in the accumulation of the stock of buildings, roads, railways, automobiles, machinery and so on.

You can see that we are projecting that this component of steel demand will decline over the next 15 years having risen substantially in prior years.

The result arises from the new normal trend of slowing capital accumulation.

Let me give you an example.

All other things equal, we will need less new floor space to house the expected 220 million new urban residents from now to 2030 than we needed to house the 320 million people who urbanised over the past 15 years.

This means that the process of capital accumulation that supports urban growth will tend to require less steel than it did in the past.

Indeed, in the past, capital accumulation was the most important driver of China's steel demand, but in the future China's demand for steel will come from different sources.

In particular, the replacement or renewal of capital stock will become an increasingly important driver.

This trend levers off the obvious point that China's enormous capital stock having grown very rapidly over the past fifteen years, is progressively reaching its use by date.

As older buildings are demolished and cars and machinery are scrapped, they will need to be replaced.

And this process will generate increasing demand for steel as illustrated in the chart.

Of course, the flip side to the replacement story is that it will generate additional scrap that will displace some iron ore demand.

We take account of this in our projections as I will show you in some detail later.

The third and fourth components of the chart show that a key part of the overall demand projection is growth in exports - especially to other emerging markets.

You will recall that I mentioned this trend earlier in the discussion on expected growth in the rest of the world.

In particular, as other emerging markets develop they will need to embark on a sustained process of building their own capital stocks.

Given the new normal trends I discussed at the start of my presentation, we expect that China will be well placed to export increasing quantities of the capital goods required for this process.

These will include machinery, construction equipment, transport vehicles and so on.

These kinds of elaborately transformed manufacturing exports will embody significant quantities of steel and that is what drives the projection shown on the chart.

To round off the export picture we expect that Chinese net exports of finished steel - including flat products, rod and coil - will average 100mt per year through to 2030.

This figure is close to current levels meaning that China's share of global steel trade will diminish progressively.

I have to emphasise that China's net steel export figure will be quite volatile around its current trend as it is the difference between two large moving components – steel production on one hand and consumption on the other.

Slide 12 –Chinese steel demand based on detailed analysis

Ladies and Gentlemen, those slides cover our main projections for iron ore and steel demand around the world.

But I am often asked about methodology as much as I am about the projections themselves, so I thought it would be worthwhile opening the bonnet a little to show you elements of our approach.

The particular focus of my discussion today is on how we model Chinese steel demand.

In our analysis we look into several broad buckets including, buildings, infrastructure, machinery and transport and within each of those buckets there are dozens and dozens of individual components that we model in detail.

For buildings, we look at steel demand at the national, provincial and city levels.

Indeed, our analysis accounts for trends in more than 800 large and small cities and in rural areas.

I will provide a case study on how we approach this shortly.

Non-Residential construction represents approximately 50% of building related steel demand today and 50% of floor space required.

Our projection of growth in this segment involves assessment of trends in office space and public buildings including schools and hospitals.

This in turn is influenced by our projection of growth in China's services sector.

With respect to infrastructure we look at trends in the development of Highways, Pipelines, Bridges, Airports, ports, rail lines and so on.

For example, we estimate that in the previous 15 years the number of bridges nearly doubled. However, over the next 15 years we expect growth in bridges of only around 30 per cent as urbanisation slows.

Conversely kilometres of metro rail line are expected to triple in the next 15 years as limited availability of land in cities forces transportation networks underground.

The transport sector also includes shipbuilding and shipping containers and I will soon take you through a case study on automobiles.

We have a major focus on machinery due to its significant contribution to Chinese steel demand - currently around 30%.

Around of quarter of this is exported.

The life span of most machinery ranges from 6 to 12 years and this relatively short life means that its replacement makes a significant ongoing contribution to steel demand over time.

As I noted at the start, our China demand model is not static.

We conduct primary research on an ongoing basis to further our understanding.

For example, recent projects have included:

- More detailed assessments of residential and commercial vacancy rates
- Residential demolition and building life span trends
- Building steel intensity trends
- Machinery demand and steel intensity

- Scrap availability and dynamics
- Metal substitution in automobiles
- Trends in steel intensive manufacturing trade
- And perhaps most importantly, scenario assessments of the forces driving China's broader macroeconomic development.

As indicated earlier, the net outcome of this analysis did not lead to a material change in our projection of Chinese crude steel production.

So, why do we take such a granular 'bottom up' approach as opposed to the far simpler top-down projection method adopted by many others?

First, it allows for a deeper interpretation of key trends, policy decisions and inflection points in each sector and region and under different macroeconomic scenarios.

In this work we have found that a reliance on top down averages can be quite misleading.

Second, we are able to keep better account of key real-time signals to ensure that our view is on-track and to disentangle short term cycles from longer term trends.

And third, we can translate the sectoral impact of new normal trends across multiple commodities in a consistent manner and observe the implications of any shifts for the rest of our portfolio including for copper, energy, aluminium and TiO2.

Slide 13 – Case Study I – Residential steel demand

Let me now take you on a deeper dive through our approach to urban residential demand.

This demand projection is built up through a number of steps.

First, we project income growth at a city level.

For example, we would expect incomes to grow more slowly in already rich tier 1 cities such as Shanghai than in regional centres such as Chengdu.

With growing incomes the demand for floor space can be expected to grow.

Today the average floor space per capita in China is about 32 square metres.

We're expecting this to grow to around 40 square metres per capita by 2030.

Second, we project how much steel is going to be embodied in each metre of floor space.

To assess this, we need to account for a number of factors, each of which will vary by province.

For example we assess the implications of different seismic ratings.

From the lowest level of seismic rating up to the highest, the intensity of steel in buildings can increase by up to 30%.

Related to seismic ratings, we have seen a trend toward more stringent building regulation in China.

Indeed, every 10 years since about 1990 there have been step changes in regulation leading to 5-10% increases in the steel intensity of new buildings each time.

Today, the Chinese building Code is broadly consistent with what we see in Russia, however it is considerably less stringent than in OECD economies.

The height of buildings is also a critical variable determining steel intensity.

More steel per square metre is required in a higher building and in China there is a trend toward higher buildings.

For example, the super structure of a typical ultra-high rise building will be 25% more steel intensive than for a typical 3-story structure.

The increase in car ownership per household is also important.

The more basement parking required in a building, the larger its substructure needs to be and building substructures are substantially more steel intensive than super structures.

Then there are also some important technological trends.

We are seeing a move toward use of higher strength steel in buildings through China, which would tend to reduce the amount of steel that is required per square metre- all other things equal.

But at the same time we are seeing an increase in the amount of pre-fabricated concrete that is being used and this requires a bit more steel than the traditional methods.

In our analysis these two factors tend to offset one another over the long-term.

This kind detailed approach leads us to a well-based picture of how much steel is required per square metre of different buildings and how this could change over time.

Here we show a typical high rise.

In this building of 30 storeys, we have nearly 15,000 tonnes of steel.

Indeed, the case study shows that when you are travelling in China the majority of the steel in the taller buildings you see may be below the ground.

In our modelling we sum up these kinds of floor space assessments based on vacancy rates, demographic trends and population densities across cities and regions and then across the whole country to develop our projection of total residential steel demand.

Slide 14– Case Study II – Residential replacement demand

Next let me give you a little more colour on the issue of replacement demand for steel.

One key trend is the replacement of 1 and 2 storey buildings with higher rise buildings.

Between now and 2030, we expect about one quarter of China's urban residential building stock to be replaced - that is, about 6 billion square metres.

Most of this will follow the demolition of one and two story structures that were built during the 1980s and 90s.

Those one and two story buildings will be replaced by buildings of seven stories or higher with typical life spans of around 70 years

This phenomenon is expected to be most prevalent, at least initially, in the major tier one and two cities where the scope for and returns from urban development are greatest.

A key point to note is that in the process of demolition and reconstruction a given amount of floor space will tend to embody more steel over time.

For example, a one-story building demolished today is likely to have a steel intensity of around 20kg per square metre

But this could be replaced with a building having a steel intensity of 100kg per square metre or more.

Slide 15- Case Study III - Automobile steel demand

I said earlier that I'd talk to you a bit more about China's automobile sector, which is going to become an increasingly significant source of demand for steel.

China has about 100 cars per 1000 people today, which is low given international comparisons.

South Korea has 300 cars per 1000 people whilst other OECD countries are in the 450 – 550 car range.

So as Chinese incomes grow, we would expect that China's demand for motor vehicles would also increase.

New cars are expected to grow progressively larger but lighter over time so they will include more steel but also a greater proportion of aluminium.

I should note that this substitution trend contributes significantly to our aluminium demand growth narrative.

The net implication is that by 2030, the demand for steel in autos will increase from 50 million tonnes to reach 100 million tonnes.

10 per cent of that will be embodied in exports sent mainly to other emerging markets.

Of course motor vehicles will need to be replaced - passenger vehicles every 15 years on average and trucks and buses every 8 and 12 years respectively.

And this replacement process will generate additional demand for steel over time.

Slide 16 –Obsolete Chinese scrap triples in fifteen years and will displace some iron ore requirements

As I mentioned earlier the replacement story that I have told does generate an increasing projection for scrap, which displaces iron ore to some extent.

This chart shows how the development of scrap in China is expected to change over the coming 15 years.

Even today China uses a lot of scrap.

Our current estimate is about 150 million tonnes..

That scrap comes from three different sources.

First, there is home scrap, which is the scrap that is produced inside a steel mill.

Second, there is prompt scrap, which is essentially off cuts from the manufacturing process.

We don't expect that these two components will change dramatically over time.

However, then there is obsolete scrap, which comes from the capital stock replacement process that I have just discussed.

The recovery rate is expected to trend toward 40 per cent by 2030 and on that basis we have projected that obsolete scrap will increase from 40 million tonnes today to around 120 million tonnes in 2030.

The total increase in obsolete scrap over the period displaces about 130 million tonnes of iron ore demand in 2030.

Slide 17 – China steel demand growth consistent with international experience

So how does all this compare with international experience?

This important question is addressed in the following two charts.

Today the stock of steel in China, that is the amount that is embodied in all of its capital infrastructure, buildings, cars and so on is about 4.5 tonnes per person.

Our projection is that this will grow to 9 tonnes per person over the next 15 years.

Now 9 tonnes is slightly higher than the steel stock per capita in G7 economies today, but it is less than the G7's historical peak.

It is less than steel stock today in Germany, Taiwan, Russia and South Korea.

I would argue therefore that our projection is well within the scope of what has been achieved internationally.

Indeed, with China expected to be both a major consumer and manufacturer, we should not be surprised to see a relatively high steel stock.

It is also useful to look at international comparisons in terms of steel intensity per capita.

Today, China's steel intensity is around 600 kilos of crude steel per head.

In terms of international comparisons, this is very much in line with what South Korea had achieved at a comparable level of development.

But over the next 15 years, we don't expect that China's steel intensity will grow very rapidly.

In fact, we project that it will still be below 700 kilos per capita in 2030.

This is less than what was achieved in Taiwan and certainly below South Korea's peak.

It is also, not vastly out of line with what was achieved in Germany or the United States earlier in their development and in a much less steel intensive age.

Even against an intensity metric therefore, I would argue that our projection of Chinese steel demand is in line with international experience.

Slide 18 – Summary

Like all large scale businesses we need to do deep analysis into the long term trends affecting our markets. It allows us to look objectively through cycles and volatility and inform our business decision making.

So what are the key takeaways from our analysis?

The first is that the world will continue to need increasing volumes of iron ore.

We project that the world will demand around 3 billion tonnes of iron ore by 2030 – a 2 per cent average annual increase from today's levels.

We expect that over half of the expansion in global iron ore demand will be supplied through the seaborne market.

Secondly, emerging markets other than China will play a much more important role in the demand for iron ore.

Underscoring this, we are expecting that non-Chinese demand for steel will increase by 65 per cent in the period to 2030 with ASEAN economies and India playing key roles.

Third, Chinese demand will remain critically important with steel production expected to grow at a rate of 1% per annum albeit off of a very high base.

At the same time, China's pattern of steel demand is expected to change.

Replacement and renewal of capital stock will become much more important parts of the picture as will exports of finished goods that embody steel.

With that I will hand back to Andrew.

Slide 19 – Delivering value through the cycle

Thank you Vivek, for that in-depth look at the fundamentals of the iron ore and steel markets.

Rio Tinto Iron Ore is of course, a business that figures strongly in these markets, an outcome of being positioned for success over its 50- year life.

SLIDE 20 – The world's best iron ore business

No matter which way you analyse our business, the clear conclusion is that it is world class and substantially value accretive.

Ours' is a business which plans for the long term and its vision- "To remain the best iron ore producer in the world"- is based around what we know and how we work, as well as how we imagine the future.

Both market and system gains are hard to win and relatively easy to lose.

Which is why, based on a long- established pedigree of operational excellence, we are acutely and relentlessly focussed on improving every facet of the operations.

"Production at the right cost" captures the essence of our business - we want to use our capacity as efficiently as possible; we want the tonnes delivered to the ports as efficiently as possible; and those tonnes need to be of a quality that customers want.

And all delivered safely.

The "value- driven growth" and "maximising portfolio value" pillars consider how we phase our growth development sequences to best create value, both for us and our joint venture and other partners.

For example, we maintain deep insights into the dynamics of market demand and access into new supply markets and we have an exceptional strategic production planning capability that drives value through product and mine development selections.

A key to our success has been a combination of the best assets with the best people.

And I would like to thank all of our colleagues for the part they have played in delivering this success.

We have benefitted hugely by working closely with employees to drive real business value through, for example, our brownfields mine strategy, the introduction of new technology and innovative ideas and by cost reductions and the sweating of assets.

This and much more is normal business for us and I'd like to expand on some of the key themes in the next 30 minutes.

SLIDE 21 – Personal safety, health and wellbeing is a fundamental business priority

When we think about our business, the fundamental value is how we best take into account the ultimate protection of human beings.

In short: - zero harm to any person.

Our all Injury Frequency Rate was 0.55 in the first half of the year.

Yes, it's a low figure and getting lower, but the numbers mask several potentially fatal incidents, any one of which could have had such terrible consequences.

As you will expect, we have a wide range of programmes and initiatives, all designed to separate people from harm.

But, there is no magic answer and it's a hard slog; there must be no complacency and there must be a focus on self-accountability and strength of leadership.

An area I am championing is how best to improve, and protect against the impacts to, the mental health and well- being of the people working for us.

Our approach is to optimise well-being, helping each person to be the healthiest they can be.

As such, they will be more engaged and resilient- clearer about what is expected of them and with an improved capability to perform and contribute.

It's a continuous journey, but one that's important to understand and to keep the drive and momentum going.

If you cannot get safety right, then you don't get anything right.

A great operation is a safe operation.

Slide 22 – Consistently delivering value

I was appointed chief executive of the iron product group in early 2013.

The past 30 months has been a challenging time for the industry.

But we have maintained our position as the best- in- class operator and delivered some exceptional results.

The first step in this success was full and direct engagement with the workforce – by creating a culture of ownership and empowerment we have been able to deliver key strategic objectives of efficiency and improvement.

This includes productivity improvements, working capital releases, operating costs and not least, safety.

All of these achievements have been, and will continue to be, delivered in- house, with the result being that the changes are not short term in nature, but sustainable over the long term.

I am regularly in awe of the capability and professionalism of this workforce, as it continues to push our leadership position and transform a really good business into a really great business.

We have completed the staged Pilbara infrastructure, at a capital intensity of approximately $105/t, a reduction of around 30%.

Our operating costs have reduced by almost $1 billion, compared to 2012, reflected in the lowest unit cost positions in the industry.

It is a position we intend to maintain.

We are increasingly doing more with automation- we now have the largest autonomous truck fleet in the world and our Nammuldi mine is running a completely autonomous pit fleet, also the first in the world.

And real progress at the Iron ore Company of Canada, where in July this year there was a record concentrate run rate of 21.5Mt/a.

SLIDE 23 – The Pilbara – a fully integrated system…

Next year is the 50th anniversary of the first shipment of our iron ore from the Pilbara region of Western Australia - a region of 500,000 square kilometres, within which the British Isles could easily fit.

We have broken a lot of new ground in this time- literally and figuratively- and we have learnt a lot.

This includes, for example, the leading edge manner in which we plan and develop our assets; the way we integrate and maximise the value of our logistics chain, and the way we build relationships with customers, communities and governments.

We have a combined residential and fly in/ fly out workforce of more than 12,500 employees, 1,000 of whom are indigenous Australians.

From an original mine at Tom Price and a port at Dampier, we now have 15 mines, 1700 kilometres of rail, 4 separate ports, extensive related infrastructure and a comprehensive customer base.

All are fully owned or managed and singularly used and operated by Rio Tinto which offers unique optionality.

It is a system designed to seamlessly deliver Rio Tinto product to around 100 customers globally- with many, many differing requirements.

And it runs 24 hours, each and every day of the year, with real- time coordinating and decision-making capability from our Operations Centre, located 1500 kilometres away in Perth.

As some of you have seen from previous visits, our Pilbara business offers serious competitive advantages, particularly unimpeded control and seamless logistics.

The platform is robust and stands us in good stead for the future.

SLIDE 24 – …producing a suite of world class iron ore products, including our flagship Pilbara blend

Our Mineral Resources and Ore Reserves base is strong and managing this base efficiently enables us to give our customers what they want, when they want it, and to maximise the value of the assets.

Rio Tinto's focus has been, and will continue to be, on our premium Pilbara Blend products.

The value of Pilbara Blend is highly significant to our business and to our customers.

Through sequencing and blending we are able to optimise our resource base; our infrastructure and system throughput; to facilitate the incorporation of new mines; and to reduce stockpile requirements

Bold will cover our product and customer suites in more detail and as you will see it is a highly sophisticated combination of marketing, logistics and mining in one seamless operation.

SLIDE 25 – Growth infrastructure complete, with brownfields continuing to supply near-term volume

Our major growth infrastructure expansion project is now complete and you'll hear more from Greg on this shortly.

It has been a significant team achievement.

Our job now is to wisely use the capacity, maximising the value of our existing infrastructure, and investing for production improvements and for maintaining product quality.

For 2016, I anticipate that our Pilbara integrated production system will deliver around 335Mt.

And in 2017 I expect that we will deliver around 350Mt.

In the short term, brownfield expansions will continue to drive the volumes that we need, along with on-going debottlenecking and productivity improvements.

This approach helped to significantly reduce the capital cost of our development.

40Mt/a of brownfields growth capacity has been completed, at a capital intensity of ~US$9/t.

The Nammuldi hub is presently a key area.

The 21Mt/a Nammuldi below water table mine is ramping up production and, together with some familiar brownfields options like Paraburdoo and West Angelas, will contribute to the overall 2016 production profile.

We have also recently approved US$194 million for an investment of Nammuldi incremental tonnes, or NIT as we refer to it.

Part of this investment enables near Silvergrass deposits to be delivered by road train to the Nammuldi process plant.

NIT 1 is a 5mt/a road train operation of dry ore as part of the 2015/16 production plan.

And the NIT 2 forecast is for a Q4 2016 start, with ramped up production in Q1 2017 providing a further 5Mt/a.

With an average capital intensity of around US$19 per tonne and a specific focus on retrieving high grade, low phosphorus ore, these are options that continue to deliver significant value into the Pilbara Blend.

SLIDE 26 – Further high value tonnes from Silvergrass

This efficient allocation of capital to the brownfields pathway has enabled us to defer the investment decisions for both the full Silvergrass and Koodaideri mine developments.

As we have mentioned before, the decision for the Silvergrass development will not be required until next year.

The NIT investment is enabling some other Silvergrass- related initiatives.

This includes the commencement of dewatering set-up work, as well as additional construction at the Nammuldi below water table processing plant, which will increase capacity from 21Mt/a to 42Mt/a.

The balance of the full Silvergrass mine development comprises the installation of a satellite crusher and overland conveyor; increased mining capacity; and the expansion of Nammuldi non-process infrastructure.

The full mine development will raise production from the 10 Mt/a road train option to 21 Mt/a and with a conveyor replacing road trains, will see operating costs significantly reduced.

Through the further cooling in the Western Australian construction market and capital savings in areas such as heavy equipment, and crushing technology, we would expect a capital estimate considerably below earlier market indications.

SLIDE 27 – Unlocking value

Turning now to financial issues.

Performance in the first half of 2015 yet again demonstrated the exceptional capability of the team – using their skills to deliver value.

We have seen an improvement in productivity and costs as we continue along our transformation journey.

This includes optimising maintenance tactics for value, the renegotiation of service and supply contracts; a reduction in warehouse and stockpile inventories; as well as efficiencies from changing rosters and delivering productivity benefits through reduced recruitment.

A greater than 20% reduction in inventories at the mines since the start of the year has resulted in the release of working capital, which helps strengthen our balance sheet position.

H1 2015 saw an increase in Pilbara production and shipments when compared to the same period last year, despite the impact from weather, including late cyclones, which led to us losing seven million tonnes in shipments.

With the completion of construction and commissioning of our new port and rail infrastructure, and the capacity to head towards producing and shipping one million tonnes a day, we are determined to look for continual improvement.

We aim to maintain the business as the lowest cost producer and at the same time continue to achieve a price premium in our iron ore sales.

SLIDE 28 – Sustaining a competitive advantage

Strong EBITDA margins have been a feature of our iron ore business, over many years and through many cycles.

We have worked hard to stay in front of the challenges associated with the global market, particularly at a time of lowering iron ore prices and it is imperative that we continue to do this.

Despite a decline in underlying earnings, mainly driven by the impact of lower prices, our FOB EBITDA margin has been maintained at 61%.

Since 2012, the Iron Ore group has delivered almost $1 billion of cumulative operating cost savings.

This is reflected in a reduction in Pilbara cash unit costs to $16.20 per tonne in 2015 first half, compared with $20.40 per tonne in 2014 first half, a 21% reduction.

This unit cost performance confirmed our continued chase for sustainable system improvements, while increasingly utilising new technology and automation.

SLIDE 29 – Pilbara – H1 2015 financial summary

This slide shows a breakdown of the net earnings from the Pilbara operations, and how our results agree to the quoted Pilbara cash costs for the first half of the year.

The pie chart shows a breakdown of how our operating costs are split by type.

As you can see, more than half of our spend is labour- related, with employee costs making up 36%, and a further 21% relating to contractors and other external services.

Over the course of the past year we have had a strong focus on improving productivity across our operations.

In the first half of 2015, we have increased our labour productivity by 12% compared to 2014, with fewer employees, and despite a 10% increase in our saleable ore produced.

We have also reduced our contractor and consultant spends by 5% year- on- year, by eliminating work or continuing to bring more work in house.

SLIDE 30 – Reducing contractor costs and employee costs has delivered significant benefits in unit costs

We continue to reduce our operating costs and these are down again in the first half of this year compared with the same time last year.

Whilst we have benefited from a falling exchange rate, we have made strong improvements in both employee and contractor labour costs, the combined impact of which has delivered a $1.80/t reduction.

Looking forward, the overall iron ore industry may encounter some cost headwinds.

By way of example, energy costs may well shift, with increases forecast in both oil and gas prices.

We are relentless about the appropriate allocation and use of capital.

For example, when we balance the selection of new mining options with the management of maturing mines, with pits becoming deeper and haul trips longer.

The task for me and my team is to be rigorous in the allocation of capital, and relentless in seeking improvements in our system and processes.

We have to get the big decisions right – and yet keep an eye on the detail.

I mentioned earlier about engaging with our teams to create a culture of ownership and empowerment. This has allowed us to meet our strategic objectives through internally driven and sustainable changes and improvements.

The next few slides will show how our teams are delivering on the detail.

SLIDE 31 – Our Operations Centre enables us to optimise for tonnes, quality and value

Our highly integrated system is designed to maximise the value of our assets and ensure we deliver a consistently high quality product to our customers.

Within the system, our Operations Centre continues to be fundamentally important.

Located in Perth, with close to 500 people working there, the OC is the ‘flight deck’ or ‘nerve centre’ from which we drive how we optimise value, cost and quality.

We look to extract every small improvement through better planning and co-ordination, debottlenecking and productivity enhancements, across the full supply chain.

Making informed decisions each second, of each day, right through the year.

With end-to-end visibility of our entire value chain, the OC gives us an unparalleled ability to both optimise the system, as well as identify and rectify challenges before they arise.

As well, with real-time equipment data flowing directly back, we can better manage the condition and life of our assets, including optimising maintenance activities.

SLIDE 32 – Operational and commercial excellence is embedded across the business

We also regularly pursue High Value Initiatives (HVIs)- maximum value, rapid transformation improvement projects, across the business.

We empower dedicated cross functional teams of our brightest and best performers by setting them an audacious goal - leaving the ‘how’ up to them, with the role of our senior leaders to quickly remove any barriers in their way.

FasTrack35 is one such example- to drive a 20% improvement in rail cycle time, which is a key indicator of system performance.

During the 3 week trial the team identified a sustainable pathway to a 37hr cycle time.

Another of our dedicated HVI teams is focused on improving the Brockman Valley load-out.

At our Brockman 2 train load out facility, the loader strategy and stockpile configurations were modified, resulting in a 100 minute reduction in train loading.

This has enabled a record number of trains through the valley in one week.

As a further example, our analysis and focus on heavy mobile equipment has enabled life extensions across the fleet and savings to be realised.

These include-reductions in major components, operational expenditure over life of the fleet, capital deferrals, contract rebates and tyre inventory and supply volume reductions.

SLIDE 33 – Autonomous fleet continues to expand bringing significant productivity improvements

Innovation and technology is critical in our efforts to improve safety- removing people from harm- and also productivity as we continue to push the boundaries in automation.

We have already seen demonstrated improvements from our trucks and drills.

The first chart shows the effective utilisation of our autonomous sites compared to our manned site performance.

After the initial ramp up, it can be seen that the autonomous fleet outperformed the manned fleet by an average of 12%, primarily by eliminating required breaks, absenteeism and shift changes.

The improved utilisation allows a reduction in fleet size, which in turn means lower capital expenditure; we have also seen a 13 per cent reduction in load and haul costs due to the greater efficiency.

As the technology and software is further advanced, we expect further gains.

The second chart shows the use of availability of drills at our West Angelas mine site before and after the conversion from manned to autonomous drills.

The autonomous drills delivered an increase of around 10% over manually operated drills and an operational cost savings of 8%.

West Angelas is the only fully autonomous production drill site in the world, with seven autonomous drills having drilled over 2.25 million metres.

And we are now in the process of rolling out this technology at other sites.

The autonomous program is generating significant business value and we continually look for opportunities to grow and optimise the program.

The autonomous journey continues with the implementation of Autohaul, our autonomous train fleet, which is an important part of the next phase of maximising value from our Pilbara operations.

Greg will talk more about this project shortly.

SLIDE 34 – Nearly 400 improvement initiatives underway

The real message that I want to leave with you, is this- all of our employees are fully engaged to ensure our assets operate stably and efficiently - hour by hour, minute by minute.

Our own employees are our best consultants- they not only know where to look, they also know how to make the improvements sustainable.

We are currently tracking nearly 400 improvement initiatives which will deliver further savings and improve productivity across our Pilbara operations.

At Cape Lambert B, for example, a 30% reduction in hatch change times has been achieved, reducing the average ship loading time by 1 hour.

At Tom Price a cross-functional team including frontline employees conducted a haul truck service kaizen, reducing the service time by over two hours and reducing maintainer walk distance by 1.1km.

And our Rail track maintenance team has introduced vehicle- mounted rail grinders, which reduces manual handling risks, increases productivity by 75% and produces a higher quality grind.

We are all gaining an improved awareness and understanding of where our money goes and look to internal rather than external capability.

The Mining Systems team at our Operations Centre upskilled themselves to enable the ‘in-housing’ of operational support for two of our radio platforms, avoiding $365,000 of contractor costs.

A Hope Downs maintenance team has introduced the use of crib room air-conditioner filters in the site’s light vehicles. At an annual cost of $37, this has

replaced a spend of around $20K per year required to install factory filters and replace failed evaporators.

As you have seen in Vivek's presentation, we value the ability of our own employees to both understand what impacts our business and what makes it tick, and how we can best improve it.

The improvement culture entails empowering employee collaboration at all levels, taking ownership of their workplace, for safety and productivity.

My task is to ensure that culture is in place.

SLIDE 35 – Iron Ore Company of Canada continues to improve performan

IOC has demonstrated a significant shift in operational performance during the first half of 2015.

Concentrate and pellet production have increased by 18% and 13% respectively against the same period in 2014, driven particularly by improvements in asset reliability and performance and employee engagement.

Cultural transformation has resulted in a 30% year on year improvement in IOC employees' productivity.

A revised business improvement approach, similar to that successfully deployed in the Pilbara operations, focusses on high value opportunities or points of operational leverage to deliver the biggest gains.

The expectation is that we will reach concentrate nameplate capacity of ~23Mt/a, by 2017.

These operational improvements, coupled with cost reduction initiatives, have seen a corresponding reduction in unit costs.

By 2016, as our cost reduction initiatives continue to flow through, we expect unit cash costs of around US$30/t.

This can only be achieved through improved productivity, controlled costs and improved efficiency, a journey we have started at IOC and that we know we must keep going.

IOC represents a niche product in the Rio Tinto Iron Ore suite for which demand is high and pricing remains sound.

The underlying qualities of the ore body – high iron content and low gangue elements- help to position the IOC product in the market.

IOC continues to pursue sales opportunities for value adding products into proximal markets with growing demand for DR pellets into the Middle East

SLIDE 36 – Making a positive and lasting difference in our local communities

Integral to our business is our unfaltering commitment to generate significant benefits for the local communities that host our operations, both in Canada and in Australia.

We have a number of key initiatives that target areas of education, health, environment, culture and regional sustainability.

And we currently partner with state and local government, for example, to enhance community infrastructure and services.

We are also focused on the sustainable growth of our indigenous workforces, and development of an inclusive workplace that supports attraction, development and retention of Indigenous people.

We directly employee over 1,000 indigenous Australians presently. And, as part of our operational reconnaissance in conjunction with local traditional owners, we have successfully identified and recorded over 12,000 cultural heritage sites.

And rather than sourcing part of our workforce from capital cities, we are flying around 1,000 employees from 8 regional centres, where there is generally more limited employment opportunity.

When it comes to local and regional communities, our culture of thinking is to make a positive and lasting difference.

SLIDE 37 – Summary

50 years of successfully growing our business has taught us many great lessons.

Our achievements have not been lucky.

We have been well- prepared and there have been wise decisions made, many of them before me.

We remain in very good shape to continue to sustainably deliver maximum value to shareholders, through market cycles.

We have a robust vision and our strategy remains constant and clear.

The people who work for us are our greatest assets and there is nothing more important for me than to ensure their safety and well-being each and every day.

As well, they need some creative space and I hope, like me, they are inspired each workday to think about how our iron ore business can continue to excel.

Our productivity gains from here will come from them.

We are the lowest cost producer and intend to remain in this position through the hundreds of initiatives we are pursuing, each adding up to make a large difference to our compelling value proposition.

We continue to see the value that is being gained from investments in Technology and Innovation and whilst others have cut back, we have continued to pursue technology as a core part of our operations.

We will continue to aim to be the most efficient producer and marketer.

There is always opportunity for further improvement and I look forward to sharing this with you in the future.

At this point we are now going to take a short 15 minute break. Tea and coffee will is being served outside.

Slide 38 – Title Slide – Maximising value

Welcome back.

I will cover today some of the short term dynamics in the market as well as provide an overview of our world class marketing capabilities that maximise portfolio value

Slide 39 – Our sale and marketing capabilities maximise the value of our products

Every day our sales and marketing team works hard to achieve the best realised price for our products and maximise the value of our unique resource endowment.

We leverage our unique, one of a kind infrastructure and bulk materials handling expertise - which is fully controlled by us - to optimise our product offering.

So how do we do it?

Our Industry Analysis team is comprised of seasoned professionals with mix of practical experience in geology & metallurgy combined with deep understanding of fundamental drivers of macroeconomics.

We have a Technical Marketing team, comprised of steelmaking professionals that can speak the “language of our customer”, know how our ore products and how they perform in the blast furnace.

And most importantly translate that into quality requirements as a feedback loop to our mining and operations.

These teams are on the ground with our customers but also at mine sites every week as a mission critical bridge between the Pilbara and China and between the Pilbara and Japan, Korea, Taiwan.

Their feedback is both tactical and strategic across the whole system chain starting with initial mine plan development, drill and blast and all the way to the iron ore that ends up in the haul of the ships on the way to Asia.

Our commercial team leverages these insights to capture opportunities through detailed customer segmentation, value-in-use pricing, and optimising our contract structure.

SLIDE 40 – Steel production has been resilient in 2015

Now turning over to the current state of demand and supply.

Vivek has covered the long term fundamentals.

So, I will focus more on the short term outlook.

Our market share of the contestable market - which consists of seaborne and Chinese domestic iron ore production - continues to hold steady at near 17%.

The use of domestic ore in China has dropped from 35% to 20% and stabilised at this level.

China's demand for imported ore exceeded 1 billion tonnes per annum in first half 2015. This is up close to 10% over first half of last year.

One of the metrics we monitor closely, as I am sure you do, is the level of stockpile inventory in Chinese 41 ports which remain at multi-year lows at near 80 million tonnes. This is down from 110 mm tons few years ago.

So summing it up on the supply side seaborne supply is up but inventory remains low which means the demand for higher quality iron ore products continues to be strong and high cost, low quality iron ore producers are gradually exiting the market.

Switching to the demand side

Despite the macroeconomic headwinds, such as the slowdown in China, turmoil in Ukraine and the Middle East and ongoing fragility in Europe global steel production was resilient and recovered 2.3% through the first half of the year.

July steel production data was weaker but we expect demand to hold up over the second half.

If you look at China's steel exports they have reached an annualised rate of 110 Mt, which is approximately 20 million tonnes higher than last year, with over 50% going into Asian countries to support their growth and infrastructure needs.

Based on our analysis it is incremental growth and not displacing domestic production.

In fact, this is the right time to build infrastructure and social housing as the costs are significantly cheaper with steel rebar prices near $300 per tonne compared to over $600 per tonne several years ago.

We are seeing this for example in Vietnam where steel consumption was up over 50% year over year.

The incremental exports to Europe and the US are less than 10% and are relatively modest.

In terms of green shoots, China's urban property sales have increased in recent months after more than a year of negative annual growth and infrastructure spending on rail, highways and public facilities remains strong with double digit growth.

SLIDE 41 – We expect ~120 Mt/a of marginal iron ore supply to exit the market in 2015

Let me drill down a bit further into the exits.

We expect 120 million tonnes of production to exit the market this year.

45 million of this comes from China and 75 million from others.

Now first on Chinese iron ore supply.

In the first half of this year China's mines collectively operated at an annualised rate of 280 million vs 325 million tonnes last year. This is based on conversion to seaborne grade quality which is at or above 60% while average Chinese mine grade is closer to 20%.

In China, market dynamics differ between the 25 provinces where iron ore mining occurs - most have shown declines.

The largest reductions have come from the northern provinces of Hebei (-11 Mt/a), Liaoning & Inner Mongolia.

The second source of reduced supply is driven by exits of high cost seaborne producers in non-traditional regions such as Iran, Russia, Mexico, Indonesia and Malaysia peaked at 156mm in 2013, and have steadily reduced since then.

We expect them to decline by ~35 million of the 75 million tonnes we have on the graph.

Exits from high cost juniors from traditional regions such as West Africa, Brazil, and Australia expect to account for the remaining 40 million tonnes.

At current price levels we see a further ~45Mt at risk to exit the market.

SLIDE 42 – Customers value products differently

We need to understand how customers think and how their purchasing decisions are made in order to optimise value

Not every customer is the same.

We have customers who specialise in long construction steel materials and also have customers who focus higher end specialty steels.

Depending where you are in that spectrum, the value you place on impurities and sensitivities to that will be different.

Another factor for example is the size of the blast furnace.

Large blast furnaces are more efficient but restrict raw material flexibility. The average blast furnace in Japan exceeds 4500 metres3.

In China, it is currently just over 1000 metres3 giving more flexibility. As China targets higher quality steel products the average size will increase over time and efficiency will become even more of a focus.

Larger furnaces require more stable, stronger iron ore feeds.

Geographical distance plays a role in China

With 55% of steel capacity located more than 150 kilometres from the coast logistics costs and amount of re-handling play an important role in purchasing.

Commercial factors such as those listed on the slide are also important.

Increasing environmental regulation and tightening emissions targets combined disposal constraints of slag and by-products also influence steel mill buying behaviour.

Our customer and market approach is based on rigorous analysis of these factors, including ground up "mill by mill" value modelling covering more than 90% of seaborne iron ore demand.

SLIDE 43 – Our Pilbara products are aligned to our resource base and customer needs

Turning to our own product suite.

We have a concentrated and consistent product offering.

Pilbara Blend Fines and Lump were introduced in 2007. They have become the most recognised iron ore brand in the market and serve as a base load feed, especially in China.

Our Japanese customers value Yandicoogina fines (HIY) and Robe Valley Lump, whereas our Korean and Taiwanese customers value HIY and Pilbara Blend Lump.

We match our contract product portfolio with customers who value them the most and ensure that we sell across diverse markets and customer segments.

Our products are mostly sold in 180 thousand tonne vessel size lots.

Which may not sound like a lot, but imagine a train that is 20 kilometres long which is distance extending from here, to the Sydney airport, and back.

This single shipment is mostly sold to one customer with minimum collection risk from the coast of Australia.

We manage our credit exposure carefully, which goes hand in hand with our focus on "blue chip" customer base which I will cover in more detail in a few slides.

SLIDE 44 – Pilbara blend is the industry reference iron ore

Pilbara Blend fines and lump are the largest and most recognised iron ore brand products in the Asian Steel industry.

Pilbara blend fines are the most quoted product in the formation of the Platts 62% index, which is often cited as a reference for the iron ore price.

Anecdotally, some of our customers refer to the Pilbara Blend as the USD equivalent

in the iron ore industry referring to its reliability and consistency.

We use multiple spot pricing platforms and the demand for our product continues to be strong across them. We see a large and healthy number of active participants bidding even during the most volatile days.

Despite recent volatility in equity markets, especially last few weeks, iron ore prices have remained relatively range bound and flat near $56 per tonne fluctuating by 4% when we have seen 20% drops in the equity markets in Shanghai.

Well what does it mean?

It means we have healthy demand for our products and fundamental drivers of supply and demand are continuing to define prices of the iron ore market.

SLIDE 45 – Lump is an important value driver for Rio Tinto.

Fines and lump achieve different prices.

Lump attracts higher prices because it can be fed directly into the blast furnace without the costs of sintering that is required for the fines.

Rio Tinto is the largest supplier of lump and shipped over 40Mt of Pilbara Blend and Robe Valley lump in H1 2015.

Over the last 5 years, the steel industry in China has become more technically skilled at using lump.

Demand for lump will continue to grow as sinter and pellet production in China faces increasing environmental scrutiny and costs.

The Platts lump premium averaged $13 per tonne above the prevailing fines price for the first half of this year.

SLIDE 46 – Blending significantly reduces variability

Andrew outlined our fully integrated Pilbara operations comprising of 15 mines, 1,700 kilometres of rail and 4 independently operating ports.

We are as much of a mining company as we are a large bulk materials handling company.

Managing the mines is as important as competently managing our integrated infrastructure.

This slide has a schematic of our mines and port network. The colours relate to the type of ore being mined and the size of each box is proportional to mine production.

Brockman and Marra Mamba ores are railed to our Cape Lambert B and Dampier Ports where they are blended to make Pilbara Blend.

This blending of mine production at port is a key differentiator and allows us to optimise our total system; rather than just an individual mine or hub.

The graphs on the bottom right powerfully illustrate the improvement in variability of alumina, silica, and phosphorus for our Pilbara Blend shipments compared to individual mine contributions.

It is consistency of product quality that is valued by our customers, ensuring Pilbara Blend remains the base load product in Asian markets.

SLIDE 47 – Consistent supply and quality supports our marketing strategy

Let me highlight some of the key aspects of our contract portfolio.

Pricing mechanism preferences have remained largely unchanged from the last time highlighted these to you. All of our term-contracts in China are priced on a month actual basis, Japanese customers prefer a lagged approach, and Korea and Taiwan customers prefer a mix of Quarter lagged and Quarter Actual.

Approximately 260 million tonnes are committed under long-term contracts this year and this level will likely be maintained for the medium term, with the balance sold on the spot market.

We focus on offtake certainty and optimal value when we enter into long term contracts.

We have an excellent quality customer base.

The top 50 steel producers account for over 1billion tonnes of steel production.

The steel producers that we have long term contracts account for 700 million or over 70% of the 1billion tonne and not a surprise over 2/3 of the top 50 are based in Asia and we cover most of them.

This is important because we focus on customers who are in it for the long term and can withstand the cyclical challenges

We ensure our world class customers get the product we have promised

And at Cape Lambert B we operate the world's largest fully automated iron ore port laboratory.

Each shipment is sampled every 2 minutes and over 8 tonnes of material is collected and handled by robots to analyse chemistry, size and moisture, ensuring accurate invoicing.

SLIDE 48 – Australia's delivered cost advantage to China

Australia's proximity advantage to China compared to Brazil is self-evident in this slide. The data on the map is from our live ship tracking system and illustrates every dry bulk carrier on the 29th July 2015.

A standard vessel round trip to China and back is ~3 times longer for Brazil compared to Australia (~90 days compared ~30 days).

The expansion of capesize fleet in last several years, lower volume of coal combined, with decrease of iron ore from further distance suppliers have resulted in lower freight rates.

Capesize bulkers continue to be the preferred vessel size by the market and these vessels are increasing in capacity; with ~20% of vessels now with a capacity of more than 200 thousand tonnes.

For the last 5 years the Baltic Capesize index has averaged $8 per tonne for Pilbara/China, versus a $20 per tonne average for the Brazil/China route. Freight rates fell significantly in December 2014 due to the fall in oil prices and current freight rates remain well below these 5 year averages at around $5 per tonne.

SLIDE 49 – Delivering value through management of the port to customer supply chain

We are responsive to the needs of customers and influence our port to customer supply chain in real time through close communications between marine, sales, and operations.

In 2007, we established Rio Tinto Iron Ore Asia in Singapore to manage the port to customer supply chain.

Rio Tinto's office in Singapore enables cross-product group collaboration, co-ordination with Rio Tinto Marine, and integration with the significant iron ore trading and logistics presence in Singapore.

One key marketing strategy is to secure a rising proportion of its sales on a delivered basis, or CFR.

Simply put, the value of CFR to Rio Tinto is derived from maintaining operational and commercial control of the supply chain to our customers.

A shipping portfolio that includes a considerable amount of term and spot market cover is optimal, as reliance solely on the spot freight market may fail to provide vessel coverage.

SLIDE 50 – Commercial excellence captures full value

Moving to our achieved price performance.

We have shown you price comparison graphs before for previous periods and once again our analysis of public reports indicates that we received a higher average price than other major producers in first half 2015.

Our realised FOB price was $54.40 per wet metric tonne; the comparable Platts price was $50.90 per tonne.

SLIDE 51 – Summary

In recent years iron ore sales and marketing has changed significantly – and it will continue to evolve in areas such as pricing, sales channels and financial instruments.

To adapt to an evolving market; customer relationships and sales and marketing expertise are essential.

Rio Tinto is the supplier of choice to the Asian steel industry.

We continuously optimise our market placement through segmentation which, not only mitigates credit exposure, but allows us to do business with enterprises that, like us, are here for the long-term.

It is the combination of our strengths, not just within Sales and Marketing but also across all of Rio Tinto, that bring together robust strategies and processes that deliver preferred products to customers and maximise shareholder value.

I will now handover to Greg.

Slide 52 – Advancing Productivity at Rio Tinto

Thanks Bold

You've heard quite a bit today about the new normal and what is required to succeed in these volatile and changing times.

Today, I want to share some insights into how the Technology & Innovation team continues to deliver value to shareholders and create competitive advantage for Rio Tinto versus its peers within this new normal environment.

Slide 53 – T&I delivers world class projects and step change productivity

T&I's role is to create sustainable value and competitive advantage for Rio Tinto by leading the way in two main areas. World class project delivery and world class productivity improvements.

The first focus area, ensures that Rio Tinto not only "does the right projects", but also "does the projects right".

We work closely with each operating business to optimise the global project portfolio and to deliver major capital projects in the most effective and capital efficient manner.

Our strategic planning team works with the product groups to “shape” valuable development options so that attractive projects get the best start and the non-economic options are reworked.

Our projects team works with the product groups to develop technically sound feasibility studies with efficient capital estimates and schedules.

After shaping the project and developing the best execution plan, our technical assurance team provides independent assessments to the investment committee to ensure investment decisions are rigorously reviewed and are technically sound.

Finally, once approved by the Board, the projects team will deliver the assets and value accretive growth to you, our shareholders.

Our second key focus area is using productivity improvements and innovations to reduce operating costs and increase the efficiency of our assets.

For Rio Tinto, productivity means optimising the return on every dollar we invest in our business, be that through capital or operating expenditure.

As a core component of the Group’s focus on achieving world-class operational performance, we have recently launched a productivity programme that will drive Group-wide value. The program will implement world-class practices in areas such as Advanced Technology Deployment, Asset Management and Energy Efficiency.

Supported by a consistent and focussed approach to operational data management across the Group, our growing portfolio of excellence centres, data analytics and metrics have become the foundations of Rio Tinto’s broader productivity system.

Our flagship productivity projects are intended to accelerate our achievements in this area by bringing about further breakthrough performance improvements in key focus areas.

In this ‘new normal’, doing more with less and focussing on the productivity of our business will continue across the industry and we here at Rio Tinto are well placed to continue to deliver increased productivity.

Slide 54 – Rio Tinto projects delivers major capital projects

Already this year, we have seen two examples of the projects team successfully delivering large scale value accretive growth projects.

The Pilbara infrastructure project and the Kitimat modernisation project were both completed in the first half of this year.

You've already heard how Andrew and his team are planning to optimise the value of the installed infrastructure in the Pilbara to generate maximum value and I will discuss the capital intensity evolution of this project in more detail shortly.

The Pilbara 360 project is one of Australia's largest integrated mining projects. It involves a total capital spend of $14.7 billion (100% basis) and employed more than 10,000 people in Western Australia, working right across the Pilbara and in Perth.

The infrastructure project itself involved primarily expanding our port and shipping capacity through the Cape Lambert B port, as well as installing additional rail and power infrastructure.

Brownfield mine expansions include Paraburdoo, Yandi, Nammuldi below-water-table and West Angelas Deposit B.

The Kitimat modernisation project is in the process of ramping up to its nameplate capacity of 420,000 tonnes per annum after pouring first hot metal in June. The ramp-up is tracking ahead of schedule with about a quarter of the 384 pots now energised. This modernised smelter replaces 60 year old technology and is now in the first decile of the cost curve. The project was delivered on time and about US$100m below the updated budget.

The projects group continues to work on a pipeline of exceptional, near term projects, include the South of the Embley bauxite project and the Oyu Tolgoi underground mine as well as delivering the remaining mining capacity required for our 360 Pilbara program.

Slide 55 – Delivering value through optimising the Pilbara expansion

One of the major achievements of the projects team in the first half was to deliver the completed Pilbara infrastructure to Andrew and his team.

Back in 2013, due to what we correctly predicted would be increased volatility in the commodities markets, Rio Tinto reviewed the plan for this project and opted to expand via a series of brownfield mine expansions rather than the capital intensive large greenfield mine projects of Silvergrass and Koodaideri.

This allowed the business to define a pathway to reduce the capital intensity of the expansion from 220 million tonnes to 360 million tonnes, achieving a capital intensity of $105 per tonne.

Our project delivery model grouped the individual projects into three expansion programs: Mine capacity, Rail/Port infrastructure and Support infrastructure, each with a dedicated senior project leader. In this way we were able to leverage synergies between projects to deliver cheaper and faster outcomes. For example, we leveraged contractors and fabrication between the Cape Lambert 290 and 360 projects to ensure we captured and locked in a successful team with low rates and saved significantly on the final cost and schedule.

By delivering the rail/port infrastructure first, we were able to optimise the timing and size of brownfield mine expansions to match the ever improving productivity and “creep” capacity being delivered from existing mine operations, rather than relying up front on a large scale mine development that may not ultimately prove to be optimum.

During the first half of this year, we completed the expansion of the Pilbara infrastructure and this project was delivered on time and below budget. For example, the port/rail infrastructure component of this project came in around $800 million below budget.

Additionally, around 40 million tonnes of brownfield mine expansions will be delivered this year with a capital intensity of $9/t. Due to these additional savings on project delivery, we forecast a capital intensity of $105/t at the full completion of the Pilbara 360 Project.

It is important to note that many people from both the Kitimat project team as well as the Pilbara expansions are now starting to work on South of Embley and OT and we will leverage those same lessons into these projects.

Slide 56 – Sustainable growth delivered for less

You will recall that our initial capital guidance for this year was to be below $7b. We are now guiding to capital spend of around $5.5b for the full year in 2015.

It's important to note that we have been able to reduce our capex forecast without sacrificing or deferring value adding growth.

As most of our capital projects are in Australia and Canada, we are certainly seeing some benefits from the devaluation of these currencies. This year FX adjustments will save us a little over $300 million.

In addition to the focus on reducing operating costs across the business, we have also been targeting cost saving on capital projects and sustaining capital expenditure.

These initiatives include negotiating better rates from contractors, finding smarter ways to deliver projects, tapping into emerging market procurement opportunities, ensuring we capture synergies between projects and really challenging necessary scope items. As a result we have been able to successfully deliver cost savings of about $500 million without impacting on the timing or output from each project.

There have also been some deferrals of project expenditure. For example, we have been able to defer the investment decision on Silvergrass until 2016 and also some early works spend on the South of the Embley projects. Deferrals of current year capex, without impacts to the overall projects delivery, make for a further $400 million of reductions this year.

This is another example of adding shareholder value through the efficient use of capital.

Slide 57 – Current focus is on three key growth projects

So we've now covered the successful delivery of the Pilbara infrastructure expansions and Kitimat Modernisation as well as this year's capital cost savings.

Let me now move on to the current focus of the growth projects.

Of course we can't yet leave the Pilbara as there is still work to do to finalise the mine expansion project which will maximise the value of the installed infrastructure.

The project team are working on the delivery of the remaining brownfield mines capacity and delivery of the Autohaul® Project which I will cover in more detail on the next slide.

We are further optimising the pathway and capital estimate for Silvergrass. As you've already heard here today we could perhaps see Silvergrass presented to the Board for approval next year.

In the Aluminium Product Group, we are heavily focussed on finalising the feasibility study on the South of the Embley project. The study is expected to be completed by the end of the year and subject to Board approval, once in production is expected to have mining costs in the first quartile of the cost curve.

This project is located about 40km's south of Weipa and will mine, beneficiate and ship up to 22.8Mtpa of Bauxite for both the Gladstone refineries and international markets, principally in China.

Some of these tonnes will replace tonnes at our Weipa operations, with additional growth tonnes accounting for ~10 to 12 million tonnes of the total.

The project will include a 1,200 man construction camp, a dump station, beneficiation plant, 680kt stockyard, a 600m jetty and 300m long wharf, mine workshops and offices.

Capital savings compared to the 2013 feasibility study developed during the recent study update have identified some $400 - $500m of possible savings through reduced scope, cost saving initiatives, improved commercial contracting terms and favourable FX movement. We note that this is obviously still subject to completion of the feasibility study which we expect by the end of the year.

The projects team are also working on the Oyu Tolgoi underground project where the bulk of the value lies in the underground development.

The Hugo North deposit is one of the best copper-gold orebodies anywhere in the world. The underground block cave mine will include approximately 200km of lateral development and 5 x 1.2 km deep shafts.

A materials handling system, workshops and offices will be required underground as well as additional surface infrastructure upgrades.

We are currently in the process of updating the feasibility study at the same time as we re-establish the Project Financing. Final licenses and permits required for the underground will also be obtained before work is recommenced on this project.

Slide 58 – Steady progress on Autohaul® implementation

The most recognisable technologies in our business are some of those rolled out in the iron ore businesses, some of which Andrew discussed earlier.

In addition to the autonomous trucks and drills which are already in operation and increasing the productivity on our sites in Western Australia, we are working on our AutoHaul® project which, when in operation, will be the world's first fully autonomous long distance heavy haul railway.

Once completed, this project will further improve the efficiency and productivity of our iron ore business.

It will allow our trains to continuously operate without the need to stop for driver shift change overs and other human induced interventions. When you consider that it takes 20-30 minutes to undertake a controlled stop of our locomotives each time a shift changeover is required and a further 20 minutes to restart you can see the benefits to productivity that this project adds. A manned train has 2 shift changes every day that means we can gain back almost 2 hours loss of run time per day using Autohaul®.

An additional benefit will be the elimination of the cost of transporting our drivers to the changeover points. We are currently driving 70,000 km per week so this adds up in time, labour costs and vehicle costs.

This project, which is really a software project, involves complex computing and data interactions.

Close to 90% of the locomotives have been fitted out with all necessary on-board equipment and 86% of the required software development is complete.

We continue our pre-commissioning runs and have now travelled over 250 journeys in fully automated mode, with a driver in attendance, monitoring safety and performance of the system but not driving.

The reliability of these runs is improving and we now expect that the project will be complete around the middle of next year which is slightly slower than the original time frame.

Slide 59– Delivering productivity improvements across the Group

I've now talked about our World class projects, now let me turn to our World class productivity improvement programmes.

Our productivity improvement approach is to define what World Class is in a particular area of our business and then to focus our energy on embedding those world class attributes right across the Rio Tinto group through standardised approaches to systems, practices and procedures.

Our first three "Flagship" programs are focused on deployment of advanced technologies, asset management and energy productivity.

The first involves using advanced technology to reduce capital expenditure and operating costs through reduced labour costs, improved equipment utilisation, improved orebody recovery and improved equipment productivity. The benefits further flow into improved HSE performance.

This is our Mine of the Future™ program and is well established in Iron Ore. Our goal is to deploy these beneficial technologies further into Rio Tinto's other product groups. I will talk more about this shortly.

Our shareholders are not rewarded by us simply having the best maintained assets, they must be the most productive assets.

Our World Class Asset Management program uses enhanced predictive analytics, and a standardised approach to maintenance in addition to enhanced maintenance planning systems and devices to introduce a risk based maintenance approach. This

allows us to extend the frequency of asset servicing and component replacement and to lower our costs. Using this approach, we have identified a pathway to reduce our maintenance costs by approximately $200m per annum over the next 3 years.

We are focussed on improving the productivity of the energy that we use as Energy costs represent over 10% of group operating costs..

A dedicated team will focus on reducing costs through engine and power optimisation and improving the management and measurement of usage. They will also assess alternative energy sources and additives, new emerging energy storage opportunities and other commercial opportunities. A 2-3% energy cost saving is being targeted for this early stage improvement project.

Slide 60 – Advancing productivity through the Mine of the Future™ programme

One of the most recognisable and established limbs of Rio Tinto's focus on productivity and innovation is the Mine of the Future™ programme.

The programme, which started in 2007 is an example of taking learnings from a variety of industries, including the aeronautics, robotics and food industries and applying these to our operations.

This programme has created a unique first mover advantage for Rio Tinto which we intend to extend beyond Iron Ore.

Technology is changing the industry. It has benefits in improving safety, reducing costs and enhancing productivity. These are all important drivers of shareholder value.

The programme has seen a steady stream of new technology developed and rolled out across the business.

Slide 61 – Big Data Analytics manages risks and reduces costs

It is not only in iron ore where we are seeing the benefits of technology and innovation.

Big Data and its application to productivity is an exciting new area where we are already seeing value being delivered across the group.

For example, each of our 900 haul trucks has more than 200 sensors which in total gather approximately 5 TB of data every day.

Through the use of analytics we are able to take this data and predict and extend the component life of these assets, provide early detection of impending equipment failure and as I discussed earlier apply a risk based system of maintenance.

Under the standard maintenance system, a haul truck engine would require overhaul or replacement every 25,000 hours. Under a risk based system however we have been able to increase the interval to over 30,000 hours.

Our predictive analytics approach is currently applied to approximately 100 haul trucks. It draws data from disparate systems such as the machine sensors themselves, previous oil analysis, maintenance history logs, production systems and mine dispatch systems. It continuously analyses this data to determine machine condition, detect impending failures early and calculate, on a risk weighted basis, an ongoing estimate of residual remaining useful life.

Indicative savings shown here relate to 3 haul trucks only out of our approximately 900 strong global haul truck fleet.

You can see how these could add up very quickly.

The computational infrastructure includes a cloud based, web enabled big data server cluster that is inexpensive to operate and rapidly expandable. The team that developed and now administers this solution includes data scientists at the Rio Tinto Innovation centre in Pune, India, the Rio Tinto Excellence Centre in Brisbane and Rio Tinto site based subject matter experts.

This system is not confined to our mobile equipment fleet and is being expanded to include our fixed plant equipment. A typical process plant could have as many as 20-30 thousand sensors which provide us with a rich source of data.

Slide 62 – T&I delivers significant value

Technology & Innovation is fundamentally focused on driving value through the delivery of world-class Projects and world-class Productivity. In both cases, we partner closely with Rio Tinto's Product Groups to ensure that:

- Major Capital Projects are delivered according to best-in-class practices, on-or-ahead of schedule, with the most efficient use of capital; and
- Operational Productivity is embedded through the use of world-class technologies, innovation and operational excellence.

In the current global environment, Rio Tinto is strategically positioned with a best-in-class, high-quality project portfolio. We expect to continue delivering value through major expansions of the Pilbara, Oyu Tolgoi, South of Embley and other key projects.

Our team of Project Delivery experts is positioned to execute across the globe and all commodity classes.

We have demonstrated the ability to drive down capital intensity in the Pilbara across multiple expansion projects, with significant reduced capital expenditure. We are "industrialising" our portfolio of capital intensity tools and processes, and will replicate these successes across the Group.

Rio Tinto is the global leader in mining technology and innovation, as evidenced by our Mine of the Future™ programme. We continue to build on this with other world-class Productivity initiatives. These initiatives will be supported by Group-wide analytics capabilities and delivered through our world-leading Excellence Centres and Innovation Centres

Productivity and innovation are embedded in the DNA of Rio Tinto and both give us competitive advantage and position us to deliver value throughout the cycle.

This will increase the value for shareholder for many years to come.

With that let me hand back to Andrew.

Slide 63 – Summary

Slide 64 – Best performing iron ore business

Thank you Greg.

Before we go to questions and answers, let me just run through some of the key takeaways from today's session.

As you know, and as you have heard today, our iron ore business is exceptional.

Our Pilbara mines are world class, tier one assets with tier one people. Since 1966, they have generated an average EBITDA margin of 50 per cent. This is one of the most attractive businesses in the world. And I am not just referring to the mining industry.

We will continue to deliver strong shareholder returns through the cycle. This success has been the result of careful planning, and great execution. As I mentioned earlier, a culture of ownership and empowerment has allowed our teams to deliver exceptional and sustainable change and improvement. .

The market is clearly going through a period of transition, characterised by considerable volatility. But as you have heard today, we see continued long term demand for iron ore and a commodity with a robust outlook.

We have all the criteria to ensure that we continue to deliver value through the cycle. We have the best assets: lowest cost, large scale and long life. We also have the market leading product and proximity to customers and deep understanding of our customers' requirements.

We have a unique track record of technological innovation and investment. We have seen the benefit of being a first mover. And with our position on the cost curve we are able to maintain investment in innovation and improvement, to stretch that first mover advantage, and to lock in maximum efficiency and productivity.

But most of all, we have got the right people and you've met some of them today.

As you have heard, Vivek's team bring great insight into global markets and help set a background for our strategic direction and vision. Bold's team ensure we achieve the best price for our tonnes and ensure that we have relationships that are as long term as the assets. And Greg's team keeps us at the forefront of technological innovation, underpinning project delivery, productivity and efficiency.

All of us are committed to continuing to extract the maximum value for you, our shareholders, and I look forward to updating you on our progress and milestones.

We will now open the session to Q&A. We will take three questions from the room and then three from the phone. If you have a question please raise your hand and ask for a microphone. When you ask a question please give your name and affiliation.

First question please.