Iron Ore

Financial performance

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2012</th>
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<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td>US$ million</td>
<td>US$ million</td>
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<tr>
<td></td>
<td>25,994</td>
<td>24,279</td>
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<tr>
<td><strong>Operating cash flow</strong></td>
<td>17,880</td>
<td>15,830</td>
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<tr>
<td><strong>Underlying earnings</strong></td>
<td>9,858</td>
<td>9,247</td>
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<tr>
<td><strong>Capital expenditure</strong></td>
<td>6,814</td>
<td>7,152</td>
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<tr>
<td><strong>Net operating assets</strong></td>
<td>21,062</td>
<td>21,057</td>
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Strategy and strategic priorities

The Iron Ore product group’s strategy is based around three strategic pillars:

- Producing at the right cost, through the utilisation of unrivalled technology and high-performing teams.
- Focusing on value-driven growth through disciplined phasing and low-cost growth options.
- Maximising portfolio value by leveraging growth options, product strategy, and sales and supply chain capabilities.

Safety

Iron Ore’s safety performance improved in 2013, attaining an all injury frequency rate of 0.70, compared to 0.74 in 2012. The group achieved this improved level of performance despite facing the safety challenges of commissioning the 290 million tonne per annum (Mt/a) expansion in the Pilbara, and preparation for, and recovery from, four tropical cyclones. All of these challenges were accomplished without a fatal injury or serious injury.

The group did experience an increase in significant potential incidents in 2013, particularly those involving light vehicles. There was also a trend of more severe injuries leading to an increase in lost time at work. This led to the introduction of programmes to address the root causes of such incidents, covering management systems, procedures and training.

Throughout 2013, Iron Ore continued to embed a number of safety improvement programmes and initiatives with a particular emphasis on critical risk management, safety leadership, training and hazard awareness, and on simplifying the way safety is managed and achieved within the organisation.

Initiatives designed to recognise and reward a positive safety culture were also a feature of the group’s safety commitment for 2013, with more than 1,500 employee-led safety improvements recognised and shared through the Make a Difference programme. New safety interaction training and a pre-start safety pilot project were also introduced. The LifeSavings Commitments hazard awareness programme, which began in 2012, continued roll-out in 2013.

Iron Ore maintained a major focus on health issues, particularly emerging issues impacting on the mental health of employees. A number of programmes providing support for mental health and depression, rail safety education, and fly-in fly-out (FIFO) support networks for workers and their families were implemented and developed further throughout the year.

Greenhouse gas emissions

Iron Ore implemented a number of measures during the year to ensure full compliance with its environmental performance obligations. In accordance with the Australian Energy Efficiency Opportunities Act 2006, the group conducted energy assessments across 15 operations in the Pilbara region of Western Australia.

More than 80 efficiency opportunities were identified, which have the potential to reduce energy consumption of the entire Pilbara operations by ten per cent. This includes energy-intensive areas such as rail and utilities and at larger mining operations in the east Pilbara.

The decommissioning of the existing Cape Lambert power station – to make way for a new combined-cycle power station – led to improvement in the efficiency of Rio Tinto’s power generation network. Energy efficiency continued to be a focus for future mine expansions, with energy reviews being conducted at the project design stage. Modifications to mine planning and fixed plant will deliver significant savings when these projects move into the operational phase. For instance, the electric motor replacement programme that began in 2012 is now replacing failed motors with more energy-efficient alternatives.

Iron Ore Company of Canada (IOC) operations delivered and contributed significantly to the group’s reduction in greenhouse gas emissions (GHG) intensity in 2013, primarily due to an increase in the proportion of saleable product produced as concentrate versus pellets. Concentrate is the less GHG-intensive form of IOC’s product.

Iron Ore met all Australian Federal Government requirements for the National Greenhouse and Energy Reporting Scheme, Clean Energy Act and Energy Efficiency Opportunities Act in 2013. Since 2008, the group’s total greenhouse gas emissions intensity has improved by 7.4 per cent.

Review of operations

Rio Tinto is the second largest supplier to the world’s seaborne iron ore trade. Operations in the Pilbara region of Western Australia comprise 15 mines, four ports, the largest privately-owned heavy freight railway in Australia, and supporting infrastructure including the Operations Centre in Perth. IOC operates a mine, concentrator and pelletising plant in the province of Newfoundland and Labrador, together with port facilities in Sept-îles, Quebec. Rio Tinto Marine delivers shipping services to the Group, including Iron Ore.

In 2013 the Iron Ore business achieved underlying earnings of US$9,858 million, seven per cent higher than 2012, attributable to record sales volumes in the Pilbara, a weaker Australian dollar, marginally higher prices, and cost savings initiatives which enhanced earnings by US$240 million (US$351 million pre-tax). This was partly offset by a royalty claim and higher taxes following the introduction of Mineral Resources Rent Tax in July 2012. The five per cent decline in capital expenditure reflects the early completion of the port and rail element of the 290Mt/a Pilbara expansion in August 2013.

The Iron Ore group’s production levels exceeded previous records in 2013, despite volatile weather and a fast-tracked expansion schedule, to produce 266 million tonnes of iron ore globally. Rio Tinto’s share of production was 209 million tonnes, an increase of five per cent on 2012.

Iron ore prices were marginally higher in 2013, predominantly due to strong demand in China. According to China’s National Bureau of Statistics, the country’s apparent consumption of finished steel rose by 7.2 per cent in 2013 to 692 million tonnes. This reflected strong construction activity supported by favourable credit conditions in the first half of the year. Iron Ore’s total global shipments in 2013 were 259 million tonnes.

Quarter-on-quarter production records were achieved, despite interruptions caused by conveyor belt breakage, cyclone activity and significant flooding in the Pilbara following unseasonal weather in the second quarter of 2013. Heavy tropical cyclone activity closed the ports in January and December 2013, the latter impacting the first weeks of January 2014 and causing the closure of all coastal operations and all inland mine sites. Throughout these events, the Operations Centre in Perth was fundamental to ensuring optimal supply chain performance, including minimising any impacts to production.

The challenge of operating in remote locations remained in 2013 and Iron Ore will continue to manage this closely in 2014. During the year, the group ran improvement initiatives that focused heavily on reducing costs and driving productivity gains. This included reducing the use of contractors, reviewing the supplier base, challenging the tactics used for equipment maintenance, and optimising support functions.

The integration of next-generation technology via the Mine of the Future™ programme improved efficiencies further in 2013, across production, health, safety and environmental performance. For example, the autonomous haulage system (AHS) has delivered significant improvements in truck cycle times and real-time data generation, has extended tyre life, and reduced fuel usage and maintenance costs. This has been reported through the fleet of
30 operational AHS trucks driving 2.4 million kilometres and moving more than 130 million tonnes of material at three mine sites – West Angelas, Yandicoogina and Nammuli.

Hope Downs 4, Iron Ore’s newest mine site, successfully and safely delivered its one millionth tonne of ore in the third quarter – an important milestone leading to the ramp-up of mining operations in 2014.

Iron Ore’s automated train programme, AutoHaul™, made progress during the year with the upgrade of numerous level crossings, hardware and software development of the system. The Iron Ore group purchased 1,100 ore cars and commissioned ten new fully-fitted locomotives in 2013. Ore cars and existing locomotives were also fitted with Electronically Controlled Pneumatic (ECP) brakes, which has resulted in a decrease in train cycle times.

Iron Ore progressed key participation agreements with Traditional Owners in the Pilbara, allowing the group to secure land access for the life of mining operations. New agreements with the Yinhawangka and Yindjibarndi people were finalised during the year. Aligned with previous agreements, these recognise a strong commitment to regional standards, and incorporate mutual obligations to deliver outcomes relating to employment, financial compensation, education and training, heritage surveys and practices, environmental care and land use.

In 2013, the group continued to be one of the largest private employers of Indigenous people in Western Australia employing over 1,700 employees and contractors. Over A$1.8 billion in contracts for Pilbara expansion were awarded to Aboriginal businesses both individually and through joint ventures between January 2010 and end of 2013. Rio Tinto Iron Ore continues to be an industry leader in regional FIFO programmes across Australia, with eight regional FIFO centres in Western Australia alone. A three-year memorandum of understanding was signed with the Shire of Broome in 2013 and a new regional office was opened in Busselton. Community initiatives stemming from the programme focused on education, skills development and support for regional families, including workshops and online support resources.

The Wickham town expansion continued to support the growing Cape Lambert rail and port operations workforce. Developments in 2013 included the opening of Cajuput Village, a 155 room FIFO accommodation and community facility, and the completion of phase one of the Wickham South sub-division, comprising of 212 new residential homes. The Wickham project also delivered upgrades to town services and local park redevelopments to accompany the recreational precinct finalised in 2012.

In 2013, Rio Tinto Marine shipped 191 million tonnes of dry bulk cargo, an increase of 7.7 per cent on 2012. The final vessel in the current new build programme was delivered during December and completed the suite of eight new vessels for the year. Average freight rates rose year-on-year in 2013 and forward markets suggest stronger freight market conditions in the future, given slower growth in the industry’s fleet and increased cargo tonnages of bulk commodities entering the market from mine expansions.

IOC (Rio Tinto share 58.7 per cent) made good progress in 2013. The company capitalised on the benefits derived from commissioning the trial stage of the Concentrate Expansion Project (CEP1), and produced 8.6 million tonnes of pellets and 6.8 million tonnes of concentrate for sale, which is an annual production record for concentrate. Despite severe weather disruptions, the final commissioning of CEP1 during the first half of the year provided the capacity to deliver a step change in production performance, efficiency gains and overall operational improvement.

Development projects
The Iron Ore group reached a major milestone in the second half of 2013, with the commissioning of the 290Mt/a port and rail capacity expansion.

With this achievement, Iron Ore has delivered the first phase of the major expansion of its integrated iron ore operations in the Pilbara.

The successful commissioning of this expansion at a capital intensity of less than US$140 per tonne (100 per cent) added an extra annual capacity of 70 million tonnes to the 220Mt/a Pilbara nameplate capacity. The port and rail project was constructed four months ahead of the original schedule, and delivered US$400 million below the approved budget. In addition to the new port, all major coastal and rail infrastructure for the 290Mt/a capacity is now constructed and includes:

- installation of a new 55Mt/a ship loader at Cape Lambert;
- commissioning of the new car dumper 5 at Cape Lambert and associated stockyards; and
- construction of new fuel distribution facilities at Cape Lambert (tug fuel facility), the 10KP rail yard and the West Angelas fuel hub.

Development of mining operations at Hope Downs 4, Marandoo and Western Turner Syncline (stage 1), which includes an overland conveyor to the Tom Price processing plant, are currently in the commissioning and ramp-up phase. Construction of the Nammuldi Below Water Table Project continues on schedule for commissioning later this year, and the West Angelas Power Station is currently in commissioning.

While completing the 290Mt/a port and rail expansion, the group made significant progress with the infrastructure to support further expansion towards 360Mt/a capacity. All marine piling activity for 360Mt/a was completed at the start of the third quarter. Two major structural, mechanical and piping packages, valued at approximately US$390 million, were awarded for the same period during August.

In December 2013, the US$310 million Bungaroo water facility and associated 87 kilometre pipeline was commissioned, providing water for Pilbara coastal operations and domestic requirements in the towns of Dampier and Wickham.

In November, the business unveiled a breakthrough pathway to match the upgraded port and rail capacity, which will see mine production capacity increase towards 360Mt/a through a series of low-cost brownfield expansions at a targeted all-in capital intensity of US$120-130 per tonne. Combined with low-cost productivity gains, the expansion is now forecast to be delivered at US$3 billion below previous expectations.

In conjunction with the announcement, US$400 million of capital expenditure was approved for plant equipment and modification, and additional heavy machinery for use at various mine sites in the Pilbara. This will enable a targeted production of more than 330Mt/a in 2015 and support the expected delivery of over 350Mt/a in 2017. Iron Ore’s Pilbara expansion programme remains the largest integrated mining project in Australian history and has a proven record of delivering project stages on time and budget.

The ramp-up of CEP stage two at IOC in the second half of the year delivered an additional 700,000 tonnes of spiral capacity, allowing the operation to increase volumes of Concentrate For Sinter (CFS) processed by gravity separation. The project remains on track to commission an additional ball mill and mining equipment, and to make upgrades to power distribution infrastructure during the second quarter of 2014.

Outlook
In line with the overall global economic outlook, the long-term fundamentals for iron ore remain sound, with demand growth tightly linked to rapid urbanisation and rising incomes in China and the developing world. However, iron ore prices are expected to moderate over the coming years as growth in low-cost seaborne supply outpaces growth in demand. Seaborne suppliers are estimated to have added more than 100Mt/a of iron ore supply capacity in 2013, and exports are expected to continue gaining momentum in the short to medium term. The majority of seaborne supply growth is expected to go into China, and supply-side exits from Chinese domestic suppliers and some high-cost seaborne suppliers are likely. With its low-cost position and proximity to China, Rio Tinto is well placed to take advantage of demand growth for seaborne iron ore through its expansions.