RIO TINTO PLC
Form 20-F
March 15, 2013
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 20-F

(Mark One)

¨ **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934**

or

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended: 31 December 2012

or

¨ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from: to

or

¨ **SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
Date of event requiring this shell company report

Commission file number: 1-10533	**Commission file number: 001-34121**
	Rio Tinto Limited
Rio Tinto plc	**ABN 96 004 458 404**

(Exact Name of Registrant as Specified in Its Charter)	**(Exact Name of Registrant as Specified in Its Charter)**
England and Wales	**Victoria, Australia**
(Jurisdiction of Incorporation or Organisation)	**(Jurisdiction of Incorporation or Organisation)**
2 Eastbourne Terrace **London, W2 6LG, United Kingdom**	**Level 33, 120 Collins Street** **Melbourne, Victoria 3000, Australia**
(Address of Principal Executive Offices)	**(Address of Principal Executive Offices)**

Julie Parent, T: 514-848-8519, E: julie.parent@riotinto.com

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of Each Class	**Name of Each Exchange On Which Registered**	**Title of Each Class**	**Name of Each Exchange On Which Registered**
American Depositary Shares*	New York Stock Exchange		
Ordinary Shares of 10p each**	New York Stock Exchange		
6.500% Notes due 2018	New York Stock Exchange	6.500% Notes due 2018	New York Stock Exchange
7.125% Notes due 2028	New York Stock Exchange	7.125% Notes due 2028	New York Stock Exchange
1.875% Notes due 2015	New York Stock Exchange	1.875% Notes due 2015	New York Stock Exchange
3.500% Notes due 2020	New York Stock Exchange	3.500% Notes due 2020	New York Stock Exchange
5.200% Notes due 2040	New York Stock Exchange	5.200% Notes due 2040	New York Stock Exchange
8.950% Notes due 2014	New York Stock Exchange	8.950% Notes due 2014	New York Stock Exchange
9.000% Notes due 2019	New York Stock Exchange	9.000% Notes due 2019	New York Stock Exchange
2.500% Notes due 2016	New York Stock Exchange	2.500% Notes due 2016	New York Stock Exchange
4.125% Notes due 2021	New York Stock Exchange	4.125% Notes due 2021	New York Stock Exchange
1.125% Notes due 2015	New York Stock Exchange	1.125% Notes due 2015	New York Stock Exchange
2.000% Notes due 2017	New York Stock Exchange	2.000% Notes due 2017	New York Stock Exchange
3.500% Notes due 2022	New York Stock Exchange	3.500% Notes due 2022	New York Stock Exchange
4.750% Notes due 2042	New York Stock Exchange	4.750% Notes due 2042	New York Stock Exchange
1.625% Notes due 2017	New York Stock Exchange	1.625% Notes due 2017	New York Stock Exchange
2.875% Notes due 2022	New York Stock Exchange	2.875% Notes due 2022	New York Stock Exchange
4.125% Notes due 2042	New York Stock Exchange	4.125% Notes due 2042	New York Stock Exchange
2.250% Notes due 2016	New York Stock Exchange	2.250% Notes due 2042	New York Stock Exchange
3.750% Notes due 2021	New York Stock Exchange	3.750% Notes due 2042	New York Stock Exchange

* Evidenced by American Depositary Receipts. Each American Depositary Share Represents one Rio Tinto plc Ordinary Share of 10p each.

** Not for trading, but only in connection with the listing of American Depositary Shares, pursuant to the requirements of the Securities and Exchange Commission

Securities registered or to be registered pursuant to Section 12(g) of the Act:

Title of Class	**Title of Class Shares**
None	

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None	None

Indicate the number of outstanding shares of each of the issuer s classes of capital or common stock as of the close of the period covered by the annual report:

Title of each class	Number	Number	Title of each class
Ordinary Shares of 10p each	1,425,375,466	435,758,720	Shares
DLC Dividend Share of 10p	1	1	DLC Dividend Share
Special Voting Share of 10p	1	1	Special Voting Share

Indicate by check mark if the registrants are well-known seasoned issuers, as defined in rule 405 of the Securities Act. Yes x No ¨

If this report is an annual or transition report, indicate by check mark if the registrants are not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes ¨ No x

Note Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the registrants: (1) have filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrants were required to file such reports), and (2) have been subject to such filing requirements for the past 90 days: Yes x No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).* Yes x No ¨

* This requirement does not apply to the registrant until its fiscal year ending December 31, 2012.

Indicate by check mark whether the registrants are large accelerated filers, accelerated filers, or non-accelerated filers. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Exchange Act. (Check one):

Large Accelerated Filer x Accelerated Filer ¨ Non-Accelerated Filer ¨

Indicate by check mark which basis of accounting the registrants have used to prepare the financial statements included in this filing:

US GAAP ¨ International Financial Reporting Standards as issued by the International Accounting Standards Board x Other ¨

If Other has been checked in response to the previous question, indicate by check mark which financial statement item the registrants have elected to follow: Item 17 ¨ Item 18 ¨

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No x

This document comprises the annual report on Form 20-F and the annual report to shareholders for the year ended December 31, 2012 of Rio Tinto plc and Rio Tinto Limited (the 2012 Form 20-F). Reference is made to the cross reference to Form 20-F table on pages i to iii hereof (the Form 20-F Cross reference table). Only (i) the information in this document that is referenced in the Form 20-F Cross reference table, (ii) the cautionary statement concerning forward-looking statements on page v and (iii) the Exhibits, shall be deemed to be filed with the Securities and Exchange Commission for any purpose, including incorporation by reference into the Registration Statement on Form F-3 File No. 333-175037, and Registration Statements on Form S-8 File Nos. 333-184397, 33-46865, 333-8270, 33-64380, 333-7328, 333-10156, 333-13988, 333-147914 and 333-156093 and any other documents, including documents filed by Rio Tinto plc and Rio Tinto Limited pursuant to the Securities Act of 1933, as amended, which purport to incorporate by reference the 2012 Form 20-F. Any information herein which is not referenced in the Form 20-F Cross reference table, or the Exhibits themselves, shall not be deemed to be so incorporated by reference.

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Form 20-F Cross Reference Table

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2012 Annual report

Overview

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2012 Annual report

This report forms part of our 2012 corporate reporting suite.

You can view our Annual report, Annual review and Sustainable development report online at:

riotinto.com/reportingcentre2012

Annual review: Highlights from around our business, including a summary of our 2012 performance

Sustainable development report: Our sustainable development strategy and performance, and our approach in action

Scan this code to view the reporting

Performance highlights

2012 financial results

Our underlying financial results reflect record iron ore production and shipments and a second half recovery in copper volumes. This was in the context of lower average market prices in 2012 which reduced underlying earnings by US$5.3 billion compared with 2011:

Underlying earnings[1] of US$9.3 billion.

Net loss of US$3.0 billion after impairments of US$14.4 billion, primarily relating to aluminium businesses as well as coal assets in Mozambique.

15 per cent increase in full year dividend to 167 US cents per share.

12 months to 31 December

(All amounts are US$ millions unless otherwise stated)		2012	2011	Change
Underlying earnings[1]		**9,303**	15,549	-40%
Net (loss)/earnings[1]		**(2,990)**	5,826	-151%
Cash flows from operations		**16,450**	27,388	-40%
Capital expenditure		**17,418**	12,298	+42%
Underlying earnings per share	US cents	**503.1**	808.5	-38%
Basic (loss)/earnings per share from continuing operations	US cents	**(161.3)**	303.5	-153%
Ordinary dividends per share	US cents	**167.0**	145.0	+15%

The financial results are prepared in accordance with IFRS.

1. Underlying earnings is the key financial performance indicator which management uses internally to assess performance. It is presented here to provide greater understanding of the underlying business performance of the Group s operations attributable to the owners of Rio Tinto. Net earnings and underlying earnings relate to profit attributable to owners of Rio Tinto. Underlying earnings is defined and reconciled to net earnings in note 2 on page 162.

centre on your mobile or tablet

This Annual report complies with Australian and UK reporting requirements.

Copies of Rio Tinto s shareholder documents are available on the website at riotinto.com. They can also be obtained free of charge from the Company. Some shareholders may prefer to receive the Annual review which contains summary financial statements for 2012, although shareholders should note that it does not allow as full an understanding of the Group as the Annual report.

Cautionary statement about forward-looking statements

This document contains certain forward-looking statements with respect to the financial condition, results of operations and business of the Rio Tinto Group. These statements are forward-looking statements within the meaning of Section 27A of the US Securities Act of 1933, and Section 21E of the US Securities Exchange Act of 1934. The words intend , aim , project , anticipate , estimate , plan , believes , may , should , will , or similar expressions, commonly identify such forward-looking statements.

Examples of forward-looking statements in this Annual report include those regarding estimated ore reserves, anticipated production or construction dates, costs, outputs and productive lives of assets or similar factors. Forward-looking statements involve known and unknown risks, uncertainties, assumptions and other factors set forth in this document that are beyond the Group s control. For example, future ore reserves will be based in part on market prices that may vary significantly from current levels. These may materially affect the timing and feasibility of particular developments. Other factors include the ability to produce and transport products profitably, demand for our products, changes to the assumptions regarding the recoverable value of our tangible and intangible assets, the effect of foreign currency exchange rates on market prices and operating costs, and activities by governmental authorities, such as changes in taxation or regulation, and political uncertainty.

In light of these risks, uncertainties and assumptions, actual results could be materially different from projected future results expressed or implied by these forward-looking statements which speak only as to the date of this Annual report. Except as required by applicable regulations or by law, the Group does not undertake any obligation to publicly update or revise any forward-looking statements, whether as a result of new information or future events. The Group cannot guarantee that its forward-looking statements will not differ materially from actual results.

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Chairman s letter

Our business performed well in 2012, generating strong cash flows and underlying earnings of US$9.3 billion. Although lower than last year, principally due to lower commodity prices and higher costs, these results demonstrate the quality of our assets and the sustainable cash-generating abilities of our underlying businesses.

However, as foreshadowed at the beginning of the year, we recorded impairments of US$14.4 billion, resulting in the Group reporting a net loss of US$3 billion for 2012. These write-downs are deeply disappointing. In particular the substantial impairment of our Mozambique coal business is unacceptable.

Following these impairments, Tom Albanese stood down from the board by mutual agreement, recognising his accountability as chief executive for these impairments. On behalf of the board, I would like to acknowledge Tom s contribution and dedication to the company over his 30 years of service.

The board s objective is to ensure that the business delivers sustainable growth in value to you, our shareholders. Your directors are confident that Sam Walsh, who succeeded Tom Albanese as chief executive, will lead a renewed and focused organisation to do just this and we are working closely together with this objective in mind.

Disciplined capital management

Your board aims to unlock greater value for our shareholders through investing in the best opportunities to deliver attractive returns that are well above our cost of capital.

Recent events demonstrate that there is a need for greater discipline across our business, particularly in the way we manage and allocate capital. Under Sam s leadership, we will be simplifying and strengthening our systems in this area, and seeking greater accountability for decision-making across the organisation.

Your board regularly evaluates opportunities put forward by the business against all competing uses for cash, striving to achieve the right balance between disciplined investment, strengthening our balance sheet and returning cash to investors.

Our commitment to a strong balance sheet, ensures discipline and flexibility in our investment approach, helping us to build a robust and strongly performing business over the long term.

Our confidence is reflected in the 15 per cent increase in our annual dividend in 2012. Our cash returns to shareholders totalled US$4.5 billion in 2012, including completion of the Group s US$7 billion share buy-back programme as well as the ordinary dividend payment.

Focus of the board

One of the primary roles of Rio Tinto s board is to provide oversight of strategy development and delivery, while maintaining the highest standards of corporate governance.

The board conducted its annual strategy review with the executive team in September, reaffirming our commitment to invest in and operate large, long-term, expandable, low-cost mines and businesses. The board also took the opportunity in 2012 to visit a number of the Group s operations in Australia and Southern Africa to gain a deeper understanding of the strategic issues at play.

Amidst continuing volatility in the global economy and major structural shifts affecting the sector, improvements need to be made in how we execute this strategy. The board has tasked Sam Walsh and his executive team with ensuring we improve capital allocation, deliver our growth projects and improve productivity at all of our sites, while building on our industry leading capabilities in areas such as stakeholder engagement and sustainable development.

As geopolitical risks continue, we have continued to look for new ways to form more effective relationships and partnerships around the world. Rio Tinto has always taken its role as a responsible business very seriously.

We believe earning the trust of our host communities and governments is vital in creating sustainable shareholder value. As the company enters its 140th year of operation this year, we recognise we wouldn t still be in business without the support of our many stakeholders.

In 2012, considerable time was spent engaging with investors on issues ranging from our capital allocation methodology to executive remuneration. More recently, we undertook an assessment of board effectiveness and, for the first time, the board s annual evaluation was conducted by an independent expert. Considerable attention will be given to the outcomes of our shareholder engagement and this evaluation exercise in the year to come.

In my letter last year, I commented on the importance of succession planning. My goal is to make sure the board combines a broad set of skills and international experience. Rio Tinto s board should be diverse in the widest sense with the best blend of appropriately skilled and experienced people from our industry, but also outside of it.

We announced last year that Guy Elliott will step down from the board at the end of 2013. I would like to thank Guy for his invaluable contribution over 33 years with the company. Chris Lynch, who joined the board as a non-executive director in 2011, will formally succeed Guy as chief financial officer on 18 April at the conclusion of the Rio Tinto plc annual general meeting. We are fortunate to have appointed someone so well-qualified to take over from Guy.

As well as succession planning, the board committees have always played an important oversight role, freeing the board to focus on strategic matters. All of our committees have been very active this year and have dealt with a number of challenges. I would like to record my personal appreciation to all of the directors who have been unstinting in their considerable support in a challenging year.

Our Remuneration Committee has taken a fresh look at our reward structures to ensure we recruit, motivate and retain the best talent, but not at any cost. I believe our approach to rewarding our people must balance the company s priorities of driving financial performance, meeting our expectations as a corporate citizen and creating greater value for our shareholders.

Looking ahead

The wider world did not stand still in 2012. The macroeconomic environment remained volatile, and prices for our products were generally lower than the year before. However, the global economy ended the year in a healthier state than forecast, with a recovery in China, and greater confidence in a recovery in the Organisation for Economic Co-operation and Development (OECD) countries.

We remain very positive about the long-term future of our business. As billions of people move from rural to urban areas over the coming decades, there will be increased demand for the metals and minerals we produce.

This is a great company, pursuing a consistent strategy with a renewed executive team and excellent people. I thank you and all of our employees for your continued support. When I report back to you on Rio Tinto s progress at this point next year, I am sure I will be reporting on an even stronger and safer organisation focused on delivering value for each of you, our shareholders.

Jan du Plessis

Chairman

6 March 2013

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Group overview

Introduction to Rio Tinto

Rio Tinto is a leading international mining group that focuses on finding, mining and processing the Earth s mineral resources in order to maximise shareholder value. We have a diverse portfolio and a global presence: our 71,000 people work in more than 40 countries.

To deliver superior returns to shareholders over time, we take a long-term and responsible approach to our activities. This means concentrating on developing first-class orebodies into large, long-life and efficient low-cost operations, capable of providing competitive returns through business cycles.

Sustainable development is integrated into everything we do. Our operations give us the opportunity to bring long-lasting positive change to the communities, regions and countries in which we work, and our metals and minerals are transformed into end products that contribute to higher living standards.

Our responsible approach to mineral development ensures we gain and maintain our licence to operate. It means we provide confidence to our stakeholders, and improve our access to the mineral resources, people and capital we need. Our five product groups summarised below are supported by our Exploration and Technology & Innovation groups (also see pages 22 to 31).

Aluminium product group

Building on more than a century of experience and expertise, Rio Tinto Alcan is a global leader in the aluminium industry. Our fully-integrated facilities include high-quality bauxite mines, large-scale alumina refineries, and some of the world s lowest-cost, most technologically-advanced primary aluminium smelters.

Bauxite production (2012 vs 2011)

+11%

Products

Bauxite

Bauxite is the natural ore used to make aluminium. It is refined into alumina which is smelted into aluminium metal. Our wholly-owned and joint venture bauxite mines are located in Australia, Brazil and Guinea.

Alumina

Alumina (aluminium oxide) is extracted from bauxite via a refining process. Approximately four tonnes of bauxite are required to produce two tonnes of alumina, which in turn makes one tonne of aluminium metal. Our wholly-owned and joint venture alumina refineries are located in Australia, Brazil and Canada.

Aluminium

Aluminium is a unique and versatile modern metal. Light, strong, flexible, non-corrosive and infinitely recyclable, aluminium is one of the most widely-used metals. Its largest markets are transportation, machinery and construction. Our smelters are mainly concentrated in Canada. We also have plants in France, Cameroon, Iceland, Norway, the UK and the Middle East.

Key strengths

- Access to the largest and best-quality bauxite reserves in the industry.
- Industry-benchmark smelting technology.
- Enviable hydropower position, which delivers significant cost and other advantages in today s carbon-constrained world.
- Industry-leading cost position for aluminium smelting, and moving into the second quartile of the cost curve for alumina refining.
- Lowest-cost quartile for bauxite production.

Key production locations

- Canada
- Europe
- Australia

Key sales destinations

- Asia
- Americas
- Europe

Full operating review on page 22.

Copper product group

Rio Tinto s Copper group has a global presence and holdings in some of the world s largest copper mines. We are among the world s largest producers of copper, gold and molybdenum, and are uniquely positioned to deliver exceptional long-term value due to our high-quality assets, leading technology and a keen focus on managing costs and improving efficiency.

Mined copper production (2012 vs 2011)

+6%

Products

Copper

The world uses more than 19 million tonnes of copper every year. Copper s malleability, strength and conductivity make it useful in a broad range of building, construction and electrical applications. Copper is found in nearly every home and vehicle and is a critical element of today s industrialised world.

Gold

Gold s conductivity and non-corrosive properties make it a vital fabrication material in technology, electronics, jewellery, space exploration and dentistry. Rio Tinto is currently one of the top 15 gold producers in the world, and the largest among the diversified miners. We have interests in two of the largest gold resources, at Oyu Tolgoi and Grasberg. The latter contains the largest gold reserves in the world.

Silver

Silver has very good electrical and thermal properties. It is used in many electrical and electronic applications, such as photovoltaic cells, and is the principal ingredient of x-ray film. Silver is also regarded as a precious metal used as an investment and to make jewellery.

Molybdenum

Molybdenum is a metallic element frequently used to produce stainless steel and other metal alloys. It enhances the metal s toughness, high temperature strength and corrosion resistance.

Key strengths

Participation in and ownership of high-quality, low-cost assets with meaningful opportunities for expansion and efficiencies.

Management of the Oyu Tolgoi project, scheduled to be a top five copper producer and a significant gold producer.

Investment in substantial growth projects.

Industry-leading technology and innovation.

Key production locations

US

Chile

Mongolia

Key sales destinations

US

China

Japan

Full operating review on page 24.

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Diamonds & Minerals product group

The Diamonds & Minerals group comprises mining, refining and marketing operations across four sectors. Rio Tinto Diamonds is one of the world s leading diamond producers, active in mining, sales and marketing. Rio Tinto Minerals is a world leader in borates, with mines, processing plants, commercial and research facilities. Dampier Salt is one of the world s largest producers of seaborne salt. Rio Tinto Iron & Titanium is an industry leader in high grade titanium dioxide feedstocks. The Diamonds & Minerals group also includes the Simandou iron ore project in Guinea.

Titanium dioxide production (2012 vs 2011)

+11%

Products

Diamonds

Diamonds share a role with gold as an important component in jewellery that ranges from top-end jewellery through to more affordable diamond jewellery accessories. Rio Tinto is able to service both established and emerging markets as it produces the full range of diamonds in terms of size, quality and colour distribution.

Borates

Refined borates are used in hundreds of products and processes. They are a vital ingredient of many home and automotive applications, and are essential nutrients for crops. They are commonly used in glass and ceramic applications including fibreglass, television screens, floor and wall tiles, and heat-resistant glass.

Salt

Salt is one of the basic raw materials for the chemicals industry and is indispensable to a wide array of automotive, construction and electronic products, as well as for water treatment, food and healthcare.

Titanium dioxide

The minerals ilmenite and rutile, together with titanium dioxide slag, can be transformed into a white titanium dioxide pigment or titanium metal. The white pigment is a key component in paints, plastics, paper, inks, textiles, food, sunscreen and cosmetics. Titanium metal s key properties of light weight, chemical inertness and high strength make it ideal for use in medical applications and in the aerospace industry.

Other products include high purity iron, metal powders, zircon and rutile.

Key strengths

Poised to benefit from late-cycle demand growth.

Substantial brownfield and greenfield development pipeline including the Simandou project in Guinea.

Key production locations

North America

Australia

South Africa

Key sales destinations

North America

China

Japan

Full operating review on page 26.

Energy product group

We are a leading seaborne supplier of thermal and coking coal to Asian customers and are one of the world s largest uranium producers, serving electric power utilities worldwide. The Rio Tinto Energy product group has operations, exploration and development projects in Australia, southern Africa and Canada.

Thermal coal production (2012 vs 2011)

+16%

Products

Coal

Coal is abundant, relatively inexpensive and safe and easy to transport. We are a large supplier to the export thermal coal market. Thermal coal is used for electricity generation in power stations. We also produce higher-value coking, or metallurgical, coal which, when mixed in furnaces with iron ore, produces steel.

Uranium

Uranium is one of the most powerful natural energy sources known, used in the production of clean, stable, base-load electricity. After uranium ore is mined, it is milled into uranium oxide the mine product that is sold for processing into fuel rods for use in nuclear power stations.

Key strengths

Strong customer relationships and high-quality assets located in close proximity to growing Asian markets.

Success in operating long-life, cost-competitive mines and businesses.

World-class growth opportunities including brownfield expansions at our existing coal operations in Australia and greenfield uranium exploration opportunities in the Athabasca Basin in Canada.

Strong product stewardship strategy including investment in technologies to reduce emissions from our products.

Key production locations

Key sales destinations

Key production locations	Key sales destinations
Australia	Japan
Namibia	South Korea
Mozambique	Europe

Full operating review on page 28.

Iron Ore product group

We are the second-largest producer supplying the global seaborne iron ore trade. After a decade of rapid expansion in Australia, and more recent growth in Canada, we are well positioned to benefit from the continuing strong demand in China and other Asian markets. We are driving performance through effective project management and value-adding operational efficiencies.

Iron ore production (2012 vs 2011)

+4%

Products

Iron ore

Iron is the key ingredient in the production of steel, one of the most fundamental and durable products for modern-day living, with uses from railways to paperclips. Our iron ore mines are located in Australia and Canada.

Key strengths

- Proximity of the expanded Pilbara operations in Australia to the world s largest and fastest growing markets.
- Success in increasing operational efficiency and controlling costs.
- Vast potential of brownfield developments near existing infrastructure.
- Proven success in implementing large-scale and complex, value-generating major projects on time and budget without significant impact on operational efficiency.

Key production locations	Key sales destinations
Australia	China
Canada	Japan
	South Korea

Full operating review on page 30.

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Chief executive s statement

I am proud to be leading your company and am committed to building a stronger business focused on pursuing greater value for you, our shareholders.

My more than 20 years experience with Rio Tinto, including as a member of the board for the past four years, has shown me that we have great assets, outstanding people and the right strategy. We will now have a single-minded focus on how we deliver this strategy in every market in which we operate, everywhere around the world.

I place the highest importance on upholding our values and ensuring safety is paramount in everything we do.

In 2012, while we did experience safety improvements, there were two fatalities at our managed operations and, earlier this year, a fatality at our La Granja project in Peru. I will never let up in my constant efforts to improve safety, to reinforce our strong safety culture, and to ensure that every employee and contractor plays their part in making our workplaces safer.

Highlights of 2012

The pattern of market uncertainty and volatility we have seen since the global financial crisis continued in 2012. Yet despite this, our underlying financial results were solid, indicating the fundamental strength of our businesses.

This was mainly driven by a strong operational performance from some of our businesses. Our iron ore business delivered record production and shipments, and our copper business showed a second half recovery in copper volumes.

We also experienced production increases in bauxite, alumina, thermal coal and titanium dioxide feedstock.

The mining sector has experienced unacceptable levels of cost increases over the past five years. During 2012 all of our management teams were focused on improving productivity to ensure our assets are at the lower end of the total cost curve.

We are continuing to see the benefits of cost savings from our aluminium transformation programme and through the review of support and service costs across the business but clearly much more remains to be done.

We are taking a more aggressive approach to assets in our portfolio that no longer fit our strategy. We achieved further cash proceeds from our divestment programme in 2012, with the sale of several non-core businesses including Lynemouth Power Station, the North American and Chinese portions of the Alcan Cable business, our Specialty Alumina division, and we secured a binding agreement to sell our interest in Palabora. We also made good progress on exploring options for our Pacific Aluminium and Diamonds businesses. This focus will continue in 2013.

Growth programme

Our total capital expenditure for 2012 was US$17.4 billion, reflecting investment in the high value growth of our business, in particular our world-leading iron ore operations in the Pilbara and the greenfield copper-gold project, Oyu Tolgoi, in Mongolia.

We also continued to invest in a number of other growth projects throughout 2012, such as our iron ore project in Guinea, our aluminium smelting project in Kitimat, and a project to extend the life of the Group s Kennecott Utah Copper mine.

2012 was our peak capital expenditure year and, given our commitment to greater capital discipline, we are reviewing all capital commitments in 2013.

Delivering our strategy

Under my watch, our strategy will not change but how we deliver it will. We will consistently execute our strategy in all of our markets with a focus in three key areas in 2013:

1. Strengthen capital allocation and discipline.

Prioritise our capital expenditure on the highest quality projects and improve the way we manage capital. In addition, we are taking a more aggressive portfolio approach to divest assets that no longer fit our strategy.

2. Reduce costs and improve performance at our existing operations.

Our immediate priority is to improve performance at our existing businesses by unlocking productivity improvements, aggressively reducing operating and support costs, controlling sustaining capital spend and leveraging our expertise across all stages of our operations. We are targeting cumulative cash cost savings of over US$5 billion over the next two years, which will see an annual run rate improvement of US$3 billion by the end of 2014.

3. Deliver our approved growth projects.

During 2013, we continue to focus on delivering our two significant growth projects our Iron Ore business in Australia and our Oyu Tolgoi copper-gold project in Mongolia in a risk-managed, value-enhancing manner. See page 6 for more detail on what you can expect from us in 2013. In my drive to increase accountability, I have made some changes to my executive team. I welcome two new members Jean-Sébastien Jacques and Chris Lynch and congratulate Andrew Harding on his move to head our iron ore business. I have also announced some further streamlining of my executive team, reducing my direct reports from 11 to nine.

Ongoing commitment

We expect market uncertainty and price volatility to persist in 2013, but there are positive signs emerging. In China specifically, momentum is growing under its new leadership, and we expect to see Chinese GDP growth above eight per cent in 2013.

China will remain important to us, but I also expect to see strong demand growth from India, Indonesia and other South East Asian countries as they also urbanise and industrialise. It is this outlook that gives us confidence to invest in high-value growth projects, and underpins our expectation of strong future cash generation.

The company has a renewed and strong leadership team, supported by outstanding people. I would like to thank our 71,000 employees around the world for their dedication and resilience. In many parts of our operations we faced some testing times and there will be more to come.

I remain fully confident in the long-term prospects of the business. We have the right strategy to deliver sustainable growth over the long term to meet the world s resourcing needs. In the short term, I am certain of what needs to be done and we are taking decisive steps with a clear plan to build a stronger, more accountable business.

Finally, I would like to thank you, our shareholders, for your continued support. I am committed to making a real difference building on Rio Tinto s strong foundations to put us firmly on the path of delivering greater shareholder value.

Sam Walsh

Chief executive

6 March 2013

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Strategic context

Global economy

The global economy continues to deal with the aftermath of the global financial crisis (GFC) and associated volatility. European policymakers held successive summits during 2012 to tackle tensions from excessive sovereign debt levels in the eurozone, and debate the balance between austerity and growth policies.

In the US, employment remained below 2008 levels, forcing the Federal Reserve to launch a third round of quantitative easing to further stimulate a recovery.

In contrast, the Chinese government maintained policies to control inflation and other effects from the 2009 stimulus and excess liquidity. This led to a sharper slowdown than expected during the third quarter of 2012 in China, contributing to fears that the global economy was heading for a new recession.

Political leadership transition in China added to the perception of uncertainty in 2012, forcing markets towards greater risk aversion. This was felt strongly in commodity markets, with prices for some metals and minerals experiencing large fluctuations during the year. On average, prices for most commodities were ten to 20 per cent lower than in 2011, although they remained at high levels in the longer historical context. Cost escalations, project delays and other supply constraints continued, in many cases, to offset a weaker and more uncertain demand growth environment.

Towards the end of 2012, several encouraging developments started to emerge. In Europe, action from the European Central Bank, combined with the release of bailout funds for Greece, reduced the likelihood of a Greek departure from the eurozone in 2013. It also provided European governments with more time to work towards further integration and greater resilience.

Economic activity started to pick-up again in China in the final quarter of 2012, alleviating fears of a hard-landing. Although liquidity controls in China are expected to remain in place, we would expect positive momentum to be carried into 2013, with Chinese GDP growth for the year moving back to just above eight per cent.

There remain many risks that could derail a stabilisation and improvement in global activity, including continued tensions in the Middle East. We expect volatility to remain a feature of our markets in 2013.

Our belief in the underlying and longer-term trend of rising prosperity in Asia remains unchanged. This will ultimately contribute to support and sustain an elevated level of global economic growth over the next couple of decades. While recognising that the commodity-intensive growth in China is maturing, the industrialisation and urbanisation forces associated with the economic development of emerging countries will continue to support demand for commodities.

Commodity markets

Commodity markets started 2012 relatively positively, with prices for most metals and minerals making a continued recovery from the declines experienced in the second half of 2011. However, prices largely peaked during the first quarter of 2012, sliding downwards throughout the rest of the year, with a sharp correction in the third quarter in the iron ore market. The price trends and volatility reflected the OECD macro-uncertainties described above and concerns from the market that China s slowdown was signalling the end of investment-led, steel-intensive growth.

China is entering an important and necessary transition phase to rebalance its economy towards consumption-led growth. The near-term reform agenda remains unclear and is likely to generate volatility and uncertainty. Reforms and a rebalancing of the economy will ultimately be a positive development for the sustainability of growth in China. Overall, we expect a falling level of demand intensity for early development phase commodities, but absolute demand growth should remain strong over the next two decades and new opportunities will arise for late-cycle

commodities such as titanium dioxide and other industrial minerals. Our view remains that China s steel demand will peak at around one billion tonnes per annum towards 2030. Over this timeframe, India and countries in South East Asia are expected to become increasingly important sources of demand for commodities, including steel.

Increasing capital intensity for mining projects was a persistent trend in 2012. This was a reflection of continued real labour cost escalation, declining resource grades and increased mining projects complexity. Through 2012 the mining industry also continued to face increased stakeholder pressures, highlighting the importance of proactive stakeholder engagement and good track records in sustainable development. Nevertheless, rising threats of resource nationalism, greater rent extraction by governments, or simply increased uncertainty, have implications for the economics and feasibility of projects across the industry.

Combined with significant price volatility and stronger calls from investors for near-term returns over long-dated options, these supply challenges are resulting in further investment delays and deferrals. Iron ore and copper projects are being particularly impacted.

Largely due to the supply-side challenges, copper prices remained at levels equivalent to pre-GFC prices throughout 2012. This is in sharp contrast with the aluminium market, where capacity and production in China continue to match the rapid pace of demand. Even so, physical market premia for aluminium reached new records in 2012. The availability of profitable financing deals continued to lock in access to surplus metal. Thermal coal was another market with less favourable supply and demand dynamics in 2012. Prices came under constant pressure throughout the first half of the year. Finally, following continued strong upward momentum at the start of 2012, rutile and zircon prices faced heavy downward pressures during the second half of the year from reduced Chinese buying.

Lower prices and continued cost escalations have put increasing pressure on margins across the mining industry. This is particularly true in Australia where the dollar has remained resilient to falling commodity prices. The country has attracted money-flows from investors reallocating funds away from Europe. The industry in general is starting to respond to the squeeze on margins through a renewed focus on productivity.

Outlook

As the world economy returns to the trend rate of growth, rising incomes and increased prosperity in developing countries with associated industrialisation and urbanisation will continue to drive demand for commodities. Looking to the future, our view remains that there will be high average demand growth in our markets while cost escalations and stakeholder pressures remain key challenges to grow future supply.

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Group strategy and business model

Pursuing greater value for shareholders

The global economic outlook remains uncertain and volatile. This requires us to have a clear and consistent strategy designed to support a single commitment: the pursuit of greater value for our shareholders. To achieve this we are building an even stronger, more focused, and more accountable organisation.

Objective
Maximising total shareholder return by sustainably finding, developing, mining and processing natural resources.

Strategy
Investing in and operating large, long-term, expandable, low-cost mines and businesses, driven by the quality of each opportunity in the most attractive industry sectors.

Shared value

Pursuing greater value for our shareholders means delivering superior returns for the people who own and invest in our company. We will do this while maintaining a focus on safety and by staying true to our core values, wherever we operate.

Delivering superior shareholder value brings with it the opportunity to share our success with many of our other stakeholders. For host governments and communities, it means ensuring widespread and lasting economic benefits. For our customers, it means delivering what they need to be successful. And for our employees, it means creating opportunities to learn and grow in a world-class business.

We will apply a disciplined and rigorous investment process to ensure that capital is invested only in assets that, after prudent assessment, offer attractive returns, well above our cost of capital. Our approach balances investment to grow the value of the business and returns to shareholders, while aiming to maintain a strong balance sheet.

Our strategy is underpinned by our leading capabilities across the value chain and we intend to deepen our expertise and leadership in these areas.

Industry-leading capabilities

A consistent strategy

As we continue to face short-term uncertainty and pricing volatility in many of our markets, our strategy remains the right one: to invest in and operate large, long-term, expandable, low-cost mines and businesses. This strategy has served us well over many years and we have full confidence that it will continue to do so in the future.

The opportunities we pursue are driven by quality and will be in the most attractive industry sectors. We are convinced of the benefits of owning a diversified asset portfolio, provided this is achieved in a way that maximises value for our shareholders. We look for high-quality assets in the right industry sectors that provide superior returns throughout the economic cycle with options for growth when the time is right. And we will realise value by divesting businesses that are no longer in line with our strategy.

We have been in business for 140 years. During this time, we have built a deep understanding and expertise in industry-leading capabilities such as sustainable development, technology and innovation, exploration, marketing and operational excellence. We believe these capabilities will support us in our renewed focus on delivering greater value for our shareholders.

We have world-class businesses, such as our industry-leading iron ore operations in Australia, and we are developers and owners of what will be a top-five copper and gold mine in the Gobi desert of Mongolia.

We have pioneered several world-leading mining and processing technologies. We are the owner of the world s largest fleet of driverless trucks, which are operated from a control centre some 1,500km away. We are using our expertise in technology and innovation to drive safety and productivity improvements across all of our businesses.

Business model

We create and preserve value through investing in and operating large-scale, long-term, low-cost mines and businesses. The nature of our business means that the life of an orebody may span many decades. Throughout the life of a business, from initial exploration to final closure and restoration, we commit to the highest standards of sustainable development

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We also have long experience of building and maintaining relationships wherever we operate. The success of our business is underpinned by doing things the right way and by staying true to our values. Our outstanding people live these values day in and day out wherever we operate around the world.

Even so, we know there is more we can do and we will be reinforcing discipline and accountability throughout the organisation. Simply put, our leaders and employees will have clear targets and be held accountable for their individual performance, which will be rewarded with career growth and development opportunities. Our people must run the business as owners, not managers.

In parallel, we will also strengthen our management and approval systems bringing greater rigour to investment decisions, and implementing effective checks and balances with clearer lines of sight to critical business issues.

What you can expect from us this year

Consistent execution of our strategy in every market, in all of our businesses, is how we will deliver value this year. In 2013, we will reduce costs, deliver our approved growth projects, reshape the portfolio, and build a more accountable business.

This year, our efforts will be focused in three key areas:

1. Reinforcing capital allocation and discipline.
2. Reducing costs and improving performance at our existing operations.
3. Delivering our approved growth projects.

Reinforcing capital allocation and discipline

We will prioritise our capital expenditure on the highest-quality projects and improve the way we manage capital. In addition, we are taking a more aggressive portfolio approach to assets that no longer fit our strategy. We will:

- Simplify and strengthen our process for allocating capital.
- Review capital expenditure plans across all of our businesses, as we do every year.
- Streamline our portfolio through divestments targeting significant cash proceeds in 2013.
- Invest only in new projects that provide attractive returns, well above cost of capital, and which compare favourably to other uses of capital.

Reducing costs and improving performance in our businesses

Our immediate priority is to improve performance at our existing businesses by unlocking productivity improvements, aggressively reducing operating and support costs, controlling sustaining capital spend and leveraging our expertise across all stages of our operations. We will:

- Improve our safety performance in 2013.
- Deliver our cumulative US$5 billion cash cost-reduction target by the end of 2014.
- Reduce exploration and evaluation spending by US$750 million (pre-tax) in 2013 compared with 2012.
- Achieve targeted reductions of US$1 billion in our sustaining capital expenditure compared with 2012.

Delivering approved growth projects

During 2013, we are committed to delivering our two significant growth projects: in our Iron Ore business in Australia and in our copper-gold project in Mongolia in a risk-managed, value-enhancing manner. We will draw upon our leadership capability in stakeholder engagement to help us build enduring relationships with our host governments and communities.

- Pilbara 290 first production accelerated to the third quarter of 2013.
- Oyu Tolgoi scheduled for first production in 2013. Discussions with the Government of Mongolia regarding the continuing implementation of the Investment Agreement are ongoing.

Achievement of our strategy is measured by a mixture of financial and non-financial performance indicators, some of which we link to executive remuneration. See page 8.

Explore and evaluate

Our experienced, in-house exploration team has a proven track record of discovering large, long-life orebodies. The team creates further value from its identification of opportunities for the brownfield expansion of our existing assets. Our orebody knowledge allows us to innovate value-enhancing approaches to developing, operating and expanding our resources and positioning our products in the market.

Develop

We develop orebodies with long-term value delivery in mind. We allocate investment only to assets that, after prudent assessment, offer attractive returns that are well above our cost of capital. During this phase, we plan the optimal configuration for developing the orebody and for getting our products to market. We work closely with our customers to create demand in the market for the grade of product that enables us to maximise the value of the orebody over its lifecycle. Once the value of the resource is confirmed, and internal and external approvals are received, the project moves into implementation and construction.

Mine and process

We create value by safely and efficiently operating assets that fit with our Group strategy. Our global presence and management structure allow us to implement standard operating and maintenance practices across the Group. This reduces our use of consumables, increases the life of our equipment

and optimises the extraction of ore. In turn, we enjoy higher production, reduced costs and value maximisation. We use world-class technologies during mining and processing to increase our efficiency and productivity, and to produce material that is tailored to our customers needs.

Market and deliver

The majority of our customers are industrial companies that further process our products to supply numerous industries construction and infrastructure, automotive, industrial machinery and equipment, energy and consumer goods markets. We invest in long-term partnerships and innovate and improve our products and services to maximise product value to customers. We are constantly adding to our significant knowledge of our markets and value chain, allowing us to improve our investment decision-making process. In many cases, we are responsible for delivering product to our customers. We do this in a variety of ways, but always efficiently, reliably and cost-effectively.

Close down and rehabilitate

We integrate closure planning throughout an asset s lifecycle, from the earliest stages of project development. When a resource reaches the end of its life, we are committed to high standards of close-down and reclamation. This helps us to maintain a positive reputation for sustainable development and ensures we meet the expectations of our current and future stakeholders.

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Key performance indicators

Our key performance indicators (KPIs) give us a means by which to measure our financial and sustainable development performance. Their relevance to our strategy, and our performance against these measures in 2012, are explained below.

Indicator	**All injury frequency rate (AIFR)** Per 200,000 hours worked	**Underlying earnings**[(a)(b)] US$ millions	**Operating cash flow**[(a)] US$ millions Dividends from equity accounted units Cash flow from consolidated operations
Relevance to strategy	Safety is one of our core priorities. We have a relentless focus on pursuing zero harm, reinforcing our strong safety culture, and improving safety leadership. The AIFR is a leading indicator of management performance.	This is the key financial performance indicator used across the Group. It gives insight to cost management, production growth and performance efficiency. We are focused on aggressively reducing our costs and increasing productivity to improve earnings and deliver greater value for shareholders.	Operating cash flow is a complementary measure to underlying earnings. It also provides insight to how we are managing costs and increasing efficiency and productivity across the business.
Performance	Our AIFR has improved 29 per cent over the last five years. We have maintained our AIFR of 0.67 for 2012.	Underlying earnings have fallen by US$6,246 million compared with 2011. This reflects lower average market prices for the Group commodities during the year, an overall fall in volumes sold, and industry-wide cost inflation pressures.	Operating cash flows of US$16,450 million, which include US$522 million of dividends from equity saccounted units, are 40 per cent lower than in 2011, primarily as the result of lower prices.

Definition	AIFR is calculated based on the number of injuries per 200,000 hours worked. This includes medical treatment cases, restricted work-day and lost-day injuries for employees and contractors.	Items excluded from net earnings to arrive at underlying earnings are explained in note 2 of the 2012 financial statements.	Operating cash flow represents the cash generated by the Group s consolidated operations, before payment of interest, taxes, capital expenditure and cash flows relating to financing activities. From 2011, product group operating cash flows on pages 22 to 30 have been adjusted to exclude funding of defined benefit pension deficits; comparative figures have been modified accordingly.
More information	**page 14**	**page 219**	**page 141**

Notes

(a) The accounting information in these charts is drawn up in accordance with IFRS.
(b) Underlying earnings is the key financial performance indicator which management uses internally to assess performance. It is presented here as a measure of earnings to provide greater understanding of the underlying business performance of the Group s operations. Items excluded from net earnings to arrive at underlying earnings are explained in note 2 to the 2012 financial statements. Both net earnings and underlying earnings deal with amounts attributable to the owners of Rio Tinto. However, IFRS requires that the profit for the year reported in the income statement should also include earnings attributable to non-controlling interests in subsidiaries.
(c) Amounts include 100 per cent of subsidiaries capital expenditures.

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KPI trend data

The Group s performance against each KPI is covered in more detail in later sections of this Annual report. Explanations of the actions taken by management to maintain and improve performance against each KPI support the data.

Some KPIs are used as a measure in the long-term incentive arrangements for remuneration of executives. These are identified with this symbol:

See the Remuneration report on page 92

Total shareholder return (TSR)

%

Our strategy is to maximise total shareholder return. This KPI measures performance in terms of shareholder wealth generation. We also monitor our relative TSR performance against peers.

Rio Tinto s TSR performance over the five-year period from 2008 to 2012 was driven by increasing volatility in world stock markets and commodity prices. Total dividends paid during 2012 were 163.5 US cents

Net debt[a]

US$ millions

Net debt is a measure of how we are managing our balance sheet and capital structure. We constantly evaluate and balance the alternative uses for our cash between disciplined investment, strengthening our balance sheet, and returning cash to investors.

Net debt increased from US$8,451 million at 31 December 2011 to US$19,261 million at 31 December 2012 as operating cash inflows were offset by outflows relating to capital expenditure, acquisitions, an increase in the dividend

Capital expenditure[a][c]

US$ millions

We are prioritising investment in the highest returning projects in the most attractive sectors. We are committed to a disciplined and rigorous investment process investing capital only in assets that, after prudent assessment, offer attractive returns that are well above our cost of capital.

Capital expenditure of US$17,418 million has risen by US$5,120 million compared with 2011. This is due mainly to continued expansion and construction across the Group, including Pilbara Iron Ore mines, Oyu Tolgoi mine and

Greenhouse gas (GHG) emissions intensity

Indexed relative to 2008

Our GHG performance is important in upholding and extending our licence to operate. We are focusing on reducing the energy intensity of our operations as well as the carbon intensity of our energy, including through the development and implementation of innovative technologies.

We have reduced our total GHG emissions intensity by 5.1 per cent between 2008 and 2012. This is largely a result of the Ningxia aluminium smelter divestment in 2009 and the closure of the Lynemouth smelter in 2012.

per share, an increase of 40 per cent over 2011. Investor sentiment improved in the fourth quarter of 2012 with the share price ending 2012 closer to its highs for the year. This resulted in a positive TSR of 14.7 per cent for 2012.

payment, and the share buy-back programme.

concentrator, Kitimat aluminium smelter, Kestrel coking coal underground mine, and the Argyle underground diamond mine.

TSR combines share price appreciation and dividends paid to show the total return to the shareholder.

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Net debt is calculated as: the net borrowings after adjusting for amounts due to equity accounted units originally funded by Rio Tinto, cash and cash equivalents, other liquid resources and derivatives related to net debt. This is further explained in note 25 Consolidated net debt of the 2012 financial statements.

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Capital expenditure comprises the net cash outflow on purchases less disposals of property, plant and equipment, capitalised evaluation costs and purchases less disposals of other intangible assets.

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Our GHG emissions intensity measure is the change in total GHG emissions per unit of commodity production relative to a base year. Total GHG emissions are direct emissions plus emissions from imports of electricity and steam minus electricity and steam exports and net carbon credits purchased from, or sold to, recognised sources.

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Risk factors

Principal risks and uncertainties

Rio Tinto s business units and functions assess the potential economic and non-economic consequences of their respective risks using the framework defined by the Group s Risk policy and standard. Principal risks and uncertainties are identified when the Risk Management Committee, business unit or function determines that the potential consequences are material at a Group level or where the risk is connected and may trigger a succession of events that, in aggregate, become material to the Group. Once identified, each principal risk or uncertainty is reviewed by the relevant internal experts and by the Risk Management Committee.

The following describes all known principal risks and uncertainties that could materially affect Rio Tinto. There may be additional risks unknown to Rio Tinto and other risks, currently believed to be immaterial, which could turn out to be material. The risk factors outlined below omit the management detail on how each is managed and mitigated.

For further information about our approach to risk management, please see page 80. Risks may materialise individually, simultaneously or in combination and could significantly affect the Group s:

- short, medium and long-term business and prospects;
- earnings, cash flow and financial position;
- overall financial results and product demand;
- current asset values;
- future asset values and growth potential;
- safety record and the long, medium and short-term health of its employees;
- environmental effects; or
- Group or business unit reputation.

The principal risks and uncertainties should be considered in connection with any forward-looking statements in this document and the cautionary statement on the inside front cover.

External risks

Factor	Nature
Commodity prices and global demand for the Group s products are expected to remain uncertain.	Commodity prices and demand are volatile and strongly influenced by world economic conditions. The Group s normal policy is to sell its products at prevailing market prices and not to enter into price hedging arrangements. Recent volatility in commodity prices and demand may continue, which could adversely affect the Group s earnings, cash flow and reserves.
Past strong demand for the Group s products in China could be affected by future developments in that country.	The Group is heavily reliant on the Chinese market and if China experiences an economic downturn, or if Chinese customers source products from elsewhere, this could adversely affect demand and pricing for the Group s products. Furthermore, the basis on which the Group prices iron ore in Asia is evolving and to the extent this results in prices or pricing mechanisms that are less favourable to the Group, its earnings and cash flow could be adversely affected.
Rio Tinto is exposed to fluctuations in exchange rates.	The great majority of the Group s sales are denominated in US dollars, which is also the currency used for holding surplus cash, financing operations, and presenting external and internal results. Although many costs are incurred in US dollars, a significant portion is influenced by the local currencies of the countries where the Group operates, principally the Australian dollar and Canadian dollar. The Group s normal policy is to avoid hedging of foreign exchange rates and so the Group may be adversely affected by appreciation in the value of other currencies against the US dollar, or to prolonged periods of exchange rate volatility. These fluctuations may negatively impact the Group s profitability.
Political, legal and commercial changes in the places where the Group operates.	The Group has operations in jurisdictions where governments and communities are seeking a greater share of mineral wealth. In some jurisdictions commercial instability can arise from a culture of bribery and corruption. Some operations are conducted under specific agreements with respective governments and associated acts of relevant legislative bodies. In several countries, land title and rights to land and resources (including Indigenous title) may be unclear. Political and administrative change, policy reform, and changes in law or government regulation can result in expropriation, or nationalisation of the Group s rights or assets.

In its operations and development projects, Rio Tinto is exposed to:

- renegotiation, unilateral variation or nullification of existing agreements, leases and permits;
- changes in government ownership of operations;

significant restoration and environmental clean-up costs;

currency and foreign investment restrictions;

changes in taxation rates, regimes or international tax agreements;

limitations to power, water, energy and infrastructure access; and

general increases in regulation, including compliance costs.

Political instability and uncertainty or government changes to terms applicable to the Group s operations may result in increased costs for the Group, may curtail or negatively impact existing operations and prevent the Group from making future investments.

Community disputes in the countries and territories in which the Group operates.

Some of the Group s current and potential operations are located in or near communities that may regard these operations as being detrimental to them. Community expectations are typically complex with the potential for multiple inconsistent stakeholder views that may be difficult to resolve. Stakeholder opinion and community acceptance can be subject to many influences, for example, related industries, operations of other groups, or local, regional or national events in other places where we operate. These disputes can disrupt our operations and may increase our costs, thereby potentially impacting our revenue and profitability. In the extreme, our operations may be a focus for civil unrest or criminal activity, which can impact our operational and financial performance, as well as our reputation.

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Factor	Nature
Increased regulation of greenhouse gas emissions could adversely affect the Group s cost of operations.	Rio Tinto s operations are energy-intensive and depend on fossil fuels. Worldwide, there is increasing regulation of greenhouse gas emissions, tighter emission reduction targets and progressive introduction of carbon pricing mechanisms. These are likely to raise significantly worldwide energy, production and transport costs over the medium to long terms, which will increase the Group s cost base and, potentially, negatively impact the Group s profitability.
Regulations, standards and stakeholder expectations regarding health, safety, environment and community evolve over time and unforeseen changes could have an adverse effect on the Group s business and reputation.	The resources sector is subject to extensive health, safety and environmental laws, regulations and standards alongside community and stakeholder expectations. Evolving regulation, standards and stakeholder expectations could result in increased costs, litigation or, in extreme cases, threaten the viability of an operation.
Strategic risks	
The Group s exploration and development of new projects might be unsuccessful, expenditures may not be fully recovered and depleted ore reserves may not be replaced.	Rio Tinto identifies new orebodies and mining properties through its exploration programme, and develops or expands other operations as a means of generating shareholder value. Exploration is not always successful and there is a high degree of competition to develop world-class orebodies. The Group may also not be able to source or maintain adequate project financing, or may be unable to find willing and suitable joint venture partners to share the cost of developing large projects.
Rio Tinto may fail to make or successfully integrate acquisitions, or to complete divestment agreements.	Business combinations entail a number of risks including the cost of effectively integrating acquisitions to realise synergies, significant write-offs or restructuring charges, and unanticipated costs and liabilities. The Group may also be liable for the past acts, omissions or liabilities it has acquired that are unforeseen or greater than anticipated. The Group may also retain unforeseen liabilities for divested entities if the buyer fails to honour all commitments or the Group agrees to retain certain liabilities.
Financial risks	
The Group s reported results could be adversely affected by the impairment of assets and goodwill.	The Group may be required to record impairment charges as a result of adverse developments in the recoverable values of its assets (including goodwill). Significant assumptions in the determination of recoverable value include, but are not limited to: pricing of the Group s commodities and products, reserves and mineralised material, infrastructure availability, discount and exchange rates, operating cost projections, and timing of expenditure on major projects. In addition, the occurrence of unexpected events or events beyond the Group s control that adversely impact its business may have an impact on the assumptions underlying the recoverable value of its assets. The foregoing items are not exhaustive and impairments may be caused by factors currently unknown to the Group. To the extent that the recoverable value of an asset is impaired, such impairment may negatively impact the Group s profitability during the relevant period.
The Group s liquidity and cash flow expectations may not be realised, inhibiting planned expenditure.	The Group s ability to fund planned expenditure such as capital growth, mergers and acquisitions, innovation and other obligations may falter if its cash position proves inadequate. Our ability to weather a major economic

shock for example, in the eurozone could be compromised by insufficient cash reserves, a reduction in the value of existing reserves, or restricted access to these and other sources of cash, including the international capital markets.

General cost inflation in the resources sector is affecting both operations and projects, resulting in significant pressure on capital and operating costs.

Input costs in the resources sector have risen at a disproportionate rate, adversely affecting the economics of current operations and increasing the cost of our capital expansion projects. Many of these input costs are linked to commodity prices and in the case of capital expansion projects the time lag between incurring project costs and receiving revenue can result in additional exposure to commodity markets. Failure to contain costs may have an adverse impact on our operating margins and the viability of our capital expansion projects.

Operational risks

Estimates of ore reserves are based on uncertain assumptions that, if changed, could result in the need to restate ore reserves.

There are numerous uncertainties inherent in estimating ore reserves, including subjective judgments and determinations that are based on available geological, technical, contract and economic information. Previously valid assumptions may change significantly with new information, which may result in changes to the economic viability of some reserves and the need for them to be restated.

Labour disputes could lead to lost production and/or increased costs.

Some of the Group s employees, including employees in non-managed operations, are represented by labour unions under various collective labour agreements. The Group may not be able satisfactorily to renegotiate agreements when they expire and may face difficult negotiations or higher wage demands. In addition, labour agreements may not prevent a strike or work stoppage.

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Risk factors continued

Operational risks continued

Factor	Nature
Some of the Group s technologies are unproven and failures could adversely impact costs and/or productivity.	The Group has invested in and implemented new technologies in both information systems and operational initiatives, some of which are unproven and their eventual viability cannot be assessed with certainty. The actual benefits of these technologies may differ materially from expectations.
The Group may be exposed to major failures in the supply chain for specialist equipment and materials.	Rio Tinto operates within a complex supply chain depending on suppliers of materials, services, equipment, and infrastructure, and on providers of logistics. Supply chain failures, or significantly increased costs within the supply chain, for whatever reason, could have an adverse effect on the Group s business.
Joint ventures, strategic partnerships or non-managed operations may not be successful and may not comply with the Group s standards.	The Group participates in several joint venture and partnership arrangements, and it may enter into others, all of which necessarily involve risk. Whether or not the Group holds majority interests or maintains operational control in its joint ventures, its partners may: have economic or business interests or goals that are inconsistent with, or opposed to, those of the Group; exercise veto rights to block actions that the Group believes are in its or the joint venture s best interests; or be unable or unwilling to fulfil their obligations under the joint venture or other agreements, such as contributing capital to expansion or maintenance projects. Where these joint ventures are controlled and managed by others, the Group may provide expertise and advice but has limited control over compliance with its standards and objectives, such that partners may take action contrary to the Group s interests or policies with respect to its investment.
The Group s operations are vulnerable to a range of interruptions, not all of which are covered fully by insurance.	**1. Natural disasters and events** Mining, smelting, refining and infrastructure installations are vulnerable to natural events including earthquakes, drought, flood, fire, storm and the possible effects of climate change. **2. Sustained operational difficulties** Operating difficulties are many and various, ranging from unexpected geological variations that could result in significant ground or containment failure to breakdown of key capital equipment. Reliable roads, rail networks, ports, power generation and transmission, and water supplies are required to access and conduct our operations. Limitations, or interruptions in transport infrastructure, including as a result of third parties gaining access to our integrated facilities, could impede its ability to deliver products.

3. Information technology and cyber security

The Group relies heavily on information technology and process control systems to support our business. In common with most large, global companies, the Group has experienced cyber attacks and is faced with ongoing threats to the confidentiality, integrity and availability of such systems. Whilst no material losses related to cyber security breaches have been discovered, given the increasing sophistication and evolving nature of this threat, we cannot rule out the possibility of them occurring in the future. An extended failure of critical system components, caused by accidental, or malicious actions, including those resulting from a cyber security attack, could result in a significant environmental incident, commercial loss or interruption to operations.

4. Major operational failure

The Group s operations involve chemicals and other substances stored under high temperature and pressure, with the potential for fire, explosion or other loss of control of the process, leading to a release of hazardous materials. This could occur by accident or a breach of operating standards, and could result in a significant incident.

The Group s insurance does not cover every potential loss associated with its operations and adequate coverage at reasonable rates is not always obtainable. In addition, insurance provision may not fully cover its liability or the consequences of any business interruption. Any occurrence not fully covered by insurance could have an adverse effect on the Group s business.

The Group depends on the continued services of key personnel.

The Group s ability to maintain its competitive position is dependent on the services of a wide range of highly skilled and experienced personnel available in the locations where they are needed. Failure to recruit and retain key staff, and the inability to deploy staff worldwide, where they are most needed, could affect the Group s business. Similar constraints may be felt by the Group s key consultants, contractors and suppliers, thereby impacting the Group s expansion plans.

The Group s costs of close-down, reclamation, and rehabilitation could be higher than expected.

Close-down and reclamation works to return operating sites to the community can be extensive and costly. Estimated costs are provided for, and updated annually, over the life of each operation but the provisions might prove to be inadequate due to changes in legislation, standards and the emergence of new reclamation techniques. In addition, the expected timing of expenditure could change significantly due to changes in the business environment that might vary the life of an operation.

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Performance

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* Detailed financial information on the product groups can be found within the Financial review on pages 34 to 41.

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Sustainable development

Performance data

Our sustainable development performance data are reported for calendar years and, unless stated otherwise, represent 100 per cent of the parameters at each managed operation, even though Rio Tinto may have only partial ownership.

Data reported in previous years may be modified if verification processes detect material errors, or if changes are required to ensure comparability over time.

Wherever possible, data for operations acquired prior to 1 October of the reporting period are included. Divested operations are included in data collection processes up until the transfer of management control.

We report in line with the GRI G3 guidelines at Application level A+ and have implemented the International Council on Mining and Metals (ICMM) sustainable development framework (www.icmm.com).

Safety

We are committed to achieving our goal of zero harm. This is supported by our management system which provides the framework for incorporating hazard identification, risk assessment and risk management into all aspects of the operations. Safe operations that protect our people are a priority and we work systematically to mitigate risks that are critical to operating safely.

Regrettably, two people lost their lives due to safety incidents while working at Rio Tinto managed operations in 2012. The events were a rail incident at Rio Tinto Alcan Roberval-Saguenay in Canada and an incident during maintenance work on a crusher at Palabora in South Africa. We provided support and counselling to the families and colleagues affected by these events. We conducted in-depth investigations of the causes of these incidents and ensured that the conclusions were communicated across the Group. We are determined to learn from all incidents to prevent similar events from recurring in the future.

We measure progress toward our goal of zero harm through the all injury frequency rate (AIFR), which includes data for employees and contractors. At the end of 2012, our AIFR was 0.67. Over the last five years we have reduced our AIFR by 29 per cent.

The Group-wide safety risk management programme focuses equally on personal and process safety, and material safety hazards. The identification of higher-consequence, lower-probability safety risks are managed through targeted process safety management and the use of a Semi Quantitative Risk Assessment (SQRA™) process. Risk reduction resulting from the SQRA™ process, along with critical risk controls, is used as a Group-wide leading indicator for safety performance.

We focus on building a sustainable safety culture at our operations, based around strong leadership and workforce engagement. We recognise that a slightly different approach is needed at projects where activity and thus risk levels change rapidly. We have benchmarked our approach externally, and we are piloting new methodologies that focus particularly on improving contractor alignment to our approach, and the quality of frontline leadership.

Rio Tinto has required disclosures relating to mine safety violations or other regulatory matters in accordance with Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act that are included in Exhibit 99.1 to this filing.

Greenhouse gas emissions

Rio Tinto recognises the reality and scale of the challenges posed by increasing demand for reliable and secure forms of energy, coupled with the need for urgent action to reduce global emissions of greenhouse gases (GHGs). We believe global energy and climate challenges are best met by companies, governments and society working together on a global solution. Until that is in place we recognise that it will be important for individual jurisdictions to take action.

As a capital-intensive business, changing our emissions profile and the transition to low-carbon assets and products is a long-term challenge. We are seeking a substantial decarbonisation of the business by 2050. Following the creation of Pacific Aluminium, the majority of the energy used in Rio Tinto Alcan s smelters is from low-carbon sources.

We have reduced our total greenhouse gas emissions intensity by 5.1 per cent between 2008 and 2012. Our total GHG emissions were 41 million tonnes of carbon dioxide equivalent (CO_2-e) in 2012, 2.2 million tonnes lower than in 2011.

The majority of Rio Tinto s GHG emissions are generated as a result of energy use (electricity, fuel and anodes and reductants) during mining, milling and smelting activities at our sites.

We recognise that there are also significant GHG emissions associated with the transportation, processing and use of our products. In 2012, the three most significant sources of indirect emissions associated with our products were:

- Approximately 5.4 million tonnes of CO_2-e associated with third-party transport of our products and raw materials.

- An estimated 141 million tonnes of CO_2-e associated with customers using our coal in electricity generation and steel production.

- Approximately 374 million tonnes of CO_2-e associated with customers using our iron ore to produce steel (these emissions are not in addition to the coal-use emissions above, as some customers use both our iron ore and our coal to produce steel).

We face costs associated with greenhouse gas emissions in Europe, Australia, New Zealand, various US states and Canadian provinces. As a result, over two thirds of emissions from our operations are covered by market-based carbon regulation.

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Aluminium

Financial performance

	2012 US$ million	2011 US$ million
Revenue	**10,105**	12,159
Operating cash flow	**522**	1,216
Underlying earnings	**3**	442
Capital expenditure	**2,550**	1,957
Net operating assets	**19,606**	26,204

Figures above exclude aluminium assets identified for divestment or closure and that are now managed by the Business Support & Operations group.

Strategy and strategic priorities

The aluminium industry is likely to continue facing challenging market conditions for some years, as a structural shift has occurred, driven by the decoupling of the supply chain for bauxite, alumina and aluminium and the continued growth of the Chinese smelting industry. Against this backdrop, Rio Tinto Alcan is focused on a transformation strategy to improve the performance of the product group. This strategy has delivered improvements, but much more needs to be done in this market environment of depressed prices. Further action will be required to reduce costs, improve the productivity of the assets, and the returns that are generated on capital invested.

Rio Tinto Alcan is committed to achieving further significant performance improvements by delivering over US$1.6 billion of EBITDA improvement by the end of 2015 from both strategic investments and business improvement initiatives. This will incorporate the Aluminium group s contribution to Rio Tinto s sustainable cost reduction targets by 2014. The annual run rate from sustainable business improvement initiatives is now exceeding US$460 million, with US$250 million delivered in 2012, as planned. Key elements of this ongoing second phase of Rio Tinto Alcan s transformation include:

- Widespread business improvement initiatives, including accelerated cost reduction and productivity enhancement efforts designed to provide a leaner and more efficient structure.
- Stringent focus on high-return production creep and modernisation projects.
- Optimisation of the product mix.
- Disciplined portfolio management, including the divestment of assets no longer aligned with the product group s core strategy.

Maximising the benefit of industry-leading positions in bauxite and energy.

Modernising and expanding long-life Tier 1 assets.

Strictly limiting growth in line with market conditions.

Safety

In 2012, the Aluminium product group s all injury frequency rate deteriorated to 0.72, from 0.58 in 2011. Regrettably, in January there was one fatality, which resulted from an incident on the Roberval-Saguenay railway in Quebec, Canada. The product group s ongoing priority is to implement the Zero Harm by Choice programme, as well as to continue deploying Rio Tinto HSE performance standards and risk management practices, to reach Rio Tinto Alcan s ultimate goal of zero incidents. Process safety management has made significant progress, with reporting, investigation and analysis of significant potential incidents and completion of corrective actions as a main focus.

The Grande-Baie aluminium smelter in Quebec jointly won the 2012 Chief Executive Safety Award. Three Aluminium sites were recognised in other categories:

Most Improved Site: Yarwun, Queensland, Australia

Best Project: Shipshaw, Quebec, Canada

Small Business: Anglesey, Wales, UK

Greenhouse gas emissions

Rio Tinto Alcan accounted for 20 per cent of Rio Tinto s total greenhouse gas emissions (GHG) in 2012, compared to 19 per cent in 2011. At year end, total GHG intensity was 24 per cent lower than 2008 baseline performance. The realised reductions made a significant contribution to the Rio Tinto Group s overall total GHG intensity improvements. This sizeable reduction in emissions over the past several years is mainly related to the divestment or closure of non-core assets, as well as ongoing operational improvements that have combined to give Rio Tinto Alcan the lowest carbon footprint in the aluminium industry. Taking into account recent portfolio changes, 96 per cent of Rio Tinto Alcan s power supply is carbon-free and falls into the lowest-cost quartile for energy. Aluminium produced using hydroelectricity which currently represents some 83 per cent of the Aluminium product group s power supply has the lowest footprint with respect to primary energy consumption and climate change in lifecycle analysis studies.

Rio Tinto Alcan works closely with stakeholders to address sustainability concerns and help identify ways to foster greater transparency and sustainability throughout the aluminium industry.

During 2012, the Aluminium product group played a lead role as a co-founder of the Aluminium Stewardship Initiative (ASI), along with the International Union for Conservation of Nature and several other founding members. The mission of ASI is to define and deliver the first comprehensive global standard for the responsible production, use and re-use of aluminium. Rio Tinto Alcan also agreed to participate in Empreinte Carbone Québec, a pilot project launched by Quebec s Ministry of Economic Development, Innovation and Export to develop a method for calculating carbon footprint.

Review of operations

Rio Tinto Alcan s underlying earnings of US$3 million were US$439 million lower than in 2011, primarily from a significant deterioration in market conditions and the impact of the lock-out at the Alma smelter in Quebec. The combined impact of movements in prices and exchange rates, inflation and increasing prices for coke, pitch and caustic reduced underlying earnings by US$569 million year-on-year and lowered EBITDA margins by 11 per cent. This market impact was partially offset by controllable cash cost improvement initiatives which had a net positive impact of nearly four per cent on margins. The absence of the abnormal weather events that occurred in 2011 was outweighed by the impact of reduced operations from the lock-out at Alma.

Further deterioration in aluminium market conditions in 2012, together with strong currencies in certain regions and higher raw material costs, has had a negative impact on current market values in the aluminium industry. The annual impairment review for Rio Tinto Alcan and other aluminium businesses (including Pacific Aluminium)(a) resulted in a post-tax impairment charge of US$11.0 billion, which includes goodwill impairment of US$6.0 billion.

The average aluminium market price in 2012 was US$2,018 per tonne, a decrease of 16 per cent from 2011. Rio Tinto Alcan s average realised price for primary metal products in 2012 was US$2,383 per tonne, 12 per cent lower than US$2,715 in 2011.

Gross sales revenue for Rio Tinto Alcan decreased by 17 per cent compared with 2011. This was due to the combined effects of lower market prices across the product range and reduced production at Alma, offset by the Yarwun refinery expansion in Queensland, Australia.

Aluminium production decreased by nine per cent to 2.2 million tonnes in 2012. This was partly due to the lock-out at Alma resolved through the signing of a new labour agreement. Two thirds of the smelter s capacity was curtailed throughout the first half of the year. Alma was progressively returned to full production by January 2013. The new organisational design implemented after the negotiated labour agreement will enable productivity improvements and lower total operating costs. This new organisational design is now being deployed in other facilities and will contribute to further cost reductions in 2013.

(a) In 2011, Pacific Aluminium and certain of the Aluminium operations were transferred to the Business Support & Operations group.

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Rio Tinto Alcan s bauxite production was 31.4 million tonnes in 2012, 11 per cent higher than in 2011. Record production levels were achieved at Weipa in Queensland, Australia, as well as in Guinea. The increase in output was driven by production creep initiatives to supply requirements from the expanded Yarwun refinery, and increased third-party demand.

Alumina production increased 19 per cent to 7.0 million tonnes during 2012, as expanded refining capacity at Yarwun came on line. First bauxite was injected into the expanded Yarwun plant in July 2012. By September, the expanded refinery was operating at 90 per cent of its nameplate capacity of 3.4 million tonnes per annum. The ramp-up is on schedule to reach full capacity by the third quarter of 2013. Yarwun is moving the product group s alumina production into the second quartile of the industry cost curve.

Development projects

Rio Tinto Alcan s development pipeline is focused on developing its long-life Tier 1 assets, while strictly limiting growth in line with market conditions. Project characteristics include a low carbon footprint, low operating costs and attractive forecast returns on capital.

Feasibility and environmental impact studies are currently being completed for the South of Embley project. This would extend the life of the Weipa bauxite mine in Queensland, Australia by approximately 40 years, depending on production rates. The expansion would facilitate staged increases in production of up to 36 million dry product tonnes a year, from the current level of 23 million tonnes. It would enable the continuity of supply to Rio Tinto Alcan s two Gladstone alumina refineries and capitalise on the rapidly-growing third-party market for seaborne bauxite.

Two major smelting projects under way in Canada are designed to leverage Rio Tinto Alcan s clean, self-generated hydroelectricity and generate advantages from the latest AP smelting technology. In Quebec, the construction of the AP60 smelter is complete and is now in the commissioning phase. This 60,000 tonne plant is the first commercial-scale implementation of Rio Tinto Alcan s newest smelting technology platform. Operating at an unprecedented 600 kiloamperes, the energy-efficient AP60 is designed to deliver a US$60 to US$90 per tonne full economic cost advantage over the existing benchmark. First metal at the AP60 smelter is expected in the first half 2013. Subsequent phases will be delayed until the aluminium market shows clear signs of recovery.

The Kitimat Modernisation Project in British Columbia will increase the smelter s current production capacity by more than 49 per cent, to approximately 420,000 tonnes per year. The modernised aluminium smelter will be powered by self-generated hydroelectricity and use advanced AP40 technology to cut GHG emissions intensity by more than 50 per cent. Once completed at the end of 2014, Kitimat will be one of the lowest-cost smelters in the world, strategically located to supply key emerging markets in the Pacific Rim.

The modernisation of the ISAL aluminium smelter in Iceland is expected to increase production from 190,000 tonnes to 230,000 tonnes and includes a leading-edge casting facility to produce value-added billet. The new casting facility produced its first billet in the second quarter of 2012.

Outlook

Macroeconomic sentiment remains uncertain and continues to impact the group s product prices particularly for aluminium.

With a number of regional economies expected to improve, total primary demand for aluminium is forecast to increase by nearly six per cent in 2013. However, inventories are still high and warehousing transactions, driven by forward pricing estimates and low interest rates, remain attractive. Medium-term supply growth is currently forecast to match or exceed demand growth, resulting in a global market surplus for the industry in the near term.

Smelter grade alumina demand is underpinned by aluminium production, so alumina demand over the long term is directly tied to aluminium demand estimates.

Of Rio Tinto Alcan s three core commodities, bauxite presents the best opportunities for attractive returns in the near term, given strong Chinese demand and supply uncertainty. The current focus of the traded bauxite market is on China s sharply increased demand for imported product. Although shipments from a traditional key supplier in Indonesia have been recovering in the wake of bauxite export restrictions introduced in May 2012, the fundamentals for traded bauxite continue to look strong going forward.

On balance, while higher regional market premiums have helped partially offset prevailing low aluminium prices, the short-term outlook for aluminium markets remains challenging, with lingering economic uncertainty and continuing price volatility. This underscores the importance of the ongoing drive to transform Rio Tinto Alcan into a leaner, highly-efficient aluminium producer capable of generating solid returns throughout the economic cycle.

The longer-term outlook for aluminium remains robust and Rio Tinto Alcan believes strong returns will be available in the future for the well-positioned, low-cost operator.

Rio Tinto Alcan anticipates strong future demand in key sectors like transportation, infrastructure and consumer goods, spurred by the continued move to urbanisation and the growth of megacities, particularly in China and other emerging Asia-Pacific economies. A measure of the enormous potential is that per capita consumption of aluminium is currently just one kilogram in India and five kilograms in Brazil, well below the average of more than 20 kilograms per capita in industrialised countries.

Mature markets will also require significantly increased volumes of aluminium. A good example is the automotive industry, currently among the top-performing sectors in the economies of both the US and Germany.

The global demand picture outlined above would translate into a need for around 40 million tonnes of modernised aluminium production (net of inventory reductions) between now and 2025, along with 75 million additional tonnes of alumina and, very importantly, around 230 million additional tonnes of bauxite. Despite this positive outlook for demand, it is ultimately supply growth that will determine whether, or when, the aluminium industry returns to a more balanced market in the long term.

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Copper

Financial performance

	2012 US$ million	2011 US$ million
Revenue	**6,661**	7,634
Operating cash flow	**492**	3,136
Underlying earnings	**1,092**	1,932
Capital expenditure	**4,347**	3,784
Net operating assets	**12,682**	12,094

Strategy and strategic priorities

The Copper product group s strategy is to maximise shareholder returns by delivering superior margins and growth from high-quality assets. This strategy will be realised by:

- Continuing progress toward zero harm and risk mitigation across the business.
- Prioritising investment and retaining development optionality on high-quality assets.
- Optimising current assets through operational performance and disciplined cost management.
- Delivering a notable reduction in overhead costs and maintaining strong EBITDA margins.
- Developing a strong pipeline of value-generating greenfield projects.
- Using technological innovations such as processing and rapid underground development to deliver operational efficiency and reduce costs.
- Collaborating with local governments and communities to contribute to sustainable development.
- Developing leadership and managing talent to deliver our business strategy.

Safety

In 2012, the Copper product group s all injury frequency rate was 0.50, compared to 0.56 in 2011. The Copper product group regrettably suffered a fatality at its Palabora operation in South Africa and two industrial fatalities occurred at the non-managed Grasberg mine in Indonesia.

The Copper product group is committed to managing the risks inherent in its business and providing a workplace where there is a culture of zero harm. To that end, the group is developing enhanced programmes and procedures to manage process safety, underground safety and contractor management activities. In addition, the group is embedding the need for all leaders and employees to focus on personal safety and work collaboratively toward the goal of zero harm.

Greenhouse gas emissions

The Copper product group s 2012 greenhouse gas (GHG) emissions were 10.66 tonnes of carbon dioxide equivalent per tonne of copper cathode produced, compared with 8.15 tonnes in 2011. The decline in efficiency resulted from the smelter shutdown at Kennecott Utah Copper and decreased production at Palabora. The Copper product group represented 6.8 per cent of Rio Tinto s total emissions.

Review of operations

The Copper product group portfolio is made up of large, long-life, low-cost operations that present meaningful opportunities to grow and improve productivity. In 2012, the group produced 549 thousand tonnes of mined copper (Rio Tinto share), making Rio Tinto the world s sixth largest supplier. The product group also produced 294 thousand ounces of mined gold, 3,657 thousand ounces of mined silver and 9.4 thousand tonnes of molybdenum as by-products of its copper operations.

Kennecott Utah Copper (Rio Tinto: 100 per cent)

Kennecott Utah Copper, adjacent to Salt Lake City, produces about 17 per cent of US copper supply. In 2012, Kennecott produced 163 thousand tonnes of refined copper, 279 thousand ounces of refined gold, and 9.4 thousand tonnes of molybdenum. Refined metal production was higher

during the second half of the year due to improved mine production and processing of inventories built up during a maintenance shutdown of the smelter in the second quarter, which was planned to coincide with the period of lower grades.

Escondida (Rio Tinto: 30 per cent)

Operated by BHP Billiton, Escondida is the world s largest copper mine. Located in Chile s Atacama Desert, it represents five per cent of global production and 16 per cent of all copper production from Chile. In 2012, Escondida produced 1,047 thousand tonnes of copper (100 per cent basis). Production was higher than 2011 due to higher grades and an increase in ore delivered to the concentrator owing to improved material handling.

Grasberg (a joint venture that gives Rio Tinto a 40 per cent share of production above specified levels until the end of 2021 and 40 per cent of all production after 2021)

Grasberg is owned and operated by PT Freeport Indonesia, a subsidiary of US-based Freeport-McMoRan Copper & Gold Inc. Located in the province of Papua in Indonesia, it is one of the world s largest copper mines. Production in 2012 did not reach the specified level, so Rio Tinto did not receive a share of production for the year.

Northparkes (Rio Tinto: 80 per cent)

Located in New South Wales, Australia, Northparkes is a joint venture with the Sumitomo Group. Northparkes produced 53.8 thousand tonnes of copper and 72 thousand ounces of gold in 2012 (100 per cent basis). The mine is the site of an innovative tunnel boring trial that has the potential to increase the rate of tunnel development underground. The site is also home to a state-of-the-art underground training facility.

Palabora (Rio Tinto: 57.7 per cent)

Palabora Mining Company is a South African company listed on the Johannesburg Stock Exchange. The mine produced 40.9 thousand tonnes of refined copper in 2012 (100 per cent basis). In December 2012, Rio Tinto announced an agreement to sell its interest in Palabora for consideration totalling US$373 million. While South Africa remains an important and prospective region for Rio Tinto, and Palabora is a good business, it is no longer a natural fit within Rio Tinto s portfolio.

Development projects

Extending mine life

The Copper product group is pursuing several promising projects to extend the life of existing operations in its portfolio.

In June 2012, Rio Tinto approved a US$660 million investment to extend the life of Kennecott Utah Copper s Bingham Canyon mine from 2018 to 2029. The project, known as Cornerstone, involves pushing back the south wall of Bingham Canyon to gain access to 515 million tonnes of 0.79 per cent copper equivalent ore. Work continues on evaluating projects to expand and upgrade the power plant to natural gas and expand the tailings impoundment.

At Escondida in northern Chile, the Ore Access and Laguna Seca Debottlenecking projects were completed in the second half of 2012, with significant production improvements already realised, in particular with the material handling process.

Escondida s Organic Growth project costing US$3.8 billion (Rio Tinto share: US$1.2 billion) was 26 per cent complete at year end. This project involves constructing a new, 152,000 tonnes per day concentrator to replace the Los Colorados concentrator and allow access to high-grade ore located under the existing facilities. The additional Oxide Leach Area project will cost US$721 million (Rio Tinto share: US$216 million) and involves the construction of a new dynamic leach pad that will maintain current levels of oxide leaching after the existing heap leach has been fully exhausted. Construction of the project is expected to be completed in 2014.

In Indonesia, the Grasberg mine is continuing its transition from primarily an open pit to a fully underground operation. The Grasberg underground

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block cave project will come on line in 2017, when the current open pit mine will be depleted, and is expected to ramp up to full capacity by 2022, reaching 160,000 tonnes of ore produced per day. In addition, Grasberg has begun construction on the Deep Mill Level Zone block cave mine, which will produce an additional 80,000 tonnes of ore per day at full capacity, expected in 2021. Together, these two projects will supply ore to the mill at 240,000 tonnes per day by 2022.

Technological innovations

Technology continues to be a primary lever to improve productivity and cost performance by increasing recoveries, enabling the processing of low-grade material, as well as optimising underground and capital development.

In 2014, Kennecott will commission its Moly Autoclave Process (MAP), which will process lower grade molybdenum concentrate more efficiently than conventional roasters and will improve recovery rates by eight per cent.

Kennecott has also completed construction and commissioning of a pilot ore sorting facility. The new technology, Copper NuWaveTM, has the potential to upgrade marginal ore and waste material by rejecting barren material from the mill pebble recycle stream.

Northparkes began commissioning of a new tunnel boring technology in October 2012. This technology is one pathway to reduce up-front capital costs and decrease construction time for underground operations. Initial tests have demonstrated a 40 per cent increase in the speed at which tunnelling occurs. Additionally, in August 2012, the Rio Tinto Block Cave Knowledge Centre officially opened at the Northparkes mine, providing employees from across the Group with the highest standard of technical and safety training for underground block caving operations.

Greenfield projects

Rio Tinto is focused on developing greenfield projects that can deliver the highest potential returns. The Group approaches each project with world-class environmental standards, and with a goal of creating sustainable economic benefits for all stakeholders.

Oyu Tolgoi (Rio Tinto: 51 per cent interest in Turquoise Hill Resources)

In a span of 34 months, the Oyu Tolgoi copper and gold mine in Mongolia has gone from the planning stage to near completion as a world-class operation and is the flagship of the Copper product group s growth portfolio. At the end of 2012, the project was 99 per cent complete for the open pit, and the group has signed a binding agreement with a Chinese power company for the supply of electricity.

Commercial production of copper concentrate is expected in 2013, and Oyu Tolgoi is set to be a top five copper producer once fully developed. Over its life, it will deliver an average annual production of 425,000 tonnes of copper and 460,000 ounces of gold, and will have net unit cash costs in the first quartile of the industry cost curve.

Oyu Tolgoi contains a 1.5 billion tonne reserve and substantial additional copper mineralisation. The deposit provides opportunities for further expansions that could see production continuing for more than 50 years. In addition, Oyu Tolgoi is in a highly prospective region with further exploration potential.

La Granja (Rio Tinto: 100 per cent)

The La Granja project in northern Peru has the potential to be one of the Group s highest value opportunities. La Granja could be the largest undeveloped greenfield copper project in Latin America, and has the potential to be a very large, long-life operation.

In 2012, Rio Tinto launched a prefeasibility study to mine copper from an open pit, with low technical risk, and using a leaching process to maximise recovery of copper. To date, 168,000 metres of drilling has been completed and further drilling will be ongoing during 2013.

The current plan is to develop the project using a staged, three-phase approach, in which the group will develop an initial leach operation, expand the operation and then construct a concentrator on site. Employing this phased approach will defer significant capital investment until after production begins, with operating cash flows supporting further expansions. Rio Tinto s knowledge of La Granja s orebody and of the broader region continues to evolve. Developing La Granja will provide access to an attractive orebody and will allow the Group to establish a positive presence in a part of the world with significant mineral potential.

Eagle (Rio Tinto: 100 per cent)

Located in Michigan, US, the Eagle copper/nickel mine is scheduled to begin operation in 2014. The mine will produce an average of 16 thousand tonnes and 13 thousand tonnes per year of nickel and copper metal respectively over seven years. Eagle Mine is also located in a highly prospective region where Rio Tinto currently holds significant tenements.

Resolution Copper (Rio Tinto: 55 per cent)

The Resolution Copper project, located in Arizona, US, is ranked among the top ten undeveloped copper assets in the world, and is expected to be a major underground block cave operation.

Resolution Copper has mining tenements covering the identified orebody. However, to realise the full potential of the project, Resolution Copper requires access to public land where mining is currently prohibited. Resolution Copper continues to seek legislative approval in the US Congress to acquire full legal title to all needed land including the adjacent public land. In exchange for that title, the project would give the public more than 2,400 hectares of high-quality Arizona conservation lands. Permitting of the project will start in 2013 with submission of the General Plan of Operations (GPoO) to the United States Forest Service, a Federal Government agency. Submission of the GPoO will initiate the process of assessing the project s environmental impacts and applying appropriate mitigation. This will be done through the generation of an Environmental Impact Statement (EIS), written by the Federal Government, per the National Environmental Policy Act (NEPA). In parallel, work continues on the prefeasibility study, with a timeline that has been extended to allow for a more complete evaluation of mining and processing options and to determine the optimal path forward.

Outlook

Rio Tinto is confident in the fundamentals of the industry and the long-term future of the copper market. While the Group expects continued volatility in the short term, the copper market s robust long-term fundamentals remain intact.

With roughly 60 per cent of copper used as an electrical conductor, the electrification and urbanisation of emerging markets, primarily China, followed by India and South East Asia, will drive copper demand growth through the next several decades. While new mine supply is due to come on line in 2013 as a result of higher prices in the past few years, Rio Tinto has exceptional copper assets and is well positioned to make the most of these market conditions.

The Copper product group is keenly focused on managing costs across its business, and maximising the technological innovations that can lower the cost of developing new mines and improving the productivity of existing operations.

Through a strategic approach of carefully prioritising work and organising key projects into phases, the Copper product group will continue to be flexible and focused on making investments that create the most value.

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Diamonds & Minerals

Financial performance

	2012 US$ million	2011 US$ million
Revenue	**4,056**	3,654
Operating cash flow	**238**	4
Underlying earnings/(loss)	**119**	(162)
Underlying earnings excluding Simandou	**381**	251
Capital expenditure	**1,785**	1,392
Net operating assets	**8,049**	5,407

Following changes to Rio Tinto s management announced in July 2012, the Simandou iron ore project is now reported within Diamonds & Minerals to reflect management responsibility. Prior year comparatives have been restated.

Strategy and strategic priorities

Demand growth for diamonds and industrial minerals typically follows peak requirements for commodities such as iron ore and copper. The Diamonds & Minerals product group intends to capitalise on this trend by strengthening its portfolio and securing opportunities for valuable growth. The product group strategy is to:

- Improve its existing businesses operational and commercial performance.
- Build value by executing growth projects within its existing asset base.
- Grow its portfolio through value accretive exploration and acquisitions in existing and complementary sectors.

Safety

The product group continues to focus on fostering a culture of accountability and awareness among employees and improving contractor safety. The product group s all injury frequency rate (AIFR) increased slightly to 0.57 in 2012 from 0.55 in 2011.

The product group faces some unique challenges in health and safety. The workforce spans multiple nationalities, ethnicities, languages and cultures in developing countries. In response, management is employing innovative strategies and visible safety leadership to educate the workforce. The product group is committed to eliminating risks of fatalities and permanent injuries, particularly in the large development projects under way. At Diavik, where the transition to underground mining was recently completed, the mine rescue team came third at the 8th International Mine Rescue Competition held in Donetsk, Ukraine, a significant achievement at the highest possible skill level.

Greenhouse gas emissions

Overall greenhouse gas (GHG) emission intensity improved across the product group due to higher production levels and the implementation of more efficient equipment and technology. GHG emissions per tonne of product were marginally higher at Rio Tinto Minerals in 2012 as a result of lower production, and intensity decreased by 8.4 per cent across Rio Tinto Iron & Titanium s operations, reflecting efficiencies associated with higher production levels and new technology. GHG emission intensities improved across all Rio Tinto Diamonds operations. In 2012 Diavik commissioned its wind farm which will reduce diesel consumption by approximately ten per cent and lower greenhouse gas emissions by approximately six per cent. The Diavik wind farm is the largest wind diesel hybrid system in the world and the first wind generation facility for Rio Tinto.

Review of operations

Diamonds & Minerals underlying earnings of US$119 million include evaluation costs in respect of Simandou of US$262 million. Excluding Simandou expenditure, underlying earnings of US$381 million were 52 per cent higher than in 2011. The group benefited from higher prices for titanium dioxide feedstocks and borates. The acquisition of BHP Billiton s interests in Richards Bay Minerals also contributed to the increase in earnings. This was offset by lower prices for diamonds and higher depreciation at Diavik following an impairment reversal in 2011.

Rio Tinto Minerals (RTM)

RTM (100 per cent interest) supplies over 30 per cent of the world s refined borates from its world-class deposit in Boron, California. RTM also has borates refineries and shipping facilities in China, France, Malaysia, the Netherlands, Spain and the US.

Borates production of 463,000 tonnes boric oxide equivalent was eight per cent lower than in 2011, reflecting current global economic market conditions. The sale of Borax Argentina which historically contributed around four per cent of RTM s borates production completed in August 2012. Despite a weakening in demand during the year, RTM achieved a one per cent improvement in refined borates revenues. Earnings of US$140 million were six per cent higher than 2011, excluding the contribution from talc in the prior period.

Rio Tinto Iron & Titanium (RTIT)

RTIT is the largest producer of titanium dioxide feedstocks. RTIT mines ilmenite at its wholly-owned Rio Tinto Fer et Titane (RTFT) operation in Quebec; its managed operation Richards Bay Minerals (RBM) in South Africa (74 per cent interest); and its QIT Madagascar Minerals (QMM) operation (80 per cent interest). RTIT produces high-quality titanium dioxide feedstocks at its world-class metallurgical complexes as well as co-products including high purity iron, steel, metallic powders, zircon and rutile.

In September 2012, Rio Tinto doubled its holding in Richards Bay Minerals to 74 per cent following the acquisition of BHP Billiton s entire interests. The purchase price paid by Rio Tinto on completion was US$1.7 billion. The acquisition was triggered in February 2012 by BHP Billiton exercising a put option agreed with Rio Tinto as part of RBM s restructuring in 2009. The price was determined through a previously-agreed expert valuation process.

In 2012, titanium dioxide feedstock production increased by 11 per cent year-on-year to 1.6 million tonnes. This reflects higher production at RTFT which completed a furnace rebuild in 2011 and an increase in attributable volumes at RBM resulting from Rio Tinto doubling its stake in September. Production was negatively impacted by the furnace rebuild at RBM that commenced in May 2012.

RTIT increased its revenues by 41 per cent due to higher prices for titanium dioxide feedstocks and the RBM transaction. RTIT continued to replace its multi-year sales contracts with alternative pricing mechanisms, increasing the exposure to current market prices. The impact of improved pricing more than offset increased input costs resulting in a 163 per cent increase in year-on-year earnings to US$397 million, including the higher contribution from RBM.

Rio Tinto Diamonds (RTD)

RTD is a leading producer of rough diamonds with a product portfolio that provides a presence in all major markets. Rio Tinto s diamond assets currently comprise the Argyle Diamond Mine in Australia (Rio Tinto: 100 per cent), the Diavik Diamond Mine in Canada (60 per cent), Murowa Diamonds in Zimbabwe (78 per cent) and the Bunder diamond project in India (100 per cent). RTD sells its share of production through its centralised marketing office in Belgium and has a niche cutting and polishing factory in Australia, where it cuts and polishes the high-end pink diamonds from the Argyle mine, and sells them to an international customer base.

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In March 2012, Rio Tinto announced a strategic review of its diamond business that includes exploring a range of options for the potential divestment of its diamonds interests.

RTD produced 13.1 million carats in 2012, a 12 per cent increase from 2011 that reflected increased grades, higher ore throughput and the absence of adverse weather interruptions which impacted 2011. Revenue in 2012 was two per cent higher than in 2011, as the effect of higher volumes was largely offset by lower prices. RTD reported a loss of US$43 million in 2012, compared to earnings of US$10 million in 2011, reflecting lower prices and higher depreciation.

A post-tax impairment of US$460 million was recognised relating to the Argyle diamond mine. An impairment review of Argyle was triggered by the announcement of the Diamonds strategic review as well as changes to the forecast ramp-up date for the underground mine. This is not included in underlying earnings.

Construction of the Argyle underground mine is proceeding and production is scheduled to commence in the first half of 2013, with ramp up to full operation to be completed by 2015, extending the life of mine until at least 2020. Production from Diavik s underground mine commenced in early 2010 in parallel with open pit operations. The transition to a fully underground operation was completed in 2012 and will sustain Diavik production well past 2020.

Dampier Salt (DSL)

Dampier Salt Limited, the world s largest salt exporter, produces industrial salt by solar evaporation of sea water at Dampier and Port Hedland, and from underground brine at Lake MacLeod, all in Western Australia. Salt is sold principally to the base chemical industry markets in Asia. During the year, DSL moved within the Diamonds & Minerals organisational structure. Salt production of 6.8 million tonnes (Rio Tinto share) increased three per cent year-on-year.

Development projects

In 2011, Diamonds & Minerals re-entered the potash business through an exploration joint venture with North Atlantic Potash Inc. a subsidiary of JSC Acron. Acron is a world leader in fertiliser production and holds multiple potash exploration permits in Saskatchewan, Canada, home to about half the world s potash reserves. Drilling results indicate encouraging potash grade and thickness. Higher nutritional standards, population growth and limited arable land make potash a critical factor in maintaining global food security, and a natural complement to RTM s existing borate fertiliser business.

Large diameter drilling was conducted and resource assessment and planning also progressed at the group s Jadar lithium-borate deposit in Serbia. If developed, the deposit has the potential to supply more than 20 per cent of global lithium demand. Lithium carbonate s fastest-growing application is in batteries that provide clean power to industrial systems and electric and hybrid cars.

Good progress was made on RTIT s TIO4 project aimed at expanding its mining and smelting capabilities in Canada and Africa. However, in January 2013, against a backdrop of weaker market conditions for its products and the need to manage and reduce its costs, RTIT has reviewed the economic viability of the project and suspended prefeasibility studies in Canada and Madagascar. The Zulti South mine expansion at RBM and exploration programme in Mozambique continue.

Following the announcement in 2011 of TiO_{2050} a proposed investment of C$800 million over five years to enhance mining and processing operations RTFT commenced investment in 2012 to upgrade its water filtration system at its steel plant, acquire a new crusher at its mining operation and begin a furnace rebuild.

The Bunder diamond project is currently more than halfway through its prefeasibility studies, which began in July 2010. These studies have confirmed the economic potential of the orebody and work is well under way to define the best development option. In January 2012, Rio Tinto

received a Letter of Intent from the Government of Madhya Pradesh to issue the mining lease for Bunder, following approval in principle from the Government of India.

During 2012, the Simandou iron ore project in Guinea also moved within Diamonds & Minerals, as it remains the responsibility of the group s new chief executive, Alan Davies, appointed in September. Simandou is a key pillar in Rio Tinto s long-term growth strategy, involving one of the largest known undeveloped iron ore resources in the world. The concession will enable the development of the largest mine and infrastructure project ever undertaken in Africa. This will include the progressive development of a 95 million tonne per annum mine, a 650-kilometre trans-Guinean railway and a new deep-water port.

The project is adopting a stage gate approval process allowing for studies to be finalised in parallel with early works, and for investment to be made in line with Government of Guinea approvals and financing processes.

The year saw significant progress, with Rio Tinto and Chinalco s listed subsidiary, Chalco, completing the formation of the Simandou Joint Venture for the development and operation of the project. In June, the project committed a further investment of US$1 billion (Rio Tinto share: US$501 million) for detailed design studies, and early works and long-lead items, primarily for developing the rail and port infrastructure.

Rio Tinto, with the support of Soguipami, the State Mining Company, submitted the Social and Environmental Impact Assessment to the Government of Guinea for review and approval. The Republic of Guinea also issued a presidential decree declaring the Simandou infrastructure a Project of National Interest (PIN) in October 2012, protecting the area of land needed to develop the rail and port infrastructure from any acquisition or development by third parties.

Outlook

Diamonds & Minerals businesses serve a range of different industries, but are linked through their track record of creating and defining new and profitable markets for their products. Demand softened in these markets in 2012 in response to broader economic trends, and the outlook for 2013 remains uncertain. However, the medium- to long-term outlook continues to be positive across all products as urbanisation and rising standards of living drive higher levels of demand.

In the borates marketplace, RTM will seek to capture profitable growth in emerging economies and maintain its position in its established markets. Planned supply chain improvements will facilitate speed and flexibility in shifting supply to promising sectors and regions. RTM will focus on increasing refined borates capacity to meet higher than GDP demand growth while achieving world-class safety performance and improving its cost position.

Demand for titanium dioxide feedstock is expected to continue to grow in the medium- to long-term, in line with improving global economic conditions, urbanisation and demand growth in emerging markets. In response to current weak demand and in order to reduce operating costs, RTIT is taking action at a number of its operations. RBM will place its zircon and rutile processing operations on care and maintenance, while maintaining production at the core ilmenite mining and smelting operations. RTFT is taking its upgraded slag (UGS) production facility temporarily offline.

The medium- to long-term fundamentals for the diamond industry are positive and expected to support sustainable future price growth. The global mineral reserve base is steadily declining, compounded by limited exploration investment and success, and expected reductions in supply over the medium to longer-term. Demand in India and China is expected to continue to grow, and to represent nearly 50 per cent of global diamond consumption by 2020.

Demand in mature markets is expected to grow in line with GDP.

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Energy

Financial performance

	2012 US$ million	2011 US$ million
Revenue	**5,783**	7,003
Operating cash flow	**724**	2,019
Underlying earnings	**283**	1,074
Capital expenditure	**1,819**	1,327
Net operating assets	**6,996**	8,164

Strategy and strategic priorities

The Energy product group has a mix of assets in its portfolio and remains focused on safely supplying the world s growing energy needs through the sustainable development and operation of large-scale, long-life, low-cost mines.

In light of market conditions for coal and uranium, the high-cost operating environment in eastern Australia and infrastructure constraints in Mozambique, the Energy group is undertaking a review of the optimal growth profile for all its business units.

The Energy product group is focused on:

Remaining flexible to respond to the impacts of external factors such as global economic volatility and commodity price fluctuations.

Increasing productivity and operational performance in all business units, as well as reducing costs, to increase profitability in the near-term, while positioning the group to meet forecast long-term demand for coal and uranium.

Maintaining strong relations with customers in expanding energy export markets, particularly in Asia.

Safety

The Energy product group aims to achieve the goal of zero harm by fostering a culture where employees and contractors have the knowledge, skills and desire to work safely at all times. In 2012, this commitment was demonstrated with Mount Thorley Warkworth named joint winner of the Rio Tinto Chief Executive Safety Award. Mount Thorley Warkworth was recognised for the passion of its senior leaders to build a safe and highly engaged workforce including seamless inclusion of contractors within the site s safety culture and the rigour with which Rio Tinto s safety systems and standards are applied. In 2012, Energy s all injury frequency rate was 0.66 compared with 0.80 in 2011, which was reflective of lower injury rates across all its business units. In addition, core fatality prevention processes including thorough investigation of significant potential incidents and active management of critical operational risks were further entrenched in the way the group works.

Greenhouse gas emissions

To date, Rio Tinto has spent more than US$100 million on research and development into technologies that will reduce emissions from coal-fired industries. This investment is necessary because all forecasts point to coal continuing to play a significant role in the global energy mix, but in an increasingly carbon-constrained environment. In 2012, the Energy group launched a three-year, A$6 million sponsorship of The Otway Project in Victoria, Australia s first industrial-scale demonstration of geological carbon dioxide storage and research. Combined with work at the University of Melbourne, the Energy group is helping to create a world-class hub for research into this important technology. In 2012, Energy s Australian coal operations implemented a new industry methodology at its New South Wales mines to more accurately estimate fugitive emissions from coal extraction, instead of using the default emission factor. In 2012, greenhouse gas emissions for the Energy group remained steady at approximately 4.3 million tonnes of carbon dioxide equivalent.

Review of operations

After a period of robust earnings following the global financial crisis, the performance of the Energy product group declined in 2012 due to lower prices for coal and uranium, a strong Australian dollar and escalating input costs.

All Energy businesses reacted swiftly to this challenging economic environment by implementing plans to address declining productivity and the sharp rise in operational costs. An impairment charge of US$2.86 billion post-tax was also recognised relating to Energy s coal business in Mozambique (refer to next page for explanation).

Rio Tinto Coal Australia (Rio Tinto: 100 per cent)

Rio Tinto Coal Australia (RTCA) manages the group s Australian coal interests. These include the Blair Athol (Rio Tinto: 71.2 per cent), Clermont (Rio Tinto: 50.1 per cent), Hail Creek (Rio Tinto: 82 per cent) and Kestrel (Rio Tinto: 80 per cent) coal mines in Queensland. RTCA also manages the Energy product group s coal mines in New South Wales, which are Hunter Valley Operations (Rio Tinto: 80 per cent), Bengalla (Rio Tinto: 32 per cent), Mount Thorley (Rio Tinto: 64 per cent) and Warkworth (Rio Tinto: 44.5 per cent).

Coal & Allied is 80 per cent owned by the Rio Tinto Group and 20 per cent owned by Mitsubishi Development. Coal & Allied also has a 36.5 per cent interest in Port Waratah Coal Services which operates the Kooragang and Carrington coal port terminals.

Australian coal production increased by eight per cent in 2012 compared to 2011 due to the completion of brownfield expansions in the Hunter Valley and the continued ramp-up of the Clermont Mine in Queensland. This was achieved despite the impacts of wet weather in eastern Australia in the first half of 2012, and carry-over effects from a shortage of explosives in New South Wales in the fourth quarter of 2011. Net earnings of US$402 million represent a 68 per cent decrease from 2011, due largely to lower prices for all coal types, the continuing strength of the Australian dollar, and higher input costs.

Coal production is forecast to increase again in 2013 through the realisation of benefits from the business-wide debottlenecking and asset management programme, the ongoing ramp-up of the Clermont Mine and first coal from the Kestrel Mine Extension. The production increase through these activities is forecast to more than offset the impact of closure of the Blair Athol Mine in central Queensland which produced its last coal in November 2012. Over nearly three decades, Blair Athol Mine produced close to 250 million tonnes of thermal coal, and at its peak was Australia s largest exporter of thermal coal. Its infrastructure facilities are now being used by the nearby RTCA-managed Clermont Mine, which opened in 2010.

In response to increased community concern regarding impacts from mining in the Hunter Valley, RTCA has made significant improvements to both operational and rehabilitation practices. Key initiatives include purchasing noise-attenuated heavy mobile equipment and retrofitting existing fleet, and the use of real-time monitoring to modify operations in response to environmental conditions.

Energy Resources of Australia (Rio Tinto: 68.39 per cent)

Energy Resources of Australia (ERA) is a publicly listed company. Since 1981, ERA has mined ore and produced uranium oxide at its Ranger open pit mine, 260km east of Darwin in the Northern Territory.

ERA also holds title to the adjacent Jabiluka mineral lease, which is under a long-term care and maintenance agreement. Ranger and Jabiluka are surrounded by, but remain separate from, the World Heritage listed Kakadu National Park. ERA s operations are subject to stringent environmental requirements and governmental oversight.

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Ranger mine finished open-cut mining in December 2012 after 31 years. Uranium production will continue by processing previously stockpiled lower grade material while studies proceed to assess the feasibility of underground operations at Ranger.

In January 2013, a suite of agreements covering the Ranger Project Area were executed by ERA, the Mirarr Traditional Owners, the Northern Land Council and the Commonwealth Government.

Key features of the agreements include the Mirarr Traditional Owners receiving an increased share of the financial benefits from the Ranger mine, the creation of a regional Sustainability Trust which will deliver social initiatives in the local region, and an agreed approach to increasing opportunities for local Aboriginal participation in business development, training and employment.

The finalisation of these agreements is a significant achievement and reflects a strengthening in the relationship between ERA and the Gundjeihmi Aboriginal Corporation representing the Mirarr Traditional Owners.

Rio Tinto Coal Mozambique (Rio Tinto: 100 per cent)

Rio Tinto Coal Mozambique (RTCM) manages the Zambeze Project (100 per cent); Tete East Project (100 per cent); Benga Mine (65 per cent); and the Zululand Anthracite Colliery (74 per cent).

RTCM holds mining and exploration licences in the Moatize Basin in the Tete province of Mozambique. The Benga Mine was officially opened in May 2012 with first coal exported in June 2012. An impairment charge of US$2.86 billion post-tax was recognised relating to Energy s coal business in Mozambique. The development of infrastructure in Mozambique to support the undeveloped coal asset is more challenging than initially anticipated which, combined with a downward revision to estimates of recoverable coking coal volumes, has led to a reassessment of the overall scale and ramp up schedule of RTCM and consequently to the assessment of its fair value less costs to sell (FVLCS).

Benga Mine commercial production in 2012 was 460 thousand tonnes. Near-term sales volumes will reflect the availability of rail and port capacity.

Rössing Uranium (Rio Tinto: 68.58 per cent)

Rössing Mine is located near Arandis in Namibia s Erongo Region. Improving costs and efficiencies continued to be a focus at Rössing in 2012. Benefits from the business improvement strategies that were initiated in 2011 are now being realised and this work will continue in 2013. Rössing is evaluating options to expand operations and extend the mine life beyond 2023.

Rio Tinto acquired its interest in Namibia-based Rössing Uranium Limited (Rössing) in 1970. The Iranian Foreign Investments Company (IFIC) acquired its original minority shareholding in Rössing in 1975. IFIC s interest predates the establishment of the Islamic Republic of Iran and the U.S. economic sanctions targeting Iran s nuclear, energy and ballistic missile programs. IFIC acquired and continues to own a minority shareholding in Rössing in accordance with Namibian law.

Rössing is neither a business partnership nor joint venture between Rio Tinto and IFIC. Rössing is a Namibian limited liability company with a large number of shareholders, including Rio Tinto with 68.7 per cent, IFIC with 15.3 per cent, the Industrial Development Corporation of South Africa with 10 per cent, local individual shareholders with a combined interest of 3 per cent and the Government of the Republic of Namibia with 3 per cent but with an additional 51 per cent vote at a general meeting of Rössing on matters of national interest.

As a shareholder in Rössing, Rio Tinto has no power or authority to divest IFIC s holding in Rössing. However, Rössing and the Namibian Government have taken several recent steps to limit IFIC s future involvement in Rössing.

On 1 October 2010, Namibia reported to the United Nations, pursuant to Article 31 of the United Nations Security Council Resolution 1929 (UN SCR 1929), that it had reached an agreement with the Islamic Republic of Iran that IFIC will not participate in any future investments nor will it acquire any further shares in Rössing. It was also agreed that the Government of Iran will not acquire interests in any commercial activity in Namibia involving uranium mining, production, or use of nuclear materials and technology, as required under UN SCR1929, until such time as the United Nations Security Council determines that the objectives of the Resolution have been met.

The Rössing board also took steps in 2012 to terminate IFIC s involvement in the governance of Rössing. As a shareholder in Rössing, IFIC was entitled under Namibian law to attend general meetings of Rössing. IFIC was previously represented on the board of Rössing by two directors. While this level of board representation did not provide IFIC with the ability to influence the conduct of Rössing s business on its own, the Rössing board nonetheless determined that, in light of international economic sanctions, it would be in the best interest of Rössing to terminate IFIC s involvement in board activity. Therefore, on 4 June 2012, at the annual general meeting of Rössing, the shareholders of the company, including Rio Tinto, voted not to re-elect the two IFIC board members. This ended IFIC s participation in Rössing board activities. IFIC accordingly is not represented on the Rössing board, nor does it have the right to attend board meetings or receive any board information

Dividends:

While IFIC is entitled to its pro rata share of any dividend that the majority of the board may declare for all shareholders in Rössing, IFIC has not received such monies since early 2008. Simply by maintaining its own shareholding in Rössing, Rio Tinto is not engaging in any activity intended or designed to confer any direct or indirect financial support for IFIC. Further, the Rössing board determined no dividends will be paid for the year 2012.

Uranium off-take and technology:

Rössing is the world s third largest uranium mine. It sells approximately 40 percent of its uranium to U.S. power companies and most of the remainder to Canada and other key U.S. trading partners in Europe and Asia. As a minority shareholder, IFIC has no uranium product off-take rights. Neither IFIC nor other Government of Iran entities have any supply contracts in place with Rössing and receive no uranium from Rössing. IFIC also does not have access to any technology through its investment in Rössing or rights to such technology.

While Rio Tinto does not view itself as actively transacting or entering into business dealings with an instrumentality of the Government of Iran, this information has been provided to ensure transparency regarding the passive, minority shareholding in Rössing currently held by the IFIC. Rio Tinto has disclosed the IFIC shareholding matter to the United States Government and has periodically updated the U.S. Department of State as to the same.

Development projects

Rio Tinto completed the acquisition of Hathor Exploration, a junior Canadian uranium exploration company with assets in the Athabasca Basin region of Saskatchewan, in January 2012. The new entity was renamed Rio Tinto Canada Uranium (RTCU).

Its assets give the Energy product group access to a significant high-grade uranium deposit and further highly prospective exploration tenements in an area of Canada that currently supplies approximately 20 per cent of global uranium. RTCU s Roughrider Project is located in an area that hosts all of Canada s producing uranium mines.

Rio Tinto has commenced an environmental baseline programme for the Roughrider Project and engagement with local communities and stakeholders is also well under way. Rio Tinto is continuing to work with the governments of Saskatchewan and Canada to promote the growth of the uranium mining industry.

In Queensland, RTCA s Kestrel Mine Extension project is well advanced and scheduled to start production in mid-2013. The project will incrementally increase production by one million tonnes per annum, extend the life of the current mine to 2032 and reduce unit operating costs.

In Mozambique, work to refresh the development strategy is being expedited in light of the non-cash impairments announced in January 2013. The Energy product group continues to engage with the Government of Mozambique on a range of transport infrastructure options, the success of which remains the key to unlocking the full value of coal tenements in the Moatize Basin.

At ERA, the Ranger 3 Deeps orebody contains an estimated 34,000 tonnes of uranium oxide making it one of the most significant recent uranium discoveries anywhere in the world. Construction of a A$120 million exploration decline started in May 2012 with exploration drilling expected to commence in Q2 2013.

Following a successful exploration programme, Rössing Uranium is considering mining the Z20 orebody. In order to access the orebody, an infrastructure corridor would need to be established linking Z20 to the existing Rössing mine.

Outlook

With European and American economies continuing to experience low-growth conditions, subdued prices for coal and uranium are expected to continue in the short to medium term. Notwithstanding the near-term outlook, long-term demand for coal and uranium is expected to remain strong.

Under even the most ambitious climate change policy scenarios, Rio Tinto expects demand for energy to increase significantly with future global growth dominated by Asia. The International Energy Agency s most recent scenario shows China alone representing 43 per cent of global energy growth over the period 2010 to 2020. In the same scenario in the period 2010 to 2035, Asia accounts for 67 per cent of global growth, with India and other countries accelerating as China s growth profile starts to flatten.

Many countries seek a diversified energy mix to safeguard energy security, while looking to minimise costs and manage the various environmental impacts of energy use including carbon emissions. This challenging three-way balance means that coal will continue to be an important baseload fuel for decades to come and nuclear power will provide additional energy security with low emissions. Similarly, global steel demand is expected to grow at two per cent per annum to 2050, underpinning the demand for high-quality metallurgical coal.

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Iron Ore

Financial performance

	2012 US$ million	2011 US$ million
Revenue	**24,279**	29,475
Operating cash flow	**15,827**	21,778
Underlying earnings	**9,242**	13,267
Capital expenditure	**7,149**	4,004
Net operating assets	**21,068**	12,531

Strategy and strategic priorities

The Iron Ore product group s strategy is to:

- Create and protect shareholder value by maximising the return from existing assets and building value through appropriate project developments.
- Implement value-generating major expansion programmes while maintaining production at nameplate capacity.
- Maintain close control of capital and operating costs to protect margins, achieving savings through more efficient processes and reducing support and services costs.
- Continue to develop, and benefit from, technology and innovation to deliver supply chain efficiencies, reduce or maintain costs, and maximise underlying profit.
- Capitalise on its position as the leading iron ore supplier close to the world s largest, fastest-growing markets.
- Maximise shareholder returns by applying a value-in-use focus to its portfolio marketing strategy across its suite of products.

Safety

Following the three fatalities that regrettably occurred in 2011, a comprehensive examination of Iron Ore s approach to safety was launched. This resulted in key safety improvement initiatives that were implemented in 2012. Integral to improved performance will be the strong commitment to safety improvement at all levels of the organisation and a focus on critical risk management, safety leadership, employee development, hazard awareness and safety systems simplification.

Critical risk monitoring programmes continue to be enhanced, and include increasing leadership capability and accountability. Initiatives designed to comprehensively reduce Iron Ore s overall risk profile included the phased introduction of a safer 5-star ANCAP

(Australasian New Car Assessment Program) rated light vehicle fleet and the implementation of the Nine Lifesaving Commitments hazard awareness programme.

Iron Ore maintained a major focus on health issues, particularly emerging issues impacting on the mental health of its workforce. This included embedding a mental health strategy with a focus on depression.

In 2012, the Iron Ore group s all injury frequency rate was 0.74, compared with 0.65 in 2011. Several significant potential incidents were also recorded in 2012. These shortcomings highlighted the need to embed better safety programmes and improvement initiatives throughout 2013.

Greenhouse gas emissions

A number of measures were implemented during the year to ensure that Rio Tinto s iron ore business applied best practice to its environmental performance. From a regulatory perspective, several programmes produced greenhouse gas (GHG) improvements. All federal government requirements for the National Greenhouse and Energy Reporting System and Energy Efficiency Opportunities Act were met. Pilbara operations also produced savings of 479 TJoules (1.4 per cent of the total energy footprint for the iron ore business). The Iron Ore group s total greenhouse gas emission intensity has improved 4.1 per cent from 2008.

Review of operations

Iron Ore achieved its stated production target of 250 million tonnes in 2012, overcoming volatile weather and market challenges along with a fast-tracked expansion schedule to increase overall group production to 253 million tonnes. Rio Tinto s share of production was 198.9 million tonnes, a 3.7 per cent increase over the previous year.

This evidenced a great recovery from what was a particularly difficult first quarter, when the seasonal weather conditions in the Pilbara produced three tropical cyclones. However, satisfactory operating performance was maintained, with inland mining and in-load facilities continuing to operate in a limited but functional capacity throughout the events.

The second half in particular demonstrated the integrated Pilbara system s enhanced operational efficiency, with operational capacity re-rated at 237 million tonnes per year (Mt/a) in November with minimal capital investment. The business set, and met, the challenge of reaching a 260Mt/a run-rate towards the end of the year.

As in 2011, a volatile iron ore market produced wide and rapid swings in spot prices, across which most contract prices were based, highlighting the sales and marketing team s sustained achievement in placing tonnes to the best effect. Relevant index prices reached higher than US$150 per tonne and as low as around US$80 per tonne, before settling in the US$120-130 range through the fourth quarter as demand recovered and stabilised. The dynamic nature of the market was highlighted with broad variations in customers responses to peaks and lows in demand, resulting in fragmented price referencing models across major markets.

Marketing strategy remained focused on achieving high recognition for the superior value-in-use of Rio Tinto s iron ore products, matching them with particular markets where optimal value could be realised. Despite the volatile conditions, sales increased each quarter through the year.

Operational improvement throughout the year was directed to achieving productivity gains, particularly through minimising or eliminating bottlenecks across the Pilbara rail network. Additional sidings were constructed to reduce delays.

A US$518 million investment (Rio Tinto share US$478 million) was announced to reinstate Iron Ore s AutoHaul automated train programme. Scheduled for completion in 2015, this will result in the world s first automated long-distance heavy-haul rail network. AutoHaul will enable Rio Tinto to expand capacity without making a substantial investment in additional trains. The programme involves a number of safety initiatives to ensure current safety levels are not compromised.

The year s operational efficiency gains often involved small but valuable improvements in asset deployment. For example, two additional ore cars were added to all 234-car trains, increasing annual ore throughput capacity by approximately 500,000 tonnes.

Rio Tinto s longstanding commitment to the Mine of the Future programme was reflected in a number of decisions, leading towards the first fully autonomous large-scale mining operation in the Pilbara. The Operations Centre (OC) in Perth has become the nerve centre for the Pilbara business. Most management and oversight functions formerly based in the Pilbara have been brought into the OC. Construction began on Stage 3 of the OC, which will enable more roles and responsibilities to be based there in 2013.

The five original Autonomous Haulage System (AHS) driverless trucks were transferred from West Angelas mine to Yandicoogina, where they were joined by five new autonomous trucks. They now comprise the entire fleet in the Junction South East pit, hauling about 30 million tonnes of high-grade ore a year. They will be progressively joined by 150 more AHS trucks over the next three to four years, to be initially deployed at the expanded Nammuldi mine and the new Hope Downs 4 mine.

The 40-year-old Cape Lambert power station was decommissioned during 2012 and dismantling commenced. The HIsmelt® plant in Kwinana has also been decommissioned and preparation for dismantling and potential sale of some equipment has begun.

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The ongoing challenge to recruit the workforce of the future was met with a number of activities including commencement and consolidation of regional fly-in fly-out (FIFO) hubs, introduction of the national FIFO programme, recruitment of record numbers of apprentices and graduates, utilisation of five dedicated regional training facilities, and the funding of 43 mining-related scholarships to the University of Western Australia.

Negotiations for participation agreements with Traditional Owners continued, augmenting the five agreements reached in 2011. This featured a strong commitment to finalising regional standards, incorporating mutual obligations to deliver commitments on employment, financial compensation, education and training, heritage surveys and practices, environmental care and land use.

Aboriginal employment remained a key priority of the Pilbara business, and the year saw a steady improvement in workforce numbers, boosted by the significant addition of contractors associated with the expansion programme. At the end of the year, total Aboriginal employment in the Western Australian iron ore business stood at more than 1,660 workers. The commitment to fostering Aboriginal business produced outstanding achievements. In the last three years more than A$1.6 billion in Pilbara contracts has been awarded to Aboriginal joint venture and direct contracts.

A number of regulatory and administrative arrangements were also resolved including the government approval of stage two for the Wickham residential sub-division supporting the Cape Lambert expansion.

Brockman 4 phase 2 expansion was successfully commissioned, lifting mine annual capacity to 40 million tonnes, as was the Hamersley Agricultural Project, using surplus water from the Marandoo mine extension to develop a year-round crop-growing capability.

In September, the High Court of Australia overturned earlier decisions by the Federal Court not to declare the Hamersley and Robe rail lines open for third-party access. The Australian Competition Tribunal reconsidered the matter, and, in February 2013, ruled that the lines not be opened up for other users.

The Iron Ore Company of Canada (IOC, Rio Tinto share 58.7 per cent) enjoyed a solid year, recovering from a difficult first few months to produce 9.7 million tonnes of pellets and 4.4 million tonnes of concentrate for sale. Sales were 9.9 million and 4.2 million tonnes respectively. During the year a number of improvements helped achieve efficiency gains, notably in the mobile equipment and operations sectors. A number of challenges remain as a result of the Concentrate Expansion Project (CEP) first stage, still in commissioning, which impacted concentrate production. Pellet production was stable through the year.

In March, IOC successfully secured a six-year labour contract with its unions without disruption. This agreement will enable IOC to be competitive, attract the necessary skills, and reward, attract and retain the right people to generate greater value.

During the year, the Dampier Salt business moved within the Diamonds & Minerals organisational structure, and is reported on page 27.

Development projects

A number of incremental improvements to the Pilbara integrated network, largely involving debottlenecking, resulted in a re-rating of the system s current annual capacity in November 2012 to 237 million tonnes with minimal capital investment.

The expansion of Pilbara annual capacity to the revised target of 360 million tonnes remained on track in 2012, following a two-staged investment process and a successful year of project execution. All approvals for the expansion to 290 million tonnes capacity are in place, and all rail and port approvals for the 360 million tonne stage are completed except for immediate rail links to new mine developments still in study phase.

In February, a US$3.4 billion (Rio Tinto share US$2.9 billion) investment was approved, comprising US$2.2 billion to extend the life of the Nammuldi iron ore mine by 14 years and US$1.2 billion for early works

at Cape Lambert port and rail expansions. These early works include replacing an ageing car dumper with a new dual car dumper, increasing the port s annual capacity by 20 million tonnes by 2015, and aligning in-loading capacity with current ship-loading capacity.

This was followed in June with a US$3.5 billion investment (Rio Tinto share US$2.0 billion), providing for an additional two berths and significantly increased rail capacity to support it.

Investment of US$570 million was allocated to construct a new energy-efficient gas-fired power station at Cape Lambert, producing significantly lower carbon emissions than its decommissioned predecessor.

A further US$1.7 billion (Rio Tinto share 100 per cent) of largely sustaining capital expenditure was approved to extend the life of the Yandicoogina mine to 2021 and boost nameplate capacity from 53Mt/a to 56Mt/a. A wet processing plant will also be added in order to maintain product specification levels and provide a platform for future potential expansion.

This is the largest integrated mining project in Australian history, and is on track to complete the announced schedule:

1. 225Mt/a by Q1 2011 Dampier port debottlenecking (complete)
2. 230Mt/a by end Q1 2012 Dampier port incremental (complete, re-rated to 237Mt/a in November 2012)
3. 290Mt/a by Q3 2013 Cape Lambert 53Mt/a increment (in implementation)
4. 360Mt/a in H1 2015 Cape Lambert 50Mt/a increment and car dumper replacement 20Mt/a increment (infrastructure approved)

The milestone of 290Mt/a capacity was brought forward to Q3 2013, delivering greater shareholder value more quickly.

The planned installation of a wet plant at Brockman 4 was removed, saving US$1 billion in capital expenditure. Through such measures, capital intensity has been kept at the mid-US$150s per tonne, despite rising costs and currency movements.

In response to the increased demand for iron ore from traditional and new markets, IOC re-launched the CEP that will increase capacity from 18 million tonnes of iron ore concentrate per year to 23 million tonnes. The first stage of the CEP, comprising the construction of a new primary ore crusher, a 6km overland conveyor and a fourth autogenous grinding line to increase primary processing capacity, is being commissioned and will ramp up towards full production in 2013.

The second stage involves the addition of two new spiral lines to the gravity separation circuit which was being delivered to operations from late 2012. This is planned to be followed by the installation of a new magnetite grinding and processing circuit scheduled for commissioning by the end of 2013.

Further proposed expansions are being progressed through study stages.

During 2012, the Simandou iron ore project in Guinea (covered on page 27) moved within Diamonds & Minerals, as it remains the responsibility of that group s chief executive, Alan Davies, appointed in September.

Outlook

Market softening since 2011 was a result of destocking following lower than expected Chinese steel demand, which in turn led to the final quarter rebound to levels above US$120 per tonne, moving higher into the new year. With European and American economies still suffering poor growth conditions, the market will continue to show volatility in the short to medium term.

Notwithstanding this volatility, Rio Tinto is confident of the strength of the long-term demand outlook for iron ore. Increasing global wealth is leading to billions of people moving through steel intensive phases of development. Global steel demand is expected to grow at two per cent per annum to 2050, driven by China out to 2030, with India and other South East Asian countries offsetting a potential flattening in Chinese demand growth thereafter.

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Business Support & Operations

At the end of 2012*, the Business Support & Operations (BS&O) group comprised Rio Tinto s Exploration business (see below), as well as Business Evaluation, Economics & Markets, Group Risk, Global Business Services (Information Systems & Technology, Procurement, Shared Services and Group Property), Rio Tinto Japan and Rio Tinto Singapore Holdings. From an administrative point of view, the Group Audit & Assurance function sat within BS&O, but operates independently of management under a mandate approved by the Audit and Sustainability committees. (see pages 75 and 77).

Pacific Aluminium and Other Aluminium were also part of BS&O; these comprise non-core bauxite, alumina and aluminium assets that, in 2011, Rio Tinto announced its intention to divest or close. In March 2012, the Lynemouth aluminium smelter in the UK was closed and is currently being decommissioned. In December, Lynemouth Power Station was sold to German energy company RWE. During 2012, Rio Tinto sold the Specialty Alumina business (four plants in France and Germany) to funds affiliated to H.I.G., and Alcan Cable which has operations in North America and China to General Cable.

In 2012, BS&O contributed 41 per cent of Rio Tinto s total greenhouse gas (GHG) emissions, compared with 44 per cent in 2011. Pacific Aluminium accounted for 29 per cent of the Group s total GHG emissions in 2012, and Other Aluminium accounted for 11 per cent. BS&O s all injury frequency rate improved to 0.60 in 2012, from 0.69 in 2011.

Exploration

The Group has had a sustained commitment to exploration since 1946 and considers exploration to be one of its leading capabilities. Fundamental to the exploration strategy is a focus on Tier 1 resources: the largest, lowest-cost resources that are profitable at all parts of the commodity cycle. Established Group operations, such as Weipa, the Pilbara and Rössing, were Tier 1 greenfield discoveries by Rio Tinto where value is still being realised after more than 40 years of production.

The Exploration group conducts both greenfield and brownfield exploration programmes and also supports business development groups in evaluating merger and acquisition opportunities. Greenfield exploration aims to establish new operating business units, involving geographic or commodity diversification away from existing Group operations. Brownfield exploration is directed at sustaining or growing existing Group businesses.

This table shows Exploration s Tier 1 discoveries since 2002:

Year	Discovery	Commodity	Location
2002	Resolution	Copper	US
2004	Simandou	Iron ore	Guinea
2005	La Granja	Copper	Peru
2005	Caliwingina	Iron ore	Australia
2008	Sulawesi	Nickel	Indonesia
2008	Mutamba	Titanium	Mozambique
2009	Jadar	Lithium/ borates	Serbia

2011	Amargosa	Bauxite	Brazil

At the end of 2012, the Exploration group was active in 20 countries and assessing opportunities in several others for a range of commodities including iron ore, copper, bauxite, coking coal, nickel, potash, uranium and mineral sands. Exploration activities in China were conducted through CRTX, a newly established joint venture between Chinalco and Rio Tinto. Responsibility for diamond exploration projects in Africa, Canada and India was handed over to the Diamonds & Minerals group late in 2012.

Strategy and strategic priorities

The goal of Exploration is to create value for Rio Tinto through the discovery or acquisition of Tier 1 resources that can increase future value. To pass modern community, sustainability and investment hurdles, the exploration process can take ten to 20 years from target generation to development decisions. Exploration programmes are therefore prioritised

on a global basis so that only the most attractive opportunities are pursued. Priorities are determined in consultation with the product groups, with decisions driven not by location or choice of commodity but by the quality of each opportunity.

The Exploration group is organised geographically into regional multi-commodity teams, with head offices in London, Salt Lake City, Brisbane, Beijing and Singapore. This structure provides a global reach and a local presence that allows for effective community engagement and development of Rio Tinto s social licence to operate.

Safety

The Exploration group s all injury frequency rate improved from 1.52 at the end of 2011 to 1.41 at the end of 2012. Work to improve safety performance includes an ongoing safety diagnostic process to drive operational performance improvements through 2013.

Performance

An Order of Magnitude resource study programme over the Saskatchewan potash project in Canada (a joint venture with North Atlantic Potash Inc., a subsidiary of JSC Acron) neared completion. This phase of the resource study programme will be finalised during 2013, and accountability for the project will be handed over to the Diamonds & Minerals product group.

In the US an extensive drilling programme at Tamarack, Minnesota, has indicated potential for a major nickel-copper-precious metal resource. This will advance to an Order of Magnitude study in 2013.

Drilling at the Roughrider uranium project in Saskatchewan, Canada, has outlined extensions to the known mineralisation at the Far East Resource and ongoing exploration has identified new targets for follow-up.

In the brownfield environment, Exploration is close to completing Order of Magnitude studies over coking coal projects at Mt Robert, Elphinstone and Valeria in the Bowen Basin, Australia. Drilling at Goethite Bay and Carol Lake in the orbit of the Iron Ore Company of Canada identified potentially significant iron ore mineralisation with favourable metallurgical characteristics. In Namibia, a uranium mineralisation has been identified at Z20 on the Rössing mine lease and is being drilled out in greater detail.

Progress continued on the development of the VK1 airborne gravity gradiometer, with further test flying undertaken in 2012.

Gross cash expenditure on exploration and evaluation across all of Rio Tinto in 2012 was US$1,970 million, representing a US$533 million increase over 2011 gross expenditure of US$1,437 million (due to an increased share of evaluation costs at Oyu Tolgoi and ramp-up of a number of other evaluation projects). Gross expenditure was offset by US$494 million (pre-tax) proceeds from divestment of unrequired exploration assets. Of the 2012 total spend, US$234 million related to global Exploration group activity covering nine commodities across a range of greenfield and brownfield environments.

Outlook

In 2013, the Exploration group will be active in at least 20 countries exploring for a range of commodities in a variety of greenfield and brownfield environments. Maintaining a robust exploration pipeline by identifying and securing access to the best-quality opportunities will be a key enabler of long-term success and there will be particular focus on project generation in a number of key environments.

For 2013 the list of projects moving towards potential discovery includes:

Project	Commodity	Country	Stage
Bowen Basin	Coking coal	Australia	Order of Magnitude
Saskatchewan	Potash	Canada	Order of Magnitude
Amargosa orbit	Bauxite	Brazil	Project of Merit
Sanxai	Bauxite	Laos	Project of Merit
Tamarack	Nickel	US	Order of Magnitude

* As at 1 March 2013, BS&O was restructured, and its constituent businesses and functions now report into the chief financial officer, and the Organisational Resources and Legal, External & Regulatory Affairs functions.

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Technology & Innovation

Rio Tinto s Technology & Innovation group (T&I) collectively seeks to maximise total shareholder value by partnering with the business to provide technical insights in operational improvements, technical assurance, project delivery, and innovation. T&I s focus is on creating sustainable value by embedding fundamental changes in the way Rio Tinto operates.

T&I s gross cost in 2012 was US$415 million, compared with US$343 million in 2011 and US$213 million in 2010.

The total number of employees in T&I increased from 925 at year end 2011 to 1,031 at year end 2012.

Strategy and strategic priorities

T&I s strategy is to:

- Maintain and promote a safe working environment.
- Continue to embed operational improvements in business units.
- Maximise the contribution of technology to the Group s strategy of maximising shareholder value.
- Deploy technology solutions that increase value.
- Design and build valuable new investment projects.
- Position the Group to unlock orebodies that require innovative mining solutions.

Safety

T&I is committed to the safe operation of its facilities and to employee safety. The all injury frequency rate for T&I in 2012 was 1.57 compared to 2.57 in 2011. The improvement in the rate was primarily attributed to improvements in existing safety efforts as well as the addition of the Rio Tinto Alcan Major Projects group to T&I Project Development and Implementation.

Performance

Innovation

Innovation is the research and development group within T&I. Its focus is on developing radically innovative technologies that can address the significant challenges facing the mining industry and drive increased production, efficiency and safety.

While Rio Tinto as a whole looks at continuous improvement, Innovation is focused on step-change technologies, including the Mine of the Future™ programme. The Mine of the Future™ programme is not a single mine site; it is an approach used across Rio Tinto to find advanced ways to find, extract, and process minerals from deep within the Earth while reducing environmental impacts and further improving safety.

The wealth of technical and project expertise within Innovation is leveraged through a network of key partnerships with organisations and institutions around the world providing a vast and interconnected group of world-class experts to generate solutions.

The output of this work is protected by an intense focus on competitive advantage and developing tailored intellectual property protection strategies for each programme of work.

Mineral Technology Services

Mineral Technology Services (MTS) comprises a team of technology professionals based in seven offices in North America, Australia, South Africa and the UK, who partner with Rio Tinto s business units in the delivery of large, measureable increases in earnings and value. MTS provides technical service in the areas of geology, mining, mineral processing, geotechnics, hydrometallurgy, process control and environmental management.

A key area of focus for MTS continues to be the Improving Performance Together programme launched in 2005. In 2012 the focus was aligning the work in processing, asset management and mining to provide support across the entire value chain with a focus on targeting the highest priorities for throughput, recovery and operating performance.

Mining and Asset Management Centre

The Asset Management Centre provides strategic direction on the effective selection and utilisation of the Group s equipment for mining and processing. Working with businesses, the centre supports asset improvement initiatives through the use of global metrics and benchmarking, standards and guidelines. The work also includes developing capability through competency frameworks and formal training to support sustainable improvement and standard business processes with fit-for-purpose technical operating systems.

The focus of the Surface Mining team is to establish leading practice and develop, share and implement Group-wide solutions in core mining production processes. Other Surface Mining initiatives include payload management, load and haul efficiency improvements, increased orebody recovery, improved stockpile management, drill and blast, and off-road tyre demand reduction.

Mining Technology also includes a Strategic Production Planning (SPP) team that works with business units to develop comprehensive plans and valuations of strategic development options. Results from SPP provide a logical resource development framework for more detailed studies and investment decision-making.

Project Development & Implementation

Project Development & Implementation (PDI) is responsible for the implementation and delivery of major capital projects. PDI is made up of a centralised Project Management Office (PMO) and Project Delivery Hubs which are aligned by geographic location or commodity. The PMO is responsible for developing, promoting and supporting the implementation of the processes, standards and tools to achieve repeatable project success. The hubs are responsible for the delivery of major capital projects in partnership with product groups and business units.

PDI is delivering a significant proportion of Rio Tinto s major projects within a newly developed Capital Projects Framework which is shaped around four key elements project portfolio planning and reporting, project governance, practices, and people.

Technical Evaluation Group

The Technical Evaluation Group (TEG) is a team of internal professionals responsible for rigorously reviewing all major project proposals to ensure Rio Tinto s Investment Committee is provided with independent technical assessments to support its decision-making.

Underground Technology Centre

The objective of the Underground Technology Centre is to create and develop a world-class team in technical aspects of underground mining that will provide Rio Tinto with a competitive advantage. The centre partners with the product groups on the technical aspects of design, construction and operation, including the delivery of fit-for-purpose technology.

Outlook

T&I will continue to maintain a culture that makes safety and safety improvements the highest priority. To support the business where technical expertise and external networks will have the largest benefit to Rio Tinto and its shareholders, T&I s focus in 2013 will be on four main areas: partnering with product groups and functions on operational improvement, the safe and efficient development and implementation of projects, the pursuit of the Mine of the Future™ programme and the development of innovative alliances and relationships, and technical assurance all of which will create competitive advantage for the Group. T&I is reviewing the Group s approach to due diligence and technical assurance processes.

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Financial review

2012 financial performance compared with 2011

In order to provide additional insight into the performance of our business, Rio Tinto presents underlying earnings.

2012 underlying earnings of US$9,303 million and net loss of US$2,990 million were US$6,246 million below and US$8,816 million below the comparable measures for 2011. The principal factors explaining the movements are set out in the table below.

Changes from 2011 to 2012	US$m	Underlying earnings US$m	Net earnings US$m
2011		15,549	5,826
Prices	(5,315)		
Exchange rates	154		
Volume increases	634		
Volume declines	(943)		
General inflation and energy	(270)		
Other cash costs	(304)		
Exploration and evaluation costs (including disposals of undeveloped projects)	80		
Non cash/interest/tax/other	(282)		
Total changes in underlying earnings[(a)]		(6,246)	(6,246)
Increase in impairment charges			(5,070)
Movement in gains and losses on consolidation and disposal of interests in businesses			660
Movement in exchange differences and gains on derivatives			610
Recognition of deferred tax asset following introduction of MRRT			1,130
Other movements			100
2012		9,303	(2,990)

(a) See note 2 on page 160 of the 2012 financial statements for a reconciliation of underlying earnings to net earnings.

Prices

The effect of price movements on all major commodities in 2012 was to decrease underlying earnings by US$5,315 million compared with 2011. Average prices declined from record highs experienced in 2011 for nearly all of Rio Tinto s major commodities, with the exception of gold which was up six per cent on 2011, and minerals (mainly borates and titanium dioxide feedstocks).

The average Platts price for 62 per cent Pilbara fines declined by 24 per cent compared with 2011. Copper prices were down ten per cent, aluminium prices averaged 16 per cent lower and molybdenum was 17 per cent lower.

Commodity prices and other drivers of sales revenue of individual product groups are discussed further in the section on pages 37 to 38.

Exchange rates

Compared with 2011, on average, the US dollar depreciated by one per cent against the Australian dollar but strengthened by one per cent against the Canadian dollar, by seven per cent against the euro and by 14 per cent against the South African Rand. The effect of all currency movements was to increase underlying earnings relative to 2011 by US$154 million.

Volumes

Volume increases enhanced earnings by US$634 million compared with 2011. These were achieved primarily in iron ore, where sales volumes rose three per cent due to increased capacity at the Pilbara ports, and at Escondida in line with higher ore grades. Volume declines lowered earnings by US$943 million compared with 2011, reflecting lower mill throughput and gold grades at Kennecott Utah Copper and no metal share from Grasberg.

Energy, other cash costs and exploration

Industry-wide cost pressures continued during 2012, in particular at some of the mining hotspots where Rio Tinto has significant operations, such as New South Wales, Queensland and the Pilbara region of Western Australia. Rio Tinto has a clear focus on cost control and is targeting more than US$5 billion of cumulative cash cost savings over the next two years.

Higher energy costs across the Group lowered underlying earnings by US$23 million compared with 2011. In 2012, many operations were impacted by higher fuel, diesel and power rates.

Higher other cash costs during 2012 decreased underlying earnings by US$304 million compared with 2011 due to a combination of fixed production cost inefficiencies associated with lower volumes due to grade, higher maintenance costs and, costs associated with operational readiness for the Pilbara expansion of iron ore production.

In 2012, evaluation work progressed at many of the Group s projects including the Resolution and La Granja copper projects and the Simandou iron ore project. Development costs relating to Simandou have been capitalised from 1 April 2012. During 2012, Rio Tinto divested various exploration properties, including interests in Extract Resources and Kalahari Minerals, resulting in net gains after tax on disposal of US$342 million for the Group. The impact from movements in exploration and evaluation expenditure net of gains realised from divestments was to increase underlying earnings by US$80 million compared with 2011.

Finance costs, tax, other

The effective corporate income tax rate on underlying earnings, excluding equity accounted units, was 30 per cent, unchanged from 2011. As in 2011, the effective corporate tax on net earnings, excluding equity accounted units, is significantly impacted by the impairment of goodwill, which is non-deductible for tax purposes.

Group net finance charges were US$124 million lower than in 2011, mainly reflecting an increase in capitalised interest.

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2011 financial performance compared with 2010

2011 underlying earnings of US$15,549 million and net earnings of US$5,826 million were US$1,562 million above and US$8,412 million below the comparable measures for 2010. The principal factors explaining the movements are set out in the table below.

Changes from 2010 to 2011	US$m	Underlying earnings US$m	Net earnings US$m
2010		13,987	14,238
Prices	6,675		
Exchange rates	(998)		
Volumes	(502)		
General inflation	(376)		
Energy	(249)		
Other cash costs	(2,096)		
Exploration and evaluation costs (including disposals of undeveloped projects)	(796)		
Non cash/interest/tax/other	(96)		
Total changes in underlying earnings[(a)]		1,562	1,562
Increase in impairment charges			(8,551)
Absence of gain on consolidation of Oyu Tolgoi LLC			(445)
Lower profits on disposal of interests in businesses			(7)
Lower loss after tax from discontinued operations			87
Deferred tax asset write-off			(342)
Movements in exchange differences and gain on derivatives			(486)
Other movements			(230)
2011		15,549	5,826

(a) See note 2 on page 160 of the 2012 financial statements for a reconciliation of underlying earnings to net earnings.

Prices

The effect of price movements on all major commodities in 2011 was to increase underlying earnings by US$6,675 million compared with 2010. Prices improved for nearly all of Rio Tinto s major commodities: copper prices were up 18 per cent and gold prices were up 29 per cent. Although aluminium prices averaged ten per cent higher than 2010 they fell back sharply in the last quarter of the year. Spot iron ore prices traded 15 per cent above 2010 levels but ended the year 25 per cent below where they started, given price weakness in the fourth quarter driven by Chinese destocking.

Exchange rates

There was significant movement in the US dollar in 2011 relative to the currencies in which Rio Tinto incurs the majority of its costs. Compared with 2010, on average, the US dollar weakened by 12 per cent against the Australian dollar and by four per cent against the Canadian dollar. The effect of all currency movements was to decrease underlying earnings relative to 2010 by US$998 million.

Volumes

Lower volumes were primarily driven by lower copper and gold grades at Kennecott Utah Copper, Escondida and Grasberg. This was partly offset by higher iron ore volumes in line with the Group s increased capacity at its Pilbara ports, despite the adverse weather conditions in the first half of the year. The net impact of volume movements was a decrease in underlying earnings of US$502 million relative to 2010.

Energy, other cash costs and exploration

Higher energy costs across the Group reduced underlying earnings by US$249 million compared with 2010. 2011 was impacted by the higher fuel, diesel and power rates affecting most operations. In 2010, Aluminium operations in the Saguenay were impacted by low snow and rainfall leading to reduced power generation and the need to purchase additional power from the provincial utility.

Higher other cash costs during 2011 decreased underlying earnings by US$2,096 million compared with 2010 due to a combination of higher input prices, fixed production cost inefficiencies associated with lower volumes due to weather events and grade, higher maintenance costs and costs associated with operational readiness.

Rising raw material and input prices decreased underlying earnings by US$514 million compared with 2010, particularly relating to coke, pitch and caustic prices in the aluminium businesses. In addition, underlying earnings were impacted by unit cost increases due to lower volumes caused by severe weather conditions (US$261 million) and lower grades (US$445 million), notably in the copper business. Additional costs of US$546 million were associated with a full year of operations at new mines and operational readiness preparations particularly in the Pilbara and Coal Australia. Other production and one-off costs lowered earnings by a further US$330 million.

In 2011, evaluation work progressed at many of the Group s projects, including the Resolution and La Granja copper projects and the Simandou iron ore project. Two undeveloped coal properties were divested in 2010 resulting in a US$229 million gain on disposal. The impact from higher exploration and evaluation expenditure combined with lower gains realised from divestments was to lower underlying earnings by US$796 million compared with 2010.

Finance costs, tax, other

The effective corporate income tax rate on underlying earnings, excluding equity accounted units, was 30.0 per cent compared with 27.9 per cent in 2010. The effective corporate income tax rate on net earnings, excluding equity accounted units was 49.1 per cent compared with 27.3 per cent in 2010. The increase was due to the goodwill impairment charge being non-deductible for tax purposes.

Group net finance charges were US$245 million lower than in 2010, mainly reflecting an increase in capitalised interest in 2011.

Exclusions from underlying earnings 2010-2012

Earnings contributions from Group businesses and business segments are based on underlying earnings. Amounts excluded from net earnings in arriving at underlying earnings are summarised in the discussion of year-on-year results below.

	2012 US$m	2011 US$m	2010 US$m
Impairment charges net of reversal	**(14,360)**	(9,290)	(739)

Gains and losses on consolidation and disposal of interests in businesses	**827**	167	619
Loss after tax from discontinued operations	**(7)**	(10)	(97)
Exchange differences and gains/ (losses) on derivatives	**553**	(57)	429
Deferred tax asset write-off	**(134)**	(342)	
MRRT	**1,130**		
Other exclusions	**(302)**	(191)	39
Total excluded in arriving at underlying earnings	**(12,293)**	(9,723)	251

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Financial review continued

2012

A pre-tax impairment charge of US$17,194 million, US$14,360 million post-tax, was recognised in 2012, of which US$12,643 million pre-tax, US$11,000 million post-tax, related to the Group s aluminium businesses (including Pacific Aluminium). The valuation of Rio Tinto s aluminium businesses for impairment testing is based on the Group s assessment of fair value less costs to sell (FVLCS). During 2012, aluminium prices deteriorated further with strong Australian and Canadian currencies, high energy and raw material costs, and high volumes of London Metal Exchange (LME) inventory continuing to exert pressure on current market values in the industry. As in 2011, given the prevailing conditions in the aluminium market, FVLCS does not include the full value of the Group s planned improvements in cash margins from its value enhancement programmes.

A post-tax impairment charge of US$2,860 million was also recognised relating to Rio Tinto Coal Mozambique (RTCM). The development of infrastructure in Mozambique to support the undeveloped coal asset is more challenging than initially anticipated which, combined with a downward revision to estimates of recoverable coking coal volumes, has led to a reassessment of the overall scale and ramp-up schedule of RTCM and consequently to the assessment of its FVLCS.

In addition, there were net post-tax impairments of US$460 million relating to the Group s Argyle diamond mine and US$40 million in other net impairments. An impairment review of Argyle was triggered by the announcement during the year of the Diamonds strategic review as well as changes to the forecast ramp-up date for the underground mine.

Movements in gains and losses on consolidation and disposal of interests in businesses relate primarily to a gain of US$965 million arising on consolidation of Richards Bay Minerals (RBM) and a US$167 million loss on consolidation of Turquoise Hill Resources Ltd.

A deferred tax asset of US$1,043 million was recognised in the first half of 2012 following introduction of the Minerals Resource Rent Tax (MRRT) on 1 July 2012. At 31 December 2012, this amount was US$1,130 million. The legislation, which applies to companies with iron ore and coal operations in Australia, allows a deduction against future MRRT liability based on the market value of past investments in these mining assets as at 1 May 2010. Accordingly, a deferred tax asset has been recognised to reflect the deductibility for MRRT purposes of the market value of these mining assets to the extent recovery is probable.

2011

A post-tax impairment charge of US$9,290 million was recognised in 2011, of which US$8,855 million related to the Group s aluminium businesses. Valuation of Rio Tinto s aluminium businesses for impairment testing was based on an assessment of FVLCS derived from discounted future cash flows. The impairment was largely a result of the economic environment and related market volatility in aluminium prices in the second half of 2011 leading to declines in market values for aluminium assets.

In addition, there were net post-tax impairments of US$344 million relating to the Group s diamond business and US$91 million in other net impairments.

Profits on the disposal of businesses in 2011 related principally to the sale of the Group s talc business and Colowyo mine.

The deferred tax asset write-off in 2011 of US$342 million followed a change in French legislation which restricted the utilisation of tax losses.

2010

Rio Tinto consolidated Oyu Tolgoi LLC on 15 December 2010 following the signing of a new agreement with Ivanhoe Mines. The US$445 million gain arising on consolidation represented the excess of the fair value ascribed to the Group s indirect share of the assets and liabilities of Oyu Tolgoi LLC over the historic cost of acquiring that share through its investment in Ivanhoe Mines.

The 2010 post-tax impairment charge of US$739 million related mainly to the Alcan Engineered Products businesses. The Group completed the divestment of 61 per cent of Alcan Engineered Products to Apollo Global Management, LLC and the Fonds Stratégique d Investissement on 4 January 2011.

Profits on the disposal of businesses in 2010 relate primarily to the sale of the Group s remaining 48 per cent interest in Cloud Peak Energy Inc.

Loss after tax from discontinued operations of US$97 million (inclusive of divestment costs) related to the completion of the disposal of Alcan Packaging global Pharmaceuticals, global Tobacco, Food Europe and Food Asia divisions to Amcor on 1 February 2010, and the Alcan Packaging Food Americas division to Bemis Company Inc. on 1 March 2010.

Net earnings and underlying earnings

Both net earnings and underlying earnings deal with amounts attributable to the owners of Rio Tinto. However, IFRS requires that the profit for the period reported in the income statement should also include earnings attributable to non-controlling interests in subsidiaries. The profit for the period is reconciled to net earnings and to underlying earnings as follows:

	2012	2011	2010
	US$m	US$m	US$m
(Loss)/profit from continuing operations	**(2,997)**	6,775	15,195
Loss after tax from discontinued operations	**(7)**	(10)	(97)
(Loss)/profit for the year	**(3,004)**	6,765	15,098
Attributable to non-controlling interests	**14**	(939)	(860)
Attributable to owners of Rio Tinto (net (loss)/earnings)	**(2,990)**	5,826	14,238
Exclusions from underlying earnings	**12,293**	9,723	(251)
Underlying earnings attributable to owners of Rio Tinto	**9,303**	15,549	13,987

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Group financial results by product group 2012-2010

	2012 US$m	Restated[a] 2011 US$m	Restated[a] 2010 US$m
Iron Ore	**9,242**	13,267	10,313
Aluminium	**3**	442	611
Copper	**1,092**	1,932	2,530
Energy	**283**	1,074	1,187
Diamonds & Minerals	**119**	(162)	204
Other operations	**(528)**	(120)	237
Inter-segment transactions	**(8)**	40	(15)
Other items	**(698)**	(593)	(554)
Exploration and evaluation	**(97)**	(102)	(52)
Net interest	**(105)**	(229)	(474)
Group underlying earnings	**9,303**	15,549	13,987
Exclusions from underlying earnings	**(12,293)**	(9,723)	251
Net (loss)/earnings	**(2,990)**	5,826	14,238

(a) Following changes to Rio Tinto s management announced in July 2012, the Simandou iron ore project and Dampier Salt operations, previously reported within Iron Ore, are now reported within Diamonds & Minerals to reflect management responsibility. Amounts in prior periods have been reclassified accordingly.

Sales revenue

Prices

Commodity	Source	Unit	2012 US$	2011 US$	2010 US$
Average prices					
Iron ore 62% Fines FOB	Platts/Baltic Exchange Freight Rate	dmtu[a]	**1.96**	2.57	2.18
Aluminium	LME[b]	Tonne	**2,018**	2,395	2,173
Copper	LME	Pound	**3.61**	4.00	3.40
Gold	LBMA	Ounce	**1,669**	1,571	1,222
Molybdenum	Metals Week: quote for dealer oxide price	Pound	**14**	16	16
Closing prices (quoted commodities only)					

Aluminium	Tonne	**2,041**	1,970	2,459
Copper	Pound	**3.65**	3.43	4.44
Gold	Ounce	**1,675**	1,575	1,410
Molybdenum	Pound	**13**	16	16

(a) Dry metric tonne unit.
(b) LME cash price.

The above table shows published prices for Rio Tinto s commodities for the last three years where these are publicly available, and where there is a reasonable degree of correlation between the published prices and Rio Tinto s realised prices. The prices set out in the table are the averages for each of the calendar years 2010, 2011 and 2012.

The Group s sales revenue will not necessarily move in line with these published prices for a number of reasons which are discussed below.

The discussion of revenues below relates to the Group s gross revenue from sales of commodities, including its share of the revenue of equity accounted units (after adjusting for sales to subsidiaries), as included in the financial information by business unit.

Iron Ore

2012 sales revenue compared with 2011

Gross sales revenue for the Iron Ore group decreased by 18 per cent in 2012 compared with 2011 reflecting lower iron ore prices partly offset by higher volumes. Sales increased quarter-on-quarter throughout 2012, resulting in record annual sales volumes despite significant volatility in the marketplace.

In 2012, the Group continued to transition its sales portfolio to pricing periods that more closely reflect the market at the time of shipment. Approximately 30 per cent of sales were priced with reference to a quarterly average index set at the prior quarter s average lagged by one month. The remainder was sold via pricing mechanisms priced closer to the index price at the time of shipment such as current quarter average, current month average or spot index prices. Index prices are adjusted for product characteristics and iron and moisture content.

2011 sales revenue compared with 2010

Gross sales revenue for the Iron Ore group increased by 25 per cent in 2011 compared with 2010, reflecting higher prices and increased volumes. In 2011, Rio Tinto s Pilbara ports operated at above annualised capacity rates and shipped record volumes of 225 million tonnes for the full year.

For the first three quarters of 2011, Rio Tinto priced its iron ore contracts on a quarterly basis with a four-month lag. From 1 October 2011, the Group transitioned to a more diversified sales contract portfolio. In the fourth quarter, approximately 40 per cent of sales were priced with a four-month lag. The remainder was sold on a shorter-term price basis. Index prices are adjusted for product characteristics and iron and moisture content.

Aluminium

2012 sales revenue compared with 2011

The Aluminium group s sales revenues are from aluminium and related products such as alumina and bauxite. Gross sales revenue for Rio Tinto Alcan decreased by 17 per cent compared with 2011, due to the combined effects of lower market prices and reduced production at Alma, offset by the Yarwun refinery expansion.

The 2012 cash LME aluminium price averaged US$2,018 per tonne, a decrease of 16 per cent on 2011. The impact of lower prices on Group sales revenue is partially offset by higher market premia as a significant portion of aluminium inventories remain locked in financing deals and are therefore unavailable for physical delivery. As a result, regional premia for physical delivery of aluminium were at record levels and on average higher than in 2011.

2011 sales revenue compared with 2010

Gross sales revenue in 2011 for the group increased by seven per cent compared with 2010, driven by higher exchange-traded aluminium prices offset by the effects of adverse weather conditions in the early part of 2011, mainly in Queensland, Australia.

The 2011 average aluminium price was US$2,395 per tonne, an increase of ten per cent on 2010. In the second half, macroeconomic concerns took hold, particularly the unfolding debt crisis in Europe, thereby reducing prices to below US$2,000 per tonne towards the end of 2011.

Copper

2012 sales revenue compared with 2011

Gross sales revenue for the Copper group decreased by 13 per cent in 2012 compared with 2011. This reflected the impact of lower prices and decreased volumes following lower mill throughput and an anticipated period of lower gold grades at Kennecott Utah Copper, and no metal share from Grasberg.

This was partly offset by increasing volumes from Escondida due to higher grades and improvements to the crushing and conveying circuit, and from Northparkes in line with a recovery in ore grades.

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Financial review continued

The Copper group also produces gold, silver and molybdenum as significant by-products. The average copper price in 2012 declined ten per cent compared with 2011 to 361 US cents per pound, gold increased six per cent to US$1,669 per ounce and molybdenum declined 17 per cent to US$13.60 per pound.

At 31 December 2012, the Group had an estimated 249 million pounds of copper sales that were provisionally priced at 360 US cents per pound. The final price of these sales will be determined during the first half of 2013.

2011 sales revenue compared with 2010

Gross sales revenue for the Copper group decreased by two per cent in 2011 compared with 2010. This was a reflection of reduced volumes due to lower grades at Kennecott Utah Copper, Escondida and Grasberg. A work stoppage which halted operations for 15 days at Escondida and industrial action at Grasberg also impacted 2011 production levels.

The average copper price increased 18 per cent to 400 US cents per pound, gold increased 29 per cent to US$1,571 per ounce and molybdenum was flat year-on-year.

At the end of 2011, the Group had an estimated 181 million pounds of copper sales that were provisionally priced at 344 US cents per pound.

Energy

2012 sales revenue compared with 2011

Gross sales revenue in 2012 for the Energy group decreased by 17 per cent compared with 2011 as a result of lower prices.

2012 was a difficult year in coal and uranium markets as supply and demand fundamentals struggled to balance in the face of global economic uncertainty, with prices declining across most of the year. The coking coal spot price reached a low of US$140 per tonne in the third quarter of 2012 after peaking at US$366 per tonne in early 2011. Similarly, the thermal coal spot price reached a low of US$80 per tonne in the third quarter of 2012 after peaking at US$130 per tonne in early 2011. The uranium spot price reached a low of US$42 per pound in October 2012, down US$10 from the same time in 2011.

A significant proportion of Rio Tinto s coal production is sold under long-term contracts. In Australia, the prices applying to sales under the long-term contracts are generally renegotiated annually for thermal coal; but prices are fixed at different times of the year and on a variety of bases. Coking coal prices for 2012 have been negotiated on a quarterly basis. For these reasons, average realised prices will not necessarily reflect the movements in any of the publicly-quoted prices. Moreover, there are significant product specification differences between mines. Sales volumes will vary during the year and the timing of shipments will also result in differences between average realised prices and published prices.

2011 sales revenue compared with 2010

Gross sales revenue in 2011 for the Energy group increased by 30 per cent compared with 2010 as a result of an improved global pricing environment, partially offset by lower volumes following adverse weather conditions in the first half of 2011.

After achieving near-record prices for thermal coal in January 2011, following Indonesian and Australian supply side disruptions, global markets for thermal and coking coal experienced broad price declines throughout the remainder of 2011. This decline reflected weaker global economic activity and strong supply growth. However, prices remained well supported.

Uranium declined 38 per cent year-on-year with substantially lower production at both Energy Resources of Australia and Rössing Uranium in Namibia.

Diamonds & Minerals

2012 sales revenue compared with 2011

Gross sales revenue increased by 11 per cent in 2012 compared with 2011. This reflects higher prices for titanium dioxide feedstocks and the increase in ownership of RBM, partially offset by the divestment of the talc business on 1 August 2011.

Revenues for Rio Tinto Iron & Titanium (RTIT) increased 41 per cent year-on-year due to higher prices for titanium dioxide feedstocks and the RBM transaction in September 2012. The market for both titanium dioxide and zircon started the year strongly, although demand subsequently softened in the second half. RTIT continued to replace its multi-year sales contracts with alternative pricing mechanisms in 2012, increasing the exposure to market prices.

Despite weakening demand during the year, Rio Tinto Minerals achieved a one per cent improvement in refined borates revenues. In 2011, talc revenues of US$250 million were included in Rio Tinto Minerals.

Diamonds revenue was two per cent higher than 2011, as the effect of higher volumes was largely offset by lower prices.

Diamond prices realised by Rio Tinto depend on the size and quality of diamonds in the product mix.

2011 sales revenue compared with 2010

Gross sales revenue increased by five per cent in 2011 compared with 2010. The group benefited from higher prices due to improved market conditions across all products. This was offset by lower volumes primarily in the diamond business, following the transition to underground mining at Argyle and severe weather conditions.

Revenues for RTIT increased by 19 per cent compared with 2010 due to increasing titanium dioxide feedstock, zircon and metallic co-product prices and demand growth associated with urbanisation trends.

Rio Tinto Minerals achieved a five per cent improvement in refined borate revenues in 2011 through strong prices, product mix and steady Asian demand growth.

Rough diamond prices improved strongly in the first eight months of 2011 due to restocking in the US and continued growth in Chinese and Indian consumer markets. Despite some softening towards the end of the year, global rough diamond prices improved 24 per cent year-on-year, as a result of which Rio Tinto Diamonds revenue increased by seven per cent year-on-year, notwithstanding the impact of lower production volumes.

Cash flow

2012 compared with 2011

A full consolidated cash flow statement is contained in the 2012 financial statements.

Cash flows from operations, including dividends from equity accounted units, were US$16.5 billion, 40 per cent lower than 2011, primarily as a consequence of lower prices.

Purchase of property, plant and equipment and intangible assets rose to US$17.4 billion, an increase of US$5.1 billion from 2011. This included the continued expansion of the Pilbara iron ore mines and infrastructure to 290Mt/a in Western Australia, the construction of the Oyu Tolgoi copper-gold mine and concentrator in Mongolia, the modernisation of the Kitimat aluminium smelter in British Columbia, the extension and expansion of the Kestrel coking coal mine in Queensland and the continued underground development of the Argyle diamond mine in Western Australia.

Capital expenditure in 2012 included the impact of financial accounting reclassification for a number of items at Oyu Tolgoi from operating to capital expenditure. This had no impact on the overall project cost, which remains on target at US$6.2 billion. In addition, some spend in the Pilbara was brought forward, enabling the acceleration of first production from the expansion to the third quarter of 2013, without any increase to the overall project spend.

During 2012, the Group doubled its holding in RBM to 74 per cent through the acquisition of BHP Billiton s entire interests for US$1.7 billion.

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The Group received US$1.35 billion following completion of the agreement with Chalco to develop and operate the Simandou iron ore project in Guinea and US$0.9 billion from the Turquoise Hill Resources rights offering. These amounts have been recognised as proceeds from issue of equity to non-controlling interests in the cash flow statement.

Cash returns to shareholders totalled US$4.5 billion in 2012, comprising US$1.5 billion in share buy-backs with the completion of the Group s US$7 billion share buy-back programme in March 2012, and dividends of US$3.0 billion.

Dividend payments were US$0.8 billion higher than in 2011, reflecting a 34 per cent increase in the 2011 total dividend.

2011 compared with 2010

Cash flows from operations, including dividends from equity accounted units, were US$27.4 billion, 16 per cent higher than 2010, primarily as a consequence of higher prices. Tax paid in 2011 increased by 51 per cent to US$6.2 billion in line with higher taxable profits.

Purchase of property, plant and equipment and intangible assets accelerated in 2011 to US$12.3 billion, an increase of US$7.7 billion from 2010. This included the continued expansion of the Pilbara iron ore mines, development of the Oyu Tolgoi copper-gold project in Mongolia, expansion of the Yarwun alumina refinery in Queensland, extension and expansion of the Kestrel coking coal mine in Queensland, and the underground development of the Argyle diamond mine in Western Australia. A US$700 million payment to the Government of Guinea following signing of the agreement for the Simandou iron ore project was recognised as capital expenditure.

In addition, the Group invested a total of US$6.4 billion (net of cash acquired) in acquiring and increasing interests in businesses. The Group completed the acquisition of a 100 per cent interest in Riversdale Mining Limited for a total of US$3.7 billion and, in 2011, paid US$0.5 billion to acquire an 88 per cent interest in Hathor Exploration Limited. Rio Tinto increased its interest in Ivanhoe Mines from 40.3 per cent to 49 per cent and participated in Ivanhoe s rights offering for a total consideration of US$1.9 billion.

During 2011, the Group bought back 91 million Rio Tinto plc shares at a total cost of US$5.5 billion.

Dividends paid in 2011 of US$2.2 billion were 27 per cent higher than 2010 reflecting the increase in the 2010 final dividend and the subsequent 2011 interim dividend.

Statement of financial position

Net debt increased from US$8.5 billion at 31 December 2011 to US$19.3 billion at 31 December 2012 as operating cash inflows were offset by outflows relating to capital expenditure, acquisitions, the increase in the dividend and the share buy-back programme. Net debt to total capital was 25 per cent at 31 December 2012 (2011: 12 per cent) and interest cover was 13 times (2011: 27 times).

Adjusted total borrowings at 31 December 2012 were US$26.3 billion. The weighted average maturity of total borrowings was around nine years with the maximum nominal amount maturing in any one calendar year currently US$2.7 billion. At 31 December 2012, approximately two thirds of Rio Tinto s adjusted total borrowings were at fixed interest rates. In 2012, Rio Tinto issued US$7.9 billion of fixed rate bonds in US dollars, euros and sterling, with maturities ranging from three to 30 years, a weighted average USD fixed rate equivalent coupon of approximately 3.6 per cent and a weighted average maturity of around 12 years. Cash and cash equivalents at 31 December 2012 were US$7.1 billion.

Group net debt is stated net of the impact of certain funding arrangements relating to equity accounted units (EAU) and partially-owned subsidiaries (EAU funded balances). This avoids showing borrowings twice in the net debt disclosure, where funding has been provided to an EAU by the Group and subsequently loaned by the EAU to a consolidated Group subsidiary.

Total provisions have decreased by US$2.6 billion; this is largely the result of a Group-wide review of estimated liabilities for close down, restoration and environmental remediation. The review included a re-evaluation of the methodology for estimating risk free discount rates in light of the impact of fiscal intervention and, where appropriate, probability weighting for the different remediation or closure outcomes which could realistically arise. Net pension provisions have increased by approximately US$244 million compared to 2011.

Financial instruments and risk management

The Group s policies with regard to financial instruments and risk management are clearly defined and consistently applied. They are a fundamental part of the Group s long-term strategy covering areas such as foreign exchange risk, interest rate risk, commodity price risk, credit risk, liquidity risk and capital management. Further details of our financial instruments and risk management are disclosed in note 31 Financial instruments and risk management to the 2012 financial statements.

The Group s 2012 Annual report and financial statements show the full extent of its financial commitments, including debt. The risk factor to which the Group is subject are summarised on pages 10 to 12. The effectiveness of internal control procedures continues to be a high priority in the Rio Tinto Group. The board s statement on internal control is set out in the Risk management section.

Dividend

The 2012 interim dividend was 72.50 US cents (2011: 54.00 US cents) and the final dividend is determined as 94.50 US cents (2011: 91.00 US cents). Dividends paid on Rio Tinto plc and Rio Tinto Limited shares are equalised on a net cash basis; that is without taking into account any associated tax credits. Dividends are determined in US dollars. Rio Tinto plc dividends are paid and declared in pounds sterling and Rio Tinto Limited dividends are declared and paid in Australian dollars, converted at exchange rates on 12 February 2013. Details relating to the dividend policy, determination and payment of dividends in sterling, Australian dollars and other currencies and on the payment of dividends to holders of American Depositary Receipts (ADRs) are included in the Shareholder information section.

Capital and liquidity risk management

The Group s total capital is defined as equity attributable to owners of Rio Tinto plus equity attributable to non-controlling interests and net debt, as shown below:

Total capital

	2012 US$m	2011 US$m
Equity attributable to owners of Rio Tinto	**46,865**	52,539
Equity attributable to non-controlling interests	**11,156**	6,669
Net debt (note 25)	**19,261**	8,451
Total capital	**77,282**	67,659

The board s overriding objective when managing capital is to safeguard the business as a going concern whilst maximising returns for the Group s shareholders. In practice, this involves regular reviews by the board and senior management. These reviews take into account the Group s strategic priorities, economic and business conditions and opportunities that are identified to invest across all points of the commodities cycle, and the focus on its progressive dividend policy. The resulting capital structure provides the Group with a high degree of financial flexibility at a low cost of capital.

The Group s major capital and evaluation projects are listed in the Capital projects section on page 44.

Net debt at 31 December 2012 was made up principally from adjusted total borrowings of US$26.3 billion, offset by US$7.1 billion in cash and cash equivalents. As part of the Group s capital management programme, a share buy-back of US$7 billion was completed by 31 March 2012.

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Financial review continued

We expect that contractual commitments for expenditure, together with other expenditure and liquidity requirements will be met from internal cash flow and, to the extent necessary, from the existing facilities described in note 31 Financial instruments and risk management , part (v) to the 2012 financial statements. This note also provides further details of our liquidity and capital risk management.

Treasury management and financial instruments

Details of our Treasury management and financial instruments are contained within the introductory paragraphs of note 31 Financial instruments and risk management , to the 2012 financial statements.

Foreign exchange

The following sensitivities give the estimated effect on net and underlying earnings assuming that each exchange rate moved in isolation. The relationship between currencies and commodity prices is a complex one and movements in exchange rates can cause movements in commodity prices and vice versa. Where the functional currency of an operation is that of a country for which production of commodities is an important feature of the economy, such as the Australian dollar, there is a certain degree of natural protection against cyclical fluctuations, in that the currency tends to be weak, reducing costs in US dollar terms, when commodity prices are low, and vice versa.

Earnings sensitivities exchange rates

	Average exchange rate for 2012 US cents	Effect on net and underlying earnings of 10% change in full year average +/- US$m
Australian dollar	**104**	892
Canadian dollar	**100**	272
Euro	**129**	17
Chilean peso	**US$1= 486 pesos**	27
New Zealand dollar	**81**	27
South African rand	**12**	78
UK sterling	**158**	

The exchange rate sensitivities quoted above include the effect on net operating costs of movements in exchange rates but exclude the effect of the revaluation of foreign currency financial assets and liabilities. They should therefore be used with caution.

Further details of our exposure to foreign currency fluctuations and currency derivatives, and our approach to currency hedging, are contained within note 31 Financial risk management , part A(b)(i), to the 2012 financial statements.

Interest rates

Details of our exposure to interest rate fluctuations are contained within note 31 Financial risk management , to the 2012 financial statements.

Commodity prices

The approximate effect on the Group s underlying and net earnings of a ten per cent change from the full year average market price in 2012 for the following products would be:

Earnings sensitivities commodity prices

	Unit	**Average market price for 2012 US$**	Effect on underlying and net earnings of 10% change in full year average +/- US$m
Iron ore	dmtu		1,573
Aluminium[a][b]	Tonne	**2,018**	384
Copper[a]	Pound	**3.61**	270
Gold	Ounce	**1,669**	42
Molybdenum	Pound	**14**	36
Coal	Tonne		59

(a) Excludes the impact of commodity derivatives.

(b) Excludes any impact on the non-core aluminium assets included in Other operations.

The sensitivities give the estimated impact on net earnings of changes in prices assuming that all other variables remain constant. These should be used with caution. As noted previously, the relationship between currencies and commodity prices is a complex one and changes in exchange rates can influence commodity prices and vice versa.

Further details of our exposure to commodity price fluctuations are contained within note 31 Financial instruments and risk management , to the 2012 financial statements.

Credit risks

Details of our exposure to credit risks relating to receivables, financial instruments and cash deposits, are contained within note 31 Financial instruments and risk management , to the 2012 financial statements.

Disposals and acquisitions

Information regarding disposals and acquisitions is provided in note 38 Purchases and sales of subsidiaries, joint ventures, associates and other interests in businesses , to the 2012 financial statements.

Critical accounting policies and estimates

Many of the amounts included in the financial statements involve the use of judgments and/or estimates. These judgments and estimates are based on management s best knowledge of the relevant facts and circumstances, having regard to previous experience, but actual results may differ from the amounts included in the financial statements.

Information about such judgments and estimates is contained in note 1 Principal accounting policies to the 2012 financial statements, and/or the other notes to the 2012 financial statements. The key areas are listed below.

Dual listed company reporting

Asset carrying values and the recoverability of goodwill

Asset lives

Ore reserve estimates

Close-down, restoration and clean-up obligations

Overburden removal costs

Deferred tax on fair value adjustments

Capitalisation of exploration and evaluation costs

Functional currency

Post-retirement benefits

Recoverability of potential deferred tax assets

Contingencies

Basis of consolidation

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Off balance sheet arrangements and contractual commitments

The table above presents information in relation to our material off balance sheet arrangements, principally contingent liabilities, commitments for capital expenditure and other expenditure, and commitments under operating leases at 31 December 2012. Information regarding the Group s pension commitments and funding arrangements is provided in note 46 Post retirement benefits to the 2012 financial statements. Information regarding the Group s close-down and restoration obligations is provided in note 27 Provisions including post retirement benefits to the 2012 financial statements.

We expect that these contractual commitments for expenditure, together with other expenditure and liquidity requirements, will be met from internal cash flow and, to the extent necessary, from the existing facilities.

At 31 December 2012	< 1 yr US$m	1-3 yrs US$m	3-5 yrs US$m	> 5 yrs US$m	**Total US$m**
Expenditure commitments in relation to:					
Operating leases	415	690	555	852	**2,512**
Other (capital commitments)	11,487	1,399	127	38	**13,051**
	11,902	2,089	682	890	**15,563**
Long-term debt and other financial obligations:					
Debt	2,199	4,425	3,396	16,328	**26,348**
Interest payments	1,072	1,848	1,668	6,891	**11,479**
Unconditional purchase obligations	2,700	4,749	4,279	12,822	**24,550**
Other	40	103	(8)	(62)	**73**
	6,011	11,125	9,335	35,979	**62,450**
Total	17,913	13,214	10,017	36,869	**78,013**

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Five year review

Selected financial data

The selected consolidated financial information below has been derived from the historical audited consolidated financial statements of the Rio Tinto Group. The selected consolidated financial data should be read in conjunction with, and qualified in their entirety by reference to, the 2012 financial statements and notes thereto. The financial statements as included on pages 139 to 223 have been prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board (IFRS) and conform to IFRS as adopted by the EU (EU IFRS).

Rio Tinto Group

Income Statement Data

For the years ending 31 December	**2012**	2011	2010	2009	2008
Amounts in accordance with IFRS	**US$m**	US$m	US$m	US$m	US$m
Consolidated sales revenue	**50,967**	60,537	55,171	40,262	52,861
Group operating (loss)/profit[a]	**(1,153)**	13,940	19,608	7,506	10,194
(Loss)/profit for the year from continuing operations	**(2,997)**	6,775	15,195	5,784	5,436
Loss after tax from discontinued operations	**(7)**	(10)	(97)	(449)	(827)
(Loss)/profit for the year	**(3,004)**	6,765	15,098	5,335	4,609
Basic (losses)/earnings per share[b]					
(Loss)/profit from continuing operations (US cents)	**(161.3)**	303.5	731.0	301.7	286.8
Loss after tax from discontinued operations (US cents)	**(0.4)**	(0.5)	(4.9)	(25.5)	(52.7)
(Loss)/profit for the year per share (US cents)	**(161.7)**	303.0	726.1	276.2	234.1
Diluted (losses)/earnings per share[b]					
(Loss)/profit from continuing operations (US cents)	**(161.3)**	301.5	726.7	300.7	285.5
Loss after tax from discontinued operations (US cents)	**(0.4)**	(0.5)	(4.9)	(25.4)	(52.4)
(Loss)/profit for the year per share (US cents)	**(161.7)**	301.0	721.8	275.3	233.1

Dividends per share	**2012**	2011	2010	2009	2008
Dividends declared during the year[b]					
US cents					
interim	**72.5**	54.0	45.0		55.6
final	**94.5**	91.0	63.0	45.0	55.6
UK pence					
interim	**46.4**	33.1	28.2		29.6
final	**60.3**	57.3	39.1	28.8	37.9
Australian cents					
interim	**68.5**	49.8	49.3		63.3
final	**91.7**	84.2	61.9	51.6	83.0

Dividends paid during the year (US cents)[b]						
ordinary		**163.5**	117.0	90.0	55.6	124.3
Weighted average number of shares	basic (millions)[b]	**1,849.1**	1,923.1	1,961.0	1,763.6	1,570.1
Weighted average number of shares	diluted (millions)[b]	**1,849.1**	1,935.5	1,972.6	1,769.6	1,577.3

Statement of financial position data

at 31 December

	2012	2011	2010	2009	2008
Amounts in accordance with IFRS	**US$m**	US$m	US$m	US$m	US$m
Total assets	**117,573**	119,545	112,773	97,236	89,616
Share capital/premium	**10,189**	10,024	10,105	9,344	5,826
Total equity/Net assets	**58,021**	59,208	64,512	45,925	22,461
Equity attributable to owners of Rio Tinto	**46,865**	52,539	58,247	43,831	20,638

Notes

(a) Group operating loss or profit under IFRS includes the effects of charges and reversals resulting from impairments (other than impairments of equity accounted units) and profit and loss on disposals of interests in businesses. Group operating loss or profit amounts shown above exclude equity accounted operations, finance items, tax and discontinued operations.

(b) The rights issues completed in July 2009 were at a discount to the then market price. Accordingly, earnings per share and dividends per share for all periods up to the date on which the shares were issued were adjusted for the bonus element of the issue. The bonus factor for Rio Tinto plc was 1.2105 and for Rio Tinto Limited was 1.2679. In accordance with IAS 33 2 Earnings per share , the effects of anti-dilutive potential have not been included when calculating diluted loss per share for the year ended 31 December 2012.

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Acquisitions and divestments

Acquisitions

Asset	Cost US$m	Status
Acquired in 2012		
Copper Turquoise Hill Resources Ltd (formerly Ivanhoe Mines Limited)	307	Purchase of additional shares increasing the Group s holdings to 51 per cent.
Minerals Richards Bay Minerals	1,700	Acquisition of BHP Billiton s entire interests in Richards Bay Minerals, doubling the Group s holding to 74 per cent.
Acquired in 2011		
Copper Ivanhoe Mines	1,860	Participation in the strategic rights offering, exercise of outstanding share warrants, exercise of subscription rights granted in 2010 and purchase of additional shares, in aggregate increasing the Group s holding to 49 per cent.
Energy Riversdale	4,168	Staged acquisition of shares in Riversdale Mining Limited; acquisition of a controlling interest of 52.6 per cent on 8 April 2011, increasing to 100 per cent by 1 August 2011, and renamed as Rio Tinto Coal Mozambique
Energy Hathor	550	Purchase of shares in Hathor Exploration resulting in an aggregate of a 70.2 per cent controlling interest being reached on 30 November 2011, increasing to 88 per cent by 31 December 2011 and completed on 12 January 2012.
Acquired in 2010		
Copper Ivanhoe Mines	1,590	Purchases of additional shares, maturing of convertible debt facility and exercise of Series A and B warrants increasing the Group s holding to 40.3 per cent as at 31 December 2010. Rio Tinto consolidated Oyu Tolgoi LLC on 15 December 2010 following the signing of a new agreement with Ivanhoe Mines.

Divestments

Asset	Proceeds US$m	Status
Divested in 2012		
Alcan Cable	229	Sold to General Cable Corporation
Specialty Alumina businesses	Undisclosed	Sold to H.I.G.
Lynemouth Power Station	Undisclosed	Sold to RWE

Energy **Extract Resources Ltd/ Kalahari Minerals plc**	429	Equity investment sold to Taurus Mineral Limited
Divested in 2011		
Alcan Engineered Products	Undisclosed	Sold 61 per cent to investment funds affiliated with Apollo Global Management, LLC (Apollo) and the Fonds Stratégique d Investissement (FSI)
Minerals talc	340[(a)]	Sold to Imerys SA
Energy Colowyo	Undisclosed	Sold to Western Fuels-Colorado LLC
Exploration sundry assets	52	Sale of projects including Altai Nuurs coking coal deposit and Sari Gunay gold deposit
Divested in 2010		
Energy Cloud Peak	573	Secondary public offering
Alcan Packaging Beauty	Undisclosed	Sold to Sun European Partners LLP
Alcan Packaging Medical Flexibles	66	Sold to Amcor
Alcan Packaging Food Americas	1,200	Sold to Bemis Company Inc.
Energy Maules Creek (Rio Tinto: 75.7%)	427	Sold to Aston Resources
Energy Vickery (Rio Tinto: 75.7%)	28	Sold to Whitehaven Coal
Alcan Packaging global Pharmaceuticals, global Tobacco, Food Europe and Food Asia	1,948	Sold to Amcor
Sundry asset sales	57	Sale of assets including Ghana Bauxite Company, Brockville Specialty Alumina Plant and Rawhide Mine

(a) Enterprise value

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Capital projects

Project (Rio Tinto 100% owned unless otherwise stated)	Total approved capital cost (100%) US$	Status/milestones
Completed in 2012		
Iron ore second debottlenecking of Dampier port to expand the Pilbara capacity by 5 million tonnes to 230Mt/a. Pilbara capacity was re-rated to 237Mt/a in November 2012.	$0.3bn	The project was completed on budget and commissioning commenced on time by the end of the first quarter of 2012.
Iron ore two-phased expansion of Iron Ore Company of Canada (IOC) (Rio Tinto 58.7%) from 18 to 22Mt/a and then to 23.3Mt/a.	$0.8bn	Phase one commissioning is now complete. Phase two is progressing with first production expected in the first quarter of 2013.
Alumina expansion of the Yarwun refinery in Queensland, Australia from 1.4 to 3.4Mt/a.	$2.3bn	Approved in July 2007, commissioning is proceeding on schedule with first bauxite processed on 5 July 2012. The refinery is expected to reach full production capacity in the third quarter of 2013.
Aluminium construction of a new 225MW turbine at the Shipshaw power station in Quebec, Canada.	$0.3bn	The power station was completed on time and was commissioned in October 2012.
Thermal coal 6Mt/a expansion of Hunter Valley Operations (Rio Tinto 80%) and Mount Thorley Warkworth mine (Rio Tinto 51%) and 2 million tonne expansion at Bengalla (Rio Tinto 32%), New South Wales, Australia.	$0.5bn	The three thermal coal expansions were completed in the first half of 2012 and are currently ramping up.
Coking and thermal coal development of the greenfield Benga mine in Mozambique (Rio Tinto 65%).	$0.6bn	First production was processed through the wash plant in February 2012 with the first shipment of premium hard coking coal in June 2012.
Ongoing and approved		
Iron Ore		
Expansion of the Pilbara mines, ports and railways from 237Mt/a to 290Mt/a. Rio Tinto s share of total approved capex is $8.4 bn.	$9.8bn	Completion of the phase one expansion to 290Mt/a has been brought forward to the third quarter of 2013. Dredging and piling at Cape Lambert is complete.
Expansion of the Pilbara port and rail capacity to 360Mt/a. Rio Tinto s share of total approved capex is $3.5 bn.	$5.9bn	The phase two expansion to 360Mt/a is expected to come onstream in the first half of 2015. This includes the port and rail elements which are now fully

		approved and an investment in autonomous trains. The key component of the project still requiring approval is further mine production capacity.
Development of Hope Downs 4 mine in the Pilbara (Rio Tinto 50%) to sustain production at 237Mt/a.	\$2.1bn	Approved in August 2010, first production is expected in 2013. The new mine is anticipated to have a capacity of 15Mt/a and a capital cost of \$1.6 billion (Rio Tinto share \$0.8 billion). Rio Tinto is funding the \$0.5 billion for the rail spur, rolling stock and power infrastructure.
Phase two of the Marandoo mine expansion in the Pilbara to sustain production at 237Mt/a.	\$1.1bn	Approved in February 2011, the mine will extend Marandoo at 15Mt/a by 16 years to 2030.
Investment to extend the life of the Yandicoogina mine in the Pilbara to 2021 and expand its nameplate capacity from 52Mt/a to 56Mt/a.	\$1.7bn	Approved in June 2012, the investment includes a wet processing plant to maintain product specification levels and provide a platform for future potential expansion.
Aluminium		
Modernisation of ISAL aluminium smelter in Iceland.	\$0.5bn	Approved in September 2010, the project is expected to increase production from 190kt to 230kt and includes a leading-edge casting facility to produce value-added billet. The new casting facility produced its first billet in the second quarter of 2012. Project costs and completion schedules are under review.
AP60 plant (60kt per annum) in Quebec, Canada.	\$1.1bn	Approved in December 2010, first hot metal is expected in the first half of 2013.
Modernisation and expansion of Kitimat smelter in British Columbia, Canada.	\$3.3bn	Approved in December 2011, the modernisation will increase capacity from 280ktpa to 420ktpa. The pace of the project has been slowed in response to increasingly challenging market conditions. First production is now expected at the end of 2014.

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Project (Rio Tinto 100% owned unless otherwise stated)	Total approved capital cost (100%) US$	Status/milestones
Copper		
Investment in the Moly Autoclave Process (MAP) in Utah, US to enable lower-grade molybdenum concentrate to be processed more efficiently than conventional roasters and allow improved recoveries.	$0.6bn	The facility is due to come onstream by mid-2014 followed by a 12 month period to reach full capacity.
Construction of the Eagle nickel and copper mine in Michigan, US.	$0.5bn	Approved in June 2010, first production is expected in 2014. The mine will produce an average of 16kt and 13kt per year of nickel and copper metal respectively over seven years.
Development of Organic Growth Project 1 (OGP1) and the Oxide Leach Area Project (OLAP) at Escondida (Rio Tinto 30%), Chile.	$1.4bn (Rio Tinto share)	Approved in February 2012, OGP1 primarily relates to replacing the Los Colorados concentrator with a new 152kt per day plant, allowing access to high grade ore. Initial production is expected in the first half of 2015. OLAP maintains oxide leaching capacity.
Construction of phase one of Oyu Tolgoi copper and gold mine in Mongolia.	$6.2bn	Commissioning of the ore-processing equipment commenced in mid-November 2012 with first copper-gold concentrate produced in January 2013. Commercial production is scheduled for June 2013.
Grasberg project funding for 2012 to 2016.	$0.9bn (Rio Tinto share)	Investment to continue the pre-production construction of the Grasberg Block Cave, the Deep Mill Level Zone underground mines, and the associated common infrastructure. Rio Tinto s final share of capital expenditure will in part be influenced by its share of production over the 2012 to 2016 period.
Investment over next seven years to extend mine life at Kennecott Utah Copper, US from 2018 to 2029.	$0.7bn	The project was approved in June 2012. Ore from the south wall push back will be processed through existing mill facilities. The investment will enable production at an average of 180kt of copper, 185koz of gold and 13.8kt of molybdenum a year from 2019 through 2029.
Energy		
20-year extension and expansion from 4.3Mt/a to 5.7Mt/a at Kestrel (Rio Tinto 80%),	$2.0bn	The investment will extend the life of the mine to 2032 and is expected to

Queensland, Australia.		come on-stream in the second quarter of 2013 with full production in 2014.
Diamonds & Minerals		
Argyle Diamond mine underground project, extending the mine life to at least 2020. (Originally approved in 2005, the project was slowed in 2009 and restarted in September 2010.)	$2.2bn	Production is expected to commence in the first half of 2013 with ramp up to full capacity by 2015.
Investment in detailed design studies, early works and long-lead items at the Simandou iron ore project in Guinea, West Africa. Rio Tinto s share of total approved capex is $501m.	$1.0bn	Approved in June 2012, the investment is primarily for rail and port infrastructure. Timing of the ramp up and first commercial production is dependent on receiving necessary approvals from the Government of Guinea and on the Government of Guinea progressing and finalising its financing strategy.

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Production, reserves and operations

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Metals & minerals production

	Rio Tinto % share[a]	2012 Production Total	2012 Production Rio Tinto share	2011 Production Total	2011 Production Rio Tinto share	2010 Production Total	2010 Production Rio Tinto share
ALUMINA (000 tonnes)							
Rio Tinto Alcan							
Jonquière (Vaudreuil) (Canada)[b]	100.0	**1,397**	**1,397**	1,363	1,363	1,301	1,301
Queensland Alumina (Australia)	80.0	**3,693**	**2,954**	3,360	2,688	3,821	3,057
São Luis (Alumar) (Brazil)	10.0	**3,409**	**341**	3,385	339	2,507	251
Yarwun (Australia)	100.0	**2,175**	**2,175**	1,349	1,349	1,377	1,377
Specialty plants (Canada)[c]	100.0	**101**	**101**	108	108	123	123
			6,968		5,846		6,109
Pacific Aluminium							
Gove (Australia)	100.0	**2,742**	**2,742**	2,549	2,549	2,473	2,473
Other Aluminium							
Specialty plants (France/Germany)[d]		**331**	**331**	552	552	507	507
Rio Tinto total			**10,041**		8,947		9,089
ALUMINIUM (000 tonnes)							
Rio Tinto Alcan							
Alma (Canada)	100.0	**208**	**208**	434	434	434	434
Alouette (Sept-Îles) (Canada)	40.0	**593**	**237**	582	233	569	228
Alucam (Edéa) (Cameroon)	46.7	**52**	**24**	69	32	76	35
Arvida (Canada)	100.0	**177**	**177**	176	176	174	174
Bécancour (Canada)	25.1	**429**	**107**	414	104	417	104
Dunkerque (France)	100.0	**256**	**256**	235	235	260	260
Grande-Baie (Canada)	100.0	**223**	**223**	223	223	218	218
ISAL (Reykjavik) (Iceland)	100.0	**190**	**190**	185	185	190	190
Kitimat (Canada)	100.0	**182**	**182**	168	168	184	184
Laterrière (Canada)	100.0	**233**	**233**	234	234	212	212
Lochaber (UK)	100.0	**45**	**45**	45	45	41	41
Saint-Jean-de-Maurienne (France)	100.0	**93**	**93**	99	99	96	96
Shawinigan (Canada)	100.0	**81**	**81**	97	97	100	100
Sohar (Oman)	20.0	**360**	**72**	373	75	367	73
SØRAL (Husnes) (Norway)	50.0	**92**	**46**	89	45	88	44
			2,174		2,386		2,395
Pacific Aluminium							
Bell Bay (Australia)	100.0	**185**	**185**	181	181	177	177
Boyne Island (Australia)	59.4	**569**	**338**	558	331	558	332
Tiwai Point (New Zealand)	79.4	**325**	**258**	357	283	344	273
Tomago (Australia)	51.6	**546**	**281**	539	278	528	272
			1,063		1,073		1,054
Other Aluminium							

Lynemouth (UK)[e]	100.0	**15**	**15**	168	168	145	145
Sebree (US)	100.0	**205**	**205**	197	197	196	196
			220		365		341
Rio Tinto total			**3,456**		3,824		3,790

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Metals & minerals production continued

	Rio Tinto % share[a]	2012 Production Total	2012 Production Rio Tinto share	2011 Production Total	2011 Production Rio Tinto share	2010 Production Total	2010 Production Rio Tinto share
BAUXITE (000 tonnes)							
Rio Tinto Alcan							
Awaso (Ghana)[f]						39	31
Porto Trombetas (MRN) (Brazil)	12.0	**15,512**	**1,861**	15,224	1,827	15,435	1,852
Sangaredi (Guinea)	[g]	**14,001**	**6,301**	12,517	5,633	12,041	5,418
Weipa (Australia)	100.0	**23,257**	**23,257**	20,732	20,732	18,591	18,591
			31,419		28,192		25,892
Pacific Aluminium							
Gove (Australia)	100.0	**7,944**	**7,944**	7,246	7,246	7,190	7,190
Rio Tinto total			**39,363**		35,437		33,082
BORATES (000 tonnes)[h]							
Rio Tinto Minerals Boron (US)	100.0	**453**	**453**	486	486	483	483
Rio Tinto Minerals Tincalayu (Argentina)[i]		**9**	**9**	18	18	18	18
Rio Tinto total			**463**		504		500
COAL (hard coking) (000 tonnes)							
Rio Tinto Coal Australia							
Hail Creek Coal (Australia)	82.0	**7,174**	**5,882**	7,291	5,979	7,183	5,890
Kestrel Coal (Australia)	80.0	**2,468**	**1,974**	3,545	2,836	3,846	3,076
Total Australian hard coking coal			**7,857**		8,815		8,967
Rio Tinto Coal Mozambique							
Benga[j]	65.0	**289**	**188**				
Rio Tinto total hard coking coal			**8,044**		8,815		8,967
COAL (semi-soft coking) (000 tonnes)							
Rio Tinto Coal Australia							
Hunter Valley (Australia)[k]	80.0	**2,119**	**1,695**	1,906	1,450	2,469	1,869
Mount Thorley (Australia)[k]	64.0	**1,584**	**1,014**	1,922	1,159	1,460	884
Warkworth (Australia)[k]	44.5	**1,296**	**576**	594	250	764	321
Rio Tinto total semi-soft coking coal			**3,286**		2,859		3,075
COAL (thermal) (000 tonnes)							
Rio Tinto Coal Australia							
Bengalla (Australia)[k]	32.0	**7,026**	**2,248**	5,368	1,629	5,477	1,659
Blair Athol (Australia)	71.2	**2,587**	**1,843**	2,885	2,055	6,803	4,846
Clermont (Australia)[l]	50.1	**8,189**	**4,103**	5,790	2,901	3,770	1,889
Hunter Valley (Australia)[k]	80.0	**9,836**	**7,869**	10,332	7,839	8,442	6,391
Kestrel Coal (Australia)	80.0	**350**	**280**	326	261	713	571
Mount Thorley (Australia)[k]	64.0	**2,497**	**1,598**	1,319	801	1,518	920
Warkworth (Australia)[k]	44.5	**5,477**	**2,435**	5,454	2,304	5,120	2,154
Total Australian thermal coal			**20,376**		17,791		18,430

Rio Tinto Coal Mozambique							
Benga(j)	65.0	**419**	**272**				
US Coal							
Antelope (US)(m)						31,156	15,043
Colowyo (US)(n)				1,939	1,939	2,371	2,371
Cordero Rojo (US)(m)						33,518	16,184
Decker (US)(m)						2,521	609
Spring Creek (US)(m)						16,726	8,076
Total US thermal coal					1,939		42,283
Rio Tinto total thermal coal			**20,648**		19,729		60,713

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	Rio Tinto % share[a]	2012 Production Total	2012 Production Rio Tinto share	2011 Production Total	2011 Production Rio Tinto share	2010 Production Total	2010 Production Rio Tinto share
COPPER (mined) (000 tonnes)							
Bingham Canyon (US)	100.0	**163.2**	**163.2**	195.0	195.0	249.8	249.8
Escondida (Chile)	30.0	**1,047.4**	**314.2**	759.1	227.7	1,011.0	303.3
Grasberg Joint Venture (Indonesia)[o]	40.0	**0.0**	**0.0**	42.1	16.9	126.8	50.7
Northparkes (Australia)	80.0	**53.8**	**43.1**	50.4	40.3	39.0	31.2
Palabora (South Africa)[p]	57.7	**49.1**	**28.3**	69.1	39.9	74.6	43.0
Rio Tinto total			**548.8**		519.7		678.1
COPPER (refined) (000 tonnes)							
Escondida (Chile)	30.0	**310.3**	**93.1**	283.5	85.0	300.1	90.0
Kennecott Utah Copper (US)	100.0	**162.7**	**162.7**	215.3	215.3	269.3	269.3
Palabora (South Africa)[p]	57.7	**40.9**	**23.6**	59.0	34.0	58.0	33.4
Rio Tinto total			**279.4**		334.4		392.8
DIAMONDS (000 carats)							
Argyle (Australia)	100.0	**8,471**	**8,471**	7,441	7,441	9,804	9,804
Diavik (Canada)	60.0	**7,230**	**4,338**	6,677	4,006	6,500	3,900
Murowa (Zimbabwe)	77.8	**403**	**313**	367	285	178	139
Rio Tinto total			**13,122**		11,733		13,843
GOLD (mined) (000 ounces)							
Barneys Canyon (US)	100.0	**1**	**1**	2	2	2	2
Bingham Canyon (US)	100.0	**200**	**200**	384	384	466	466
Escondida (Chile)	30.0	**98**	**29**	122	37	174	52
Grasberg Joint Venture (Indonesia)[o]	40.0	**0**	**0**	444	178	458	183
Northparkes (Australia)	80.0	**72**	**58**	76	61	65	52
Palabora (South Africa)[p]	57.7	**11**	**6**	13	8	13	7
Rawhide (US)[q]						9	9
Rio Tinto total			**294**		669		772
GOLD (refined) (000 ounces)							
Kennecott Utah Copper (US)	100.0	**279**	**279**	379	379	596	596
IRON ORE (000 tonnes)							
Hamersley Iron six wholly owned mines (Australia)	100.0	**126,630**	**126,630**	121,525	121,525	112,706	112,706
Hamersley Channar (Australia)	60.0	**10,947**	**6,568**	11,015	6,609	11,016	6,610
Hamersley Eastern Range (Australia)	(r)	**9,303**	**9,303**	9,385	9,385	9,206	9,206
Hope Downs (Australia)	50.0	**30,793**	**15,396**	31,740	15,870	31,720	15,860
Iron Ore Company of Canada (Canada)	58.7	**14,079**	**8,267**	13,457	7,902	14,710	8,638
Robe River (Australia)	53.0	**61,707**	**32,705**	57,502	30,476	59,641	31,610
Rio Tinto total			**198,869**		191,767		184,629
MOLYBDENUM (000 tonnes)							

Bingham Canyon (US)	100.0	**9.4**	**9.4**	13.6	13.6	12.9	12.9
SALT (000 tonnes)							
Dampier Salt (Australia)	68.4	**9,996**	**6,833**	9,666	6,608	7,589	5,188
SILVER (mined) (000 ounces)							
Bingham Canyon (US)	100.0	**2,086**	**2,086**	2,976	2,976	3,754	3,754
Escondida (Chile)	30.0	**3,501**	**1,050**	4,327	1,298	6,140	1,842
Grasberg Joint Venture (Indonesia)(o)	40.0	**0**	**0**	208	83	1,721	688
Others		**685**	**521**	766	566	752	577
Rio Tinto total			**3,657**		4,924		6,862

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Metals & minerals production continued

	Rio Tinto % share[a]	2012 Production Total	2012 Production Rio Tinto share	2011 Production Total	2011 Production Rio Tinto share	2010 Production Total	2010 Production Rio Tinto share
SILVER (refined) (000 ounces)							
Kennecott Utah Copper (US)	100.0	**2,451**	**2,451**	3,189	3,189	4,732	4,732
TALC (000 tonnes)							
Rio Tinto Minerals talc (Australia/Europe/North America)[s]				592	592	1,000	1,000
TITANIUM DIOXIDE FEEDSTOCK (000 tonnes)							
Rio Tinto Iron & Titanium (Canada/South Africa)[t][u]	100.0	**1,594**	**1,594**	1,443	1,443	1,392	1,392
URANIUM (000 lbs U_3O_8)							
Energy Resources of Australia (Australia)	68.4	**8,304**	**5,679**	5,571	3,810	8,614	5,891
Rössing (Namibia)	68.6	**5,950**	**4,081**	4,736	3,248	7,999	5,485
Rio Tinto total			**9,760**		7,058		11,377

Production data notes:

Mine production figures for metals refer to the total quantity of metal produced in concentrates, leach liquor or doré bullion irrespective of whether these products are then refined onsite, except for the data for bauxite and iron ore which represent production of marketable quantities of ore.

(a) Rio Tinto percentage share, shown above, is as at the end of 2012. Where this shareholding has changed over the period 2010-2012, the weighted average ownership has been used. The footnotes below include all ownership changes over the three years. The Rio Tinto share varies at individual mines and refineries in the others category and thus no value is shown.

(b) Jonquiěre s (Vaudreuil s) production shows smelter grade alumina only and excludes hydrate produced and used for specialty alumina.

(c) Rio Tinto sold its 100 per cent interest in the Brockville specialty alumina plant with an effective date of 20 September 2010. Production data are shown up to that date. Production continues from the Jonquière specialty alumina plant.

(d) Rio Tinto sold its interest in these specialty alumina assets with an effective date of 1 August 2012. Production is shown up to that date.

(e) Rio Tinto closed the Lynemouth aluminium smelter on 29 March 2012.

(f) Rio Tinto Alcan had an 80 per cent interest in the Awaso mine but purchased the additional 20 per cent of production. Rio Tinto Alcan sold its interest in Ghana Bauxite Company, owner of the Awaso mine, with an effective date of 1 February 2010.

(g) Rio Tinto has a 22.95 per cent shareholding in the Sangaredi mine but benefits from 45 per cent of production.

(h) Borate quantities are expressed as B2O3.

(i) Rio Tinto sold its interest in Borax Argentina with an effective date of 21 August 2012. Production is included up to that date.

(j) Benga moved to commercial production during the third quarter of 2012.

(k) Rio Tinto s interest in these mines is held through Coal & Allied Industries Ltd; Rio Tinto increased its interest in Coal & Allied from 75.7 per cent to 80.0 per cent with effect from 16 December 2011. Production data reflect the increased shareholding from that date.

(l) Production commenced at Clermont in the second quarter of 2010.

(m) As a result of the initial public offering of Cloud Peak Energy Inc. on 20 November 2009, Rio Tinto held a 48.3 per cent interest in the Antelope, Cordero Rojo and Spring Creek mines and a 24.1 per cent interest in the Decker mine. These interests were formerly reported under Rio Tinto Energy America but are now managed by Cloud Peak Energy. Following a secondary public offering in December 2010, Rio Tinto completed the divestment of its entire interest in Cloud Peak Energy Inc. with an effective date of 15 December 2010. Production data are shown up to that date.

(n) Rio Tinto sold its 100 per cent interest in Colowyo with an effective date of 1 December 2011. Production data are shown up to that date.

(o) Through a joint venture agreement with Freeport-McMoRan Copper & Gold (FCX), Rio Tinto is entitled to 40 per cent of additional material mined as a consequence of expansions and developments of the Grasberg facilities since 1998. Total production reflects the quantities attributable to the joint venture. The 2012 production from Grasberg did not exceed the metal attributable to PT Freeport Indonesia per the joint venture agreement for the year. Accordingly, Rio Tinto s share of joint venture production was zero for the year 2012.

(p) In December 2012, Rio Tinto announced that it had signed a binding agreement to sell its 57.7 per cent effective interest in the Palabora Mining Company.

(q) Rio Tinto sold its 100 per cent interest in the Rawhide mine with an effective date of 25 June 2010. Production data are shown up to that date.

(r) Rio Tinto s share of production includes 100 per cent of the production from the Eastern Range mine. Under the terms of the joint venture agreement (Rio Tinto 54 per cent), Hamersley Iron manages the operation and is obliged to purchase all mine production from the joint venture.

(s) Rio Tinto sold its 100 per cent interest in the talc business with an effective date of 1 August 2011. Production data are shown up to that date.

(t) On 7 September 2012, Rio Tinto increased its stake in Richards Bay Minerals (RBM) from 37 per cent to 74 per cent through the acquisition of BHP Billiton s interest in RBM.

(u) Quantities comprise 100 per cent of Rio Tinto Fer et Titane and Rio Tinto s share of Richards Bay Minerals production. Ilmenite mined in Madagascar is being processed in Canada.

Production figures are sometimes more precise than the rounded numbers shown, hence an apparent small difference may result where the Rio Tinto share is totalled.

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Ore reserves (under industry guide 7)

For the purposes of this combined Annual report on Form 20-F estimates of ore reserves have been prepared in accordance with the SEC s Industry Guide 7 under the United States Securities Act of 1933 and the following definitions:

An Ore Reserve means that part of a mineral deposit that can be economically and legally extracted or produced at the time of the reserves determination. To establish this, studies appropriate to the type of mineral deposit involved have been carried out to estimate the quantity, grade and value of the ore mineral(s) present. In addition, technical studies have been completed to determine realistic assumptions for the extraction of the minerals including estimates of mining, processing, economic, marketing, legal, environmental, social and governmental factors. The degree of these studies is sufficient to demonstrate the technical and economic feasibility of the project and depends on whether or not the project is an extension of an existing project or operation. The estimates of minerals to be produced include allowances for ore losses and the treatment of unmineralised materials which may occur as part of the mining and processing activities. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proven Ore Reserves as defined below.

The term economically , as used in the definition of reserves, implies that profitable extraction or production under defined investment assumptions has been established through the creation of a mining plan, processing plan and cash flow model. The assumptions made must be reasonable, including costs and operating conditions that will prevail during the life of the project.

Ore reserves presented in accordance with SEC Industry Guide 7 do not exceed the quantities that, it is estimated, could be extracted economically if future prices were to be in line with the average of historical prices for the three years to 30 June 2012, or contracted prices where applicable. For this purpose, contracted prices are applied only to future sales volumes for which the price is predetermined by an existing contract; and the average of historical prices is applied to expected sales volumes in excess of such amounts. Moreover, reported ore reserve estimates have not been increased above the levels expected to be economic based on Rio Tinto s own long term price assumptions.

The term legally , as used in the definition of reserves, does not imply that all permits needed for mining and processing have been obtained or that other legal issues have been completely resolved. However, for reserves to exist, there is reasonable assurance of the issuance of these permits or resolution of legal issues. Reasonable assurance means that, based on applicable laws and regulations, the issuance of permits or resolution of legal issues necessary for mining and processing at a particular deposit will be accomplished in the ordinary course and in a timeframe consistent with the Company s current mine plans.

The term proven reserves means reserves for which (a) quantity is computed from dimensions revealed in outcrops, trenches, workings or drill holes; grade and/or quality are computed from the results of detailed sampling; and (b) the sites for inspection, sampling and measurement are spaced so closely and the geologic character is so well defined that size, shape, depth and mineral content of reserves are well established. Proven reserves represent that part of an orebody for which there exists the highest level of confidence in data regarding its geology, physical characteristics, chemical composition and probable processing requirements.

The term probable reserves means reserves for which quantity and grade and/or quality are computed from information similar to that used for proven reserves, but the sites for inspection, sampling and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven reserves, is high enough to assume continuity between points of observation. This means that probable reserves generally have a wider drill hole spacing than for proven reserves.

The amount of proven and probable reserves shown below does not necessarily represent the amount of material currently scheduled for extraction, because the amount scheduled for extraction may be derived from a life of mine plan predicated on prices and other assumptions which are different to those used in the life of mine plan prepared in accordance with Industry Guide 7.

The estimated ore reserve figures in the following tables are as of 31 December 2012. Metric units are used throughout. The figures used to calculate Rio Tinto s share of reserves are often more precise than the rounded numbers shown in the tables, hence small differences might result if the calculations are repeated using the tabulated figures. Commodity price information is given in footnote (a).

Where operations are not managed by Rio Tinto the reserves are published as received from the managing company.

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Ore reserves (under industry guide 7) continued

	Type of mine (b)	Total ore reserves at end 2012 Tonnage millions of tonnes	Grade % Al_2O_3	Rio Tinto share Interest %	Recoverable mineral millions of tonnes
BAUXITE (c)					
Reserves at operating mines					
Rio Tinto Alcan					
Porto Trombetas (MRN) (Brazil) (d)	O/P	**63**	**50.9**	12.0	**8**
Sangaredi (Guinea) (e)	O/P	**320**	**49.6**	23.0	**73**
Weipa (Australia)	O/P	**1,533**	**52.8**	100.0	**1,533**
Pacific Aluminium					
Gove (Australia)	O/P	**155**	**49.5**	100.0	**155**
Rio Tinto total					**1,769**

			millions of tonnes			Recoverable mineral millions of tonnes
BORATES (f)						
Reserves at operating mine						
Rio Tinto Minerals	Boron (US)					
mine		O/P	**22**		100.0	**22**
stockpiles (g)			**3.1**		100.0	**3**
Rio Tinto total						**26**

	Coal type (i)	Marketable reserves millions of tonnes	Marketable coal quality (j) Calorific value MJ/kg	Sulphur content %	Interest %	Marketable reserves millions of tonnes
COAL (h)						
Reserves at operating mines						
Rio Tinto Coal Australia						

Bengalla	O/C	SC	**128**	**27.86**	**0.48**	32.0	**41**
Clermont	O/C	SC	**165**	**27.90**	**0.33**	50.1	**82**
Hail Creek	O/C	MC	**66**	**32.20**	**0.35**	82.0	**54**
Hunter Valley Operations	O/C	SC + MC	**217**	**28.99**	**0.58**	80.0	**173**
Kestrel Coal	U/G	MC	**116**	**31.60**	**0.59**	80.0	**93**
Mouth Thorley Operations	O/C	SC + MC	**25**	**29.80**	**0.45**	64.0	**16**
Warkworth	O/C	SC + MC	**242**	**29.80**	**0.45**	44.5	**108**
Rio Tinto total reserves at Australian operating mines							**567**
Rio Tinto Coal Mozambique							
Benga (k)	O/C	SC + MC	**119**	**26.40**	**0.89**	65.0	**77**
Rio Tinto total reserves at operating mines							**644**
Undeveloped reserves (l)							
Rio Tinto Coal Australia							
Mount Pleasant	O/C	SC	**326**	**26.92**	**0.48**	80.0	**261**

	Type of mine (b)	Total ore reserves at end 2012 Tonnage	Grade	Average mill recovery %	Rio Tinto share Interest %	Recoverable metal millions
COPPER		millions of tonnes	% Cu			of tonnes
Reserves at operating mines						
Bingham Canyon (US)						
mine (m)	O/P	**704**	**0.49**	85	100.0	**2.940**
stockpiles (g) (n)		**80**	**0.28**	85	100.0	**0.191**
Escondida (Chile)						
sulphide mine (o)	O/P	**4,883**	**0.70**	84	30.0	**8.669**
sulphide leach mine (p)	O/P	**1,888**	**0.46**	36	30.0	**0.936**
oxide mine	O/P	**73**	**1.03**	69	30.0	**0.156**
sulphide stockpiles (g)		**1.2**	**1.21**	75	30.0	**0.003**
sulphide leach stockpiles (g)		**37**	**0.63**	25	30.0	**0.018**
oxide stockpiles (g) (q)		**18**	**0.49**	65	30.0	**0.017**
Grasberg (Indonesia)	O/P + U/G	**2,424**	**1.00**	89	(r)	**6.905**
Northparkes (Australia)						
mine	U/G	**66**	**0.80**	89	80.0	**0.377**
stockpiles (g)		**8.2**	**0.40**	86	80.0	**0.022**
Oyu Tolgoi (Mongolia)						
South Oyu mine (s)	O/P	**1,040**	**0.46**	82	33.5	**1.304**
South Oyu stockpiles (g) (t)		**9.0**	**0.44**	85	33.5	**0.011**
Palabora (South Africa) (u)	U/G	**35**	**0.54**	84	57.7	**0.093**
Rio Tinto total reserves at operating mines						**21.642**
Undeveloped reserves (l)						
Eagle (US) (v)	U/G	**5.2**	**2.49**	97	100.0	**0.126**
Oyu Tolgoi (Mongolia)						
Hugo Dummett North (w)	U/G	**460**	**1.80**	92	33.5	**2.550**
Hugo Dummett North Extension (x)	U/G	**31**	**1.73**	92	30.5	**0.151**
Rio Tinto total undeveloped reserves						**2.826**
						Recoverable diamonds millions
DIAMONDS (c)		millions of tonnes	carats per tonne			of carats
Reserves at operating mines						
Argyle (Australia)						

AK1 pipe mine	O/P + U/G	**66**	**2.1**		100.0	**139.4**
AK1 pipe stockpiles (g)		**0.5**	**1.0**		100.0	**0.5**
Diavik (Canada)						
mine	U/G	**18**	**2.9**		60.0	**31.5**
stockpiles (g)		**0.3**	**2.9**		60.0	**0.6**
Rio Tinto total						**172.0**

GOLD		**millions of tonnes**	**grammes per tonne**			**Recoverable metal millions of ounces**
Reserves at operating mines						
Bingham Canyon (US)						
mine (m)	O/P	**704**	**0.20**	64	100.0	**2.875**
stockpiles (g)		**80**	**0.14**	64	100.0	**0.232**
Grasberg (Indonesia)	O/P + U/G	**2,424**	**0.83**	68	(r)	**12.227**
Northparkes (Australia)						
mine	U/G	**66**	**0.28**	68	80.0	**0.328**
stockpiles (g)		**8.2**	**0.24**	67	80.0	**0.035**
Oyu Tolgoi (Mongolia)						
South Oyu mine (s) (y)	O/P	**1,040**	**0.31**	74	33.5	**2.581**
South Oyu stockpiles (g) (t)		**9.0**	**0.33**	74	33.5	**0.024**
Rio Tinto total reserves at operating mines						**18.301**
Undeveloped reserves (l)						
Eagle (US) (v)	U/G	**5.2**	**0.25**	55	100.0	**0.023**
Oyu Tolgoi (Mongolia)						
Hugo Dummett North (w)	U/G	**460**	**0.37**	83	33.5	**1.544**
Hugo Dummett North Extension (x)	U/G	**31**	**0.62**	83	30.5	**0.159**
Rio Tinto total undeveloped reserves						**1.726**

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Ore reserves (under industry guide 7) continued

	Type of mine (b)	Total ore reserves at end 2012			Rio Tinto share	
		Tonnage	**Grade**	**Average mill recovery %**	**Interest %**	**Marketable product millions of tonnes**
IRON ORE (c) (z)		**millions of tonnes**	**% Fe**			
Reserves at operating mines						
Hamersley Iron (Australia)						
Brockman 2 (Brockman ore) (aa)	O/P	**44**	**62.0**		100.0	**44**
Brockman 4 (Brockman ore)	O/P	**561**	**62.0**		100.0	**561**
Marandoo (Marra Mamba ore)	O/P	**211**	**63.2**		100.0	**211**
Mt Tom Price (Brockman ore)						
mine (bb)	O/P	**52**	**63.7**		100.0	**52**
stockpiles (g)		**8**	**62.4**		100.0	**8**
Mt Tom Price (Marra Mamba ore) (cc)	O/P	**11**	**60.9**		100.0	**11**
Nammuldi (Marra Mamba ore)	O/P	**166**	**62.6**		100.0	**166**
Paraburdoo (Brockman ore) (dd)	O/P	**13**	**63.4**		100.0	**13**
Western Turner Syncline (Brockman ore)						
mine (ee)	O/P	**331**	**62.1**		100.0	**331**
stockpiles (g)		**5**	**58.9**		100.0	**5**
Yandicoogina (Pisolite ore HG)						
mine	O/P	**209**	**58.6**		100.0	**209**
stockpiles (g)		**0.4**	**56.9**		100.0	
Yandicoogina (Process Product) (ff)	O/P	**115**	**58.6**		100.0	**115**
Channar JV (Australia)						
Brockman ore (gg)	O/P	**42**	**62.9**		60.0	**25**
Eastern Range JV (Australia)						
Brockman ore (hh)	O/P	**49**	**62.7**		54.0	**27**
Hope Downs JV						
Hope Downs 1 (Marra Mamba ore) (ii)	O/P	**250**	**61.6**		50.0	**125**
Hope Downs 4 (Brockman ore)	O/P	**130**	**63.1**		50.0	**65**
Iron Ore Company of Canada (Canada) (jj)	O/P	**555**	**65.0**		58.7	**326**
Palabora (South Africa) (u)	U/G	**7.4**	**55.1**		57.7	**4**
Robe River JV (Australia)						
Pannawonica (Pisolite ore)						

mine	O/P	**266**	**57.2**		53.0	**141**
stockpiles (g)		**8**	**56.4**		53.0	**4**
West Angelas (Marra Mamba ore)						
mine (kk)	O/P	**226**	**61.8**		53.0	**120**
stockpiles (g)		**2**	**61.2**		53.0	**1**
Rio Tinto total reserves at operating mines						**2,563**
Undeveloped reserves (l)						
Silvergrass East (Marra Mamba ore) (ll)	O/P	**99**	**62.1**		100.0	**99**
Simandou (Guinea) (mm)	O/P	**1,844**	**65.5**		50.4	**928**
Turee Central (Brockman ore)	O/P	**78**	**61.9**		100.0	**78**
Rio Tinto total undeveloped reserves						**1,106**
MOLYBDENUM		**millions of tonnes**	**% Mo**			**Recoverable metal millions of tonnes**
Reserves at operating mines						
Bingham Canyon (US)						
mine (nn) (m)	O/P	**704**	**0.046**	69	100.0	**0.224**
stockpiles (nn) (g)		**80**	**0.029**	69	100.0	**0.016**
Rio Tinto total						**0.240**
NICKEL		**millions of tonnes**	**% Ni**			**Recoverable metal millions of tonnes**
Undeveloped reserves (l)						
Eagle (US) (v)	U/G	**5.2**	**2.93**	84	100.0	**0.128**

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	Type of mine (b)	Total ore reserves at end 2012 Tonnage	Grade	Average mill recovery %	Rio Tinto share Interest %	Recoverable metal
SILVER		millions of tonnes	grammes per tonne			millions of ounces
Reserves at operating mines						
Bingham Canyon (US)						
mine (m)	O/P	**704**	**2.14**	65	100.0	**31.304**
stockpiles (g)		**80**	**1.84**	65	100.0	**3.071**
Grasberg (Indonesia)	O/P + U/G	**2,424**	**4.24**	70	(r)	**78.650**
Rio Tinto total						**113.024**
URANIUM		millions of tonnes	% U_3O_8			Recoverable metal millions of tonnes
Reserves at operating mines						
Energy Resources of Australia (Australia)						
Ranger #3 stockpiles (oo) (g)		**7.3**	**0.132**	86	68.4	**0.006**
Rössing (Namibia)						
mine (pp)	O/P	**127**	**0.035**	84	68.6	**0.025**
stockpiles (g)		**3.8**	**0.019**	82	68.6	**0.0004**
Rio Tinto total						**0.032**

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Ore reserves (under industry guide 7) continued

BAUXITE (c)	Type of mine (b)	Proven ore reserves at end 2012 Tonnage millions of tonnes	Grade % Al_2O_3	Drill hole spacing (qq)	Probable ore reserves at end 2012 Tonnage millions of tonnes	Grade % Al_2O_3	Drill hole spacing (qq)
Reserves at operating mines							
Rio Tinto Alcan							
Porto Trombetas (Brazil) (d)	O/P	47	51.0	200m × 200m	16	50.5	400m × 400m
Sangaredi (Guinea) (e)	O/P	135	50.7	38m × 38m	185	48.9	75m × 75m
Weipa (Australia)	O/P	524	52.5	150m × 150m	1,010	53.0	300m × 300m
Pacific Aluminium							
Gove (Australia)	O/P	142	49.5	50-100m × 50-100m	13	49.4	200-400m × 200-400m

BORATES (f)	Type of mine	millions of tonnes		Drill hole spacing	millions of tonnes		Drill hole spacing
Reserves at operating mine							
Rio Tinto Minerals							
Boron (US)							
mine	O/P	13		0-130m × 0-130m	9.0		130-488m × 130-488m
stockpiles (g)					3.1		

COAL (h)	Type of mine (b)	Recoverable reserves total millions	% Yield to give marketable reserves	Marketable reserves Proven millions of tonnes	Drill hole spacing (qq)	Probable millions of tonnes	Drill hole spacing (qq)

		of tonnes					
Reserves at operating mines							
Rio Tinto Coal Australia							
Bengalla	O/C	171	75	121	100-450m × 100-450m	7.2	300-1000m × 300-1000m
Clermont	O/C	172	96	160	300m × 300m	4.2	600m × 600m
Hail Creek	O/C	128	52	43	100-500m × 100-500m	23	200-1000m × 200-1000m
Hunter Valley Operations	O/C	317	68	184	125-500m × 125-500m	33	400-1000m × 400-1000m
Kestrel	U/G	140	83	37	500m × 500m	79	1000m × 1000m
Mount Thorley Operations	O/C	38	66	20	125-500m × 125-500m	4.7	400-1000m × 400-1000m
Warkworth	O/C	372	65	141	125-500m × 125-500m	101	400-1000m × 400-1000m
Rio Tinto Coal Mozambique							
Benga (k)	O/C	277	46	64	0-500m × 0-500m	55	500-1000m × 500-1000m
Undeveloped reserves (l)							
Rio Tinto Coal Australia							
Mount Pleasant	O/C	399	82			326	350-1000m × 350-1000m

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	Type of mine (b)	Proven ore reserves at end 2012 Tonnage millions of tonnes	Grade % Cu	Drill hole spacing (qq)	Probable ore reserves at end 2012 Tonnage millions of tonnes	Grade % Cu	Drill hole spacing (qq)
COPPER							
Reserves at operating mines							
Bingham Canyon (US)							
mine (m)	O/P	417	0.53	85m x 85m	287	0.44	131m x 131m
stockpiles (g)		40	0.22		41	0.34	
Escondida (Chile)							
sulphide mine (o)	O/P	2,738	0.79	50m x 50m	2,145	0.59	90m x 90m
sulphide leach mine (p)	O/P	1,066	0.49	60m x 60m	822	0.44	115m x 115m
oxide mine (q)	O/P	35	1.19	35m x 35m	38	0.88	45m x 45m
sulphide stockpiles (g)		1.2	1.21				
sulphide leach stockpiles (g)		37	0.63				
oxide stockpiles (g)		18	0.49				
Grasberg (Indonesia)	O/P + U/G	800	1.15	0-60m x 0-60m	1,624	0.93	7-358m x 7-358m
Northparkes (Australia)							
mine	U/G				66	0.80	30-50m x 30-50m
stockpiles (g)		8.2	0.40				
Oyu Tolgoi (Mongolia)							
South Oyu mine (s)	O/P	426	0.54	30m x 50m	614	0.40	70m x 70m
South Oyu stockpiles (g) (t)		9.0	0.44				
Palabora (South Africa) (u)	U/G				35	0.54	76m x 76m
Undeveloped reserves							
Eagle (US) (v)	U/G				5.2	2.49	1-25m x 1-25m
Oyu Tolgoi (Mongolia)							
Hugo Dummett North (w)	U/G				460	1.80	50-70m x 100-125m
Hugo Dummett North Extension (x)	U/G				31	1.73	50-70m x 100-125m
DIAMONDS (c)		**millions**	**carats**		**millions of tonnes**	**carats**	

		of tonnes	**per tonne**			**per tonne**	
Reserves at operating mines							
Argyle (Australia)							
AK1 pipe mine	O/P + U/G	3.7	1.1	0-50m x 0-50m	63	2.2	50m x 50m
AK1 pipe stockpiles (g)		0.3	1.0		0.2	0.9	
Diavik (Canada)							
mine	U/G	10	3.2	2-39m x 2-62m	7.7	2.6	8-63m x 5-74m
stockpiles (g)		0.3	2.9				
GOLD		**millions of tonnes**	**grammes per tonne**		**millions of tonnes**	**grammes per tonne**	
Reserves at operating mines							
Bingham Canyon (US)							
mine (m)	O/P	417	0.21	85m x 85m	287	0.18	131m x 131m
stockpiles (g)		40	0.14		41	0.14	
Grasberg (Indonesia)	O/P + U/G	800	1.03	1-60m x 1-60m	1,624	0.74	7-358m x 7-358m
Northparkes (Australia)							
mine	U/G				66	0.28	30-50m x 30-50m
stockpiles (g)		8.2	0.24				
Oyu Tolgoi (Mongolia)							
South Oyu mine (s)	O/P	426	0.42	30m x 50m	614	0.24	70m x 70m
South Oyu stockpiles (g) (t)		9.0	0.33				
Undeveloped reserves (l)							
Eagle (US) (v)	U/G				5.2	0.25	1-25m x 1-25m
Oyu Tolgoi (Mongolia)							
Hugo Dummett North (w)	U/G				460	0.37	50-70m x 100-125m
Hugo Dummett North Extension (x)	U/G				31	0.62	50-70m x 100-125m

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Ore reserves (under industry guide 7) continued

IRON ORE (c) (z)	Type of mine (b)	**Proven ore reserves at end 2012** Tonnage millions of tonnes	Grade % Fe	Drill hole spacing (qq)	**Probable ore reserves at end 2012** Tonnage millions of tonnes	Grade % Fe	Drill hole spacing (qq)
Reserves at operating mines							
Hamersley Iron (Australia)							
Brockman 2 (Brockman ore) (aa)	O/P	18	62.9	50m x 50m	26	61.4	50m x 50m
Brockman 4 (Brockman ore)	O/P	422	62.3	50m x 50m	139	61.3	50 100m x 50m
Marandoo (Marra Mamba ore)	O/P	188	63.5	75m x 75m	23	61.2	75m x 75m
Mt Tom Price (Brockman ore)							
mine (bb)	O/P	16	64.0	30-120m x 30-60m	37	63.6	30-120m x 30-60m
stockpiles (g)					8	62.4	
Mt Tom Price (Marra Mamba ore) (cc)	O/P	10	61.1	60m x 30m	0.7	59.0	60m x 30m
Nammuldi (Marra Mamba ore)	O/P	74	62.8	25-50m x 25-50m	92	62.4	25-200m x 25-50m
Paraburdoo (Brockman ore) (dd)	O/P	6	62.9	30-60m x 30-60m	7	63.9	30-60m x 30-60m
Western Turner Syncline (Brockman ore)							
mine (ee)	O/P	262	62.3	60m x 60m	69	61.1	60m x 60m
stockpiles (g)					5	58.9	
Yandicoogina (Pisolite ore HG)							
mine	O/P	209	58.6	100m x 50m			
stockpiles (g)					0.4	56.9	
Yandicoogina (Process product)	O/P	115	58.6	100m x 50m			

(ff)							
Channar JV (Australia)							
Brockman ore (gg)	O/P	24	63.1	30-60m x 30-60m	18	62.7	30-120m x 30-120m
Eastern Range JV (Australia)							
Brockman ore (hh)	O/P	40	62.7	30-60m x 30-60m	9	62.7	30-120m x 30-120m
Hope Downs JV (Australia)							
Hope Downs 1 (Marra Mamba ore) (ii)	O/P	9	61.3	25-50m x 50m	241	61.6	25-100m x 50m
Hope Downs 4 (Brockman ore)	O/P	76	62.9	63-125m x 50-100m	55	63.3	63-125m x 50-100m
Iron Ore Company of Canada (Canada) (jj)	O/P	320	65.0	61-122m x 30-61m	235	65.0	122m x 61-122m
Palabora (South Africa) (u)	U/G				7.4	55.1	76m x 76m
Robe River JV (Australia)							
Pannawonica (Pisolite ore)							
mine	O/P	174	57.3	50-70m x 50-70m	92	57.1	50-100m x 50-100m
stockpiles (g)		1	56.8		7	56.3	
West Angelas (Marra Mamba ore)							
mine (kk)	O/P	160	62.2	25-100m x 25-50m	66	60.9	50-200m x 25-50m
stockpiles (g)		1	62.6		1	59.9	
Undeveloped reserves (l)							
Silvergrass East (Marra Mamba ore) (ll)	O/P	61	62.7	50m x 50m	38	61.3	200m x 100m
Simandou (Guinea) (mm)	O/P				1,844	65.5	30-125m x 30-125m
Turee Central (Brockman ore)	O/P	72	62.0	60-120m x 60-120m	6.1	61.4	60-120m x 60-120m
MOLYBDENUM		**millions of tonnes**	**% Mo**		**millions of tonnes**	**% Mo**	
Reserves at operating mine							
Bingham Canyon (US)							
mine (nn) (m)	O/P	417	0.046	85m x 85m	287	0.046	131m x 131m
stockpiles (nn) (g)		40	0.044		41	0.015	

NICKEL		millions of tonnes	% Ni	millions of tonnes	% Ni	
Undeveloped reserves						
Eagle (US) (v)	U/G			5.2	2.93	1-25m x 1-25m

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	Type of mine (b)	Proven ore reserves at end 2012			Probable ore reserves at end 2012		
		Tonnage	Grade	Drill hole spacing (qq)	Tonnage	Grade	Drill hole spacing (qq)
SILVER		millions of tonnes	grammes per tonne		millions of tonnes	grammes per tonne	
Reserves at operating mines							
Bingham Canyon (US)							
mine (m)	O/P	417	2.22	85m x 85m	287	2.01	131m x 131m
stockpiles (g)		40	1.74		41	1.94	
Grasberg (Indonesia)	O/P + U/G	800	4.43	0-60m x 0-60m	1,624	4.14	7-358m x 7-358m
URANIUM		**millions of tonnes**	**% U_3O_8**		**millions of tonnes**	**% U_3O_8**	
Reserves at operating mines							
Energy Resources of Australia (Australia)							
Ranger #3 stockpiles (oo) (g)					7.3	0.132	
Rössing (Namibia)							
mine (pp)	O/P	25	0.033	4-7m x 4-9m	102	0.035	20-120m x 20-120m
stockpiles (g)		3.8	0.019				

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Ore reserves (under industry guide 7) continued

Notes

(a) Commodity prices (based on a three year average historical price to 30 June, 2012) used to test whether the reported reserve estimates could be economically extracted, include the following benchmark prices :

Ore reserve	Unit	US$
Aluminium	pound	0.99
Copper	pound	3.56
Gold	ounce	1,378
Iron ore		
Australian benchmark (fines fob)	dmtu**	133.10
Molybdenum	pound	14.80
Nickel	pound	945.00
Silver	ounce	26.20

** dry metric tonne unit

(b) Type of mine: O/P = open pit, O/C = open cut, U/G = underground
(c) Reserves of iron ore, bauxite and diamonds are shown as recoverable reserves of marketable product after accounting for all mining and processing losses. Mill recoveries are therefore not shown.
(d) Reserves at Trombetas (MRN) decreased following production.
(e) The reserves increased at Sangaredi following continued exploration, technical and economic studies supporting a reduced cut-off grade.
(f) Reserves of industrial minerals are expressed in terms of marketable product, ie after all mining and processing losses. In the case of borates, the marketable product is B_2O_3 .
(g) Stockpile components of reserves are shown for all operations at the relevant mine.
(h) For coal, the yield factors shown reflect the impact of further processing, where necessary, to provide marketable coal.
(i) Coal type: SC: steam/thermal coal, MC: metallurgical/coking coal.
(j) Coals from Australia have been analysed on an Air Dried moisture basis in accordance with Australian Standards. Marketable reserve tonnages are reported at product moisture.
(k) Benga reserves are reported under operating mines for the first time following commencement of mining. The decrease in reserve tonnes is a result of production and technical studies.
(l) The term undeveloped reserves is used here to describe material that is economically viable on the basis of technical and economic studies but for which mining and processing permits may have yet to be requested or obtained. There is a reasonable, but not absolute, certainty that the necessary permits will be issued and that mining can proceed when required.
(m) Bingham Canyon open pit reserve tonnes decreased after updated technical studies including re-assessment of geotechnical and processing parameters.
(n) Bingham Canyon stockpile reserve grades increased following re-assessment of processing options.
(o) Escondida sulphide reserve tonnes increased and grade decreased following economic studies and improved metallurgical recoveries.
(p) Escondida sulphide leach reserve tonnes decreased following economic studies and re-allocation of tonnes to the mill.

(q) The Escondida oxide stockpile reserve tonnes decrease follows processing of stockpiled ore.
(r) Under the terms of a joint venture agreement between Rio Tinto and FCX, Rio Tinto is entitled to a direct 40 per cent share in reserves discovered after 31 December 1994 and it is this entitlement that is shown.
(s) South Oyu reserves are reported under operating mines for the first time following commencement of mining. Rio Tinto increased its interest in South Oyu from 32.3 per cent to 33.5 per cent during 2012.
(t) South Oyu stockpiles reserves are reported for the first time following commencement of mining.
(u) In December 2012, Rio Tinto announced that it has signed a binding agreement to sell its 57.7 per cent effective interest in the Palabora Mining Company. The decrease in reported tonnage reflects production as well as anticipated metal recovery rates based on reconciliation results.
(v) Eagle reserve tonnes increased after additional drilling and some stope redesign.
(w) Hugo Dummett North reserves increased following updated economic studies. Rio Tinto increased its interest in Hugo Dummett North from 32.3 per cent to 33.5 per cent during 2012.
(x) Hugo Dummett North Extension reserve tonnes increased and gold grade decreased following technical and economic studies. Rio Tinto increased its interest in Hugo Dummett North Extension from 29.5 per cent to 30.5 per cent during 2012.
(y) Updated technical studies have resulted in a decrease in South Oyu open pit reserve gold grade.
(z) All Pilbara Iron reserves tonnes reported below are on a dry weight basis.
(aa) The Brockman 2 (Brockman ore) reserves increase follows technical and economic studies.
(bb) The decrease in Mt Tom Price (Brockman ore) reserves results from production and technical and economic studies.
(cc) The decrease in Mt Tom Price (Marra Mamba ore) reserves reflects production and technical and economic studies.
(dd) The increase in Paraburdoo (Brockman ore) reserves follows technical and economic studies.
(ee) Western Turner Syncline (Brockman ore) reserves increased after updating technical and economic studies.
(ff) The Yandicoogina (Process Product) reserves decrease reflects production and updated technical and economic studies.
(gg) The Hamersley Channar (Brockman ore) reserves decrease reflects production and updated technical and economic studies.
(hh) The Hamersley Eastern Range (Brockman ore) reserves increase follows technical and economic studies.
(ii) Hope Downs 1 (Marra Mamba ore) reserves reduction reflects production and updated technical studies.
(jj) Reserves at Iron Ore Company of Canada are reported as marketable product (55 per cent pellets and 45 per cent concentrate for sale), at a natural moisture content of two per cent using process upgrade factors derived from current IOC concentrating and pellet operations. The marketable product is obtained from mined material comprising 763 million dry tonnes at 37.9 per cent iron (proven) and 557 million dry tonnes at 37.5 per cent iron (probable).
(kk) West Angelas (Marra Mamba) reserve tonnes reduced following production and updated technical and economic studies.
(ll) Silvergrass East (Marra Mamba ore) reserves are reported for the first time as a result of technical and economic studies.
(mm) Rio Tinto s interest in the Simandou joint venture (JV) has reduced from 95 per cent to 50.35 per cent . The remaining JV share is Chalco with 44.65 per cent and the IFC with 5 per cent. Arrangements entered into between the JV and the Government of Guinea (the Settlement Agreement) provide for the Government of Guinea to acquire an interest in the JV. The JV has completed a Definitive Engineering Study that supports the first publication of Ore Reserves for the Simandou Project. Ore Reserves cut-offs are Fe>=58 per cent and Al_2O_3<3 per cent for reporting.
(nn) Molybdenum grades interpolated from exploration drilling assays have been factored based on a long reconciliation history to blasthole and mill samples.
(oo) Following completion of open cut mining, Ranger #3 reserves are reported as stockpiles only with reduced tonnes and grade.
(pp) Rössing reserve tonnes reduced following production and an updated block model.
(qq)

Drill hole spacings are either average distances, a specified grid distance (a regular pattern of drill holes - the distance between the drill holes along the two axes of the grid will be aligned to test the size, shape and continuity of the mineral deposit; as such there may be different distances between the drill holes along the two axes of a grid) or the maximum drill hole spacing that is sufficient to determine the reserve category for a particular deposit. As the continuity of mineralisation varies from deposit to deposit, the drill hole spacing required to categorise a reserve varies between and within deposit types.

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Mines and production facilities

Group mines as at 31 December 2012

(Rio Tinto s interest 100 per cent unless otherwise shown)

Mine	Location	Access	Title/lease
Bauxite			
Rio Tinto Alcan			
CBG Sangaredi (22.95%)	Kamsar, Guinea	Road, air and port	Lease expires in 2038.
MRN Porto Trombetas (12%)	Porto Trombetas, Para, Brazil	Air or port	Mineral rights granted for undetermined period.
Weipa/Ely	Weipa, Queensland, Australia	Road, air and port	The Queensland Government Comalco (ML704) lease expires in 2041 with an option of a 21-year extension, then two years notice of termination; the Ely Alcan Queensland Pty. Limited Agreement Act 1965 (ML7301) expires in 2048 with a 21-year right of renewal with a two-year notice period.
Pacific Aluminium			
Gove	Gove, Northern Territory, Australia	Road, air and port	All leases were renewed in 2011 for a further period of 42 years. The residue disposal area is leased from the Arnhem Land Aboriginal Land Trust. The Northern Territory government is the lessor of the balance of the leases; however, on expiry of the 42-year renewed term, the land subject of the balances of the leases will all vest to the Arnhem Land Aboriginal Land Trust.
Copper			
Escondida (30%)	Atacama Desert, Chile	Pipeline and road to deep sea port at Coloso; road and rail	Rights conferred by Government under Chilean Mining Code.
Grasberg joint venture (40% of production)	Papua, Indonesia	Pipeline, road and port	Indonesian Government Contracts of Work expire in 2021 with option of two ten-year extensions.
Kennecott Utah Copper Bingham Canyon	Near Salt Lake City, Utah, US	Pipeline, road and rail Road and rail	Owned

Northparkes (80%)	Goonumbla, New South Wales, Australia		Hold three State Government mining leases of which two are pending renewal after lodgement in 2011 and remain in effect until renewal approval as per relevant legislation. Third lease expires 2031. Development consent approved in 2009 for extension of mine life to 2025.
Oyu Tolgoi (51% of Turquoise Hill Resources which owns 66% of Oyu Tolgoi)	Gobi Desert, Mongolia	Air and road	Three mining licences are held by Oyu Tolgoi LLC and two further licences are held in joint venture with Entrée Gold LLC. The licence term under the Minerals Law of Mongolia is 30 years with two 20-year extensions. First renewals are due in 2033 and 2039 for the Oyu Tolgoi and Entrée Gold licences respectively.
Palabora (57.7%)	Phalaborwa, Limpopo Province, South Africa	Rail and road	Lease from South African Government until deposits depleted. Base metal claims owned by Palabora.
Diamonds & Minerals			
Diamonds			
Argyle Diamonds	Kimberley Ranges, Western Australia	Road and air	Mining tenement held under Diamond (Argyle Diamond Mines Joint Venture) Agreement Act 1981-1983; lease extended for 21 years from 2004.
Diavik (60%)	Northwest Territories, Canada	Air, ice road in winter	Mining leases from Canadian Federal Government expiring in 2017 and 2018 with options to renew.
Murowa (77.8%)	Zvishavane, Zimbabwe	Road and air	Claims and mining leases
Industrial minerals			
Dampier Salt (68.4%)	Dampier, Lake MacLeod and Port Hedland, Western Australia	Road and port	State agreements (mining leases) expiring in 2013 at Dampier, 2018 at Port Hedland and 2021 at Lake MacLeod with options to renew in each case.
Rio Tinto Minerals Boron	California, US	Road and rail	Owned
Rio Tinto Fer et Titane Lac Tio	Havre-Saint-Pierre, Quebec, Canada	Rail and port (St Lawrence River)	Mining covered by two concessions granted by State in 1949 and 1951 which, subject to certain Mining Act restrictions, confer rights and obligations of an owner.

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History	Type of mine	Power source
Bauxite mining commenced in 1973. Shareholders are 51% Halco and 49% Government of Guinea. Rio Tinto Alcan has held 45% of Halco since 2004. Current annual capacity is 13.6 million tonnes. Rio Tinto Alcan has a 45 per cent interest in the mine s production.	Open cut	On-site generation (fuel oil)
Mineral extraction commenced in April 1979. Initial production capacity 3.4 million tonnes annually. From October 2003, production capacity up to 16.3 million tonnes per year on a dry basis. Capital structure currently: Vale (40%), BHP Billiton (14.8%), Rio Tinto Alcan (12%), CBA (10%), Alcoa/Abalco (18.2%) and Norsk Hydro (5%).	Open cut	On-site generation (heavy oil, diesel)
Bauxite mining commenced in 1961 at Weipa. Major upgrade completed at Weipa in 1998. Rio Tinto interest increased from 72.4% to 100% in 2000. In 1997, Ely Bauxite Mining Project Agreement signed with local Aboriginal land owners. Bauxite Mining and Exchange Agreement signed in 1998 with Comalco to allow for extraction of ore at Ely. The Western Cape Communities Co-Existence Agreement, an Indigenous Land Use Agreement, was signed in 2001. In 2004 a mine expansion was completed at Weipa that lifted annual capacity to 21.5 million tonnes. Mining commenced on the adjacent Ely mining lease in 2006, in accordance with the 1998 agreement with Alcan (first ore extracted at Ely in 2007). A second shiploader that increases the shipping capability was commissioned in 2006 at Weipa.	Open cut	On-site generation; new power station commissioned in 2006
Bauxite mining commenced in 1970 feeding both the Gove refinery and export market capped at two million tonnes per annum. Bauxite export ceased in 2006 with feed intended for the expanded Gove refinery. Bauxite exports recommenced in 2008. Current production capacity about ten million tonnes per annum with mine life estimated to 2030.	Open cut	Central power station located at the Gove refinery
Production started in 1990 and expanded in phases to 2002 when the new concentrator was completed; production from Norte started in 2005 and the sulphide leach produced the first cathode during 2006.	Open pit	Supplied from SING grid under various contracts with local generating companies
Joint venture interest acquired 1995. Capacity expanded to over 200,000 tonnes of ore per day in 1998. Addition of underground production of more than 35,000 tonnes per day in 2003. Expansion to 50,000 tonnes per day in mid-2007 and to 80,000 tonnes in 2010.	Open pit and underground	Long-term contract with US-Indonesian consortium operated purpose-built coal-fired generating station
Interest acquired in 1989. Modernisation includes smelter complex and expanded tailings dam.	Open pit	On-site generation supplemented by long-term contracts with Rocky Mountain Power
Production started in 1995; interest acquired in 2000.		

	Open pit and underground	Supplied from State grid
Oyu Tolgoi was first discovered in 1996. Construction began in late 2009 and in early 2011 a new zone of shallow copper-molybdenum-gold mineralisation was discovered in southern Mongolia. The discovery, known as Ulaan Khud North, extends the known strike length of the Oyu Tolgoi mineralised system by an additional three kilometres to the north, to more than 23 kilometres.	Open pit and underground	On site diesel generation in addition to grid power from China
Development of 20-year underground mine commenced in 1996 with open pit closure in 2003.	Underground	Supplied by ESKOM via grid network
Interest increased from 59.7% following purchase of Ashton Mining in 2000. Underground mine project approved in 2005 to extend mine life to 2020.	Open pit to underground in future	Long-term contract with Ord Hydro Consortium and on-site generation
Deposits discovered 1994-1995. Construction approved 2000. Diamond production started 2003. Second dike closed off in 2005 for mining of additional orebody. The underground mine started production in 2010, ramping up to full production in 2013.	Open pit to underground in future	On-site diesel generators; installed capacity 44MW and 9.2MW of wind capacity
Discovered in 1997. Small-scale production started in 2004.	Open pit	Supplied by ZESA with diesel generator back-up
Construction of the Dampier field started in 1969; first shipment in 1972. Lake MacLeod was acquired in 1978 as an operating field. Port Hedland was acquired in 2001 as an operating field.	Solar evaporation of seawater (Dampier and Port Hedland) and underground brine (Lake MacLeod); dredging of gypsum from surface of Lake MacLeod	Dampier supply from Hamersley Iron Pty Ltd; Lake MacLeod from Western Power and on-site generation units; Port Hedland from Western Power
Deposit discovered in 1925 and acquired by Rio Tinto in 1967.	Open pit	On-site co-generation units and local power grid
Production started 1950; interest acquired in 1989.	Open pit	Long-term contract with Hydro-Québec

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Mines and production facilities continued

Group mines as at 31 December 2012 continued (Rio Tinto s interest 100 per cent unless otherwise shown)

Mine	Location	Access	Title/lease
Industrial minerals continued			
QIT Madagascar Minerals (80%)	Fort-Dauphin, Madagascar	Road and port	Mining lease granted by central government.
Richards Bay Minerals (74%)	Richards Bay, KwaZulu-Natal, South Africa	Rail, road and port	Mineral rights for Reserve 4 and Reserve 10 issued by state and converted to new order mining rights on 7 May 2012. Mining rights run until 8 May 2041 for both lease areas.
Energy			
Energy Resources of Australia (68.4%)	Northern Territory, Australia	Road	Mining tenure granted by Federal Government.
Ranger			
Rio Tinto Coal Australia* Bengalla (32%)	New South Wales and Queensland, Australia	Road, rail, conveyor and port	Leases granted by state.
Clermont Mine (50.1%)			
Hail Creek (82%)			
Hunter Valley Operations (80%)			
Kestrel (80%)			
Mount Thorley Operations (64%)			
Warkworth (44.46%)			
Rio Tinto Coal Mozambique	Tete, Mozambique	Road and rail	Mining concession granted by state.
Benga (65%)			
Rössing Uranium (68.6%)	Namib Desert, Namibia	Rail, road and port	National government grant.
Iron Ore			
Hamersley Iron	Hamersley Ranges, Western	Railway and port (owned	Agreements for life of mine with Government of Western Australia.

Brockman 2 Brockman 4 Marandoo Mount Tom Price Nammuldi Paraburdoo Western Turner Syncline Yandicoogina Channar (60%) Eastern Range (54%)	Australia	by Hamersley Iron and operated by Pilbara Iron)	
Hope Downs 1 (50% mine, 100% infrastructure)	Pilbara region, Western Australia	Railway owned and operated by Rio Tinto	Agreements for life of mine with Government of Western Australia.
Iron Ore Company of Canada (IOC) (58.7%)	Labrador City, Province of Labrador and Newfoundland	Railway and port facilities in Sept-Îles, Quebec (owned and operated by IOC)	Sublease with the Labrador Iron Ore Royalty Corporation which has lease agreements with the Government of Newfoundland and Labrador that are due to be renewed in 2020 and 2022.
Robe River Iron Associates (53%) Mesa J Mesa A West Angelas	Pilbara region, Western Australia	Railway and port (owned by Robe River and operated by Pilbara Iron)	Agreements for life of mine with Government of Western Australia.

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History	Type of mine	Power source
Exploration project started in 1986; construction approved 2005. Ilmenite and zirsil production started at the end of 2008. QMM intends to extract ilmenite and zirsil from heavy mineral sands over an area of about 6,000 hectares along the coast over the next 40 years.	Mineral sand dredging	On-site diesel generators
Production started 1977; initial interest acquired 1989. Fifth mining plant commissioned in 2000. One mining plant decommissioned in 2008. In September 2012, Rio Tinto doubled its holding in Richards Bay Minerals to 74 per cent following the acquisition of BHP Billiton s entire interests.	Dune sand dredging	Contract with ESKOM
Mining commenced 1981. Interest acquired through acquisition of North 2000. Open pit mining ended December 2012.	Stockpile	On-site diesel/steam power generation
Kestrel was acquired and recommissioned in 1999. Hail Creek started in 2003. Clermont Mine commenced production in 2010. Rio Tinto completed the privatisation of Coal & Allied during 2011, which is now owned 80/20 with Mitsubishi Development, and which Rio Tinto continues to manage. Successive acquisitions of surrounding assets results in the current portfolio. Blair Athol Mine ceased operations in 2012.	Open cut and underground (Kestrel)	State-owned grid
Interest acquired in 2011. Production began in 2012.	Open pit	Mozambican national grid and diesel generators
Production began in 1976.	Open pit	Supplied by NamPower via grid network
Annual capacity increased to 68 million tonnes during 1990s. Yandicoogina first ore shipped in 1999 and port capacity increased. Eastern Range started 2004.	Open pit	Supplied through the integrated Hamersley and Robe power network operated by Pilbara Iron
Joint venture between Rio Tinto and Hancock Prospecting. Construction of Stage 1 to 22 million tonnes per annum commenced April 2006 and first production occurred November 2007. Stage 2 to 30 million tonnes per annum completed 2009.	Open pit	Supplied through the integrated Hamersley and Robe power network operated by Pilbara Iron
Interest acquired in 2000 through North. Current operation began in 1962 and has processed over one billion tonnes of crude ore since. Annual capacity 17.5 million tonnes of concentrate of which 13.5 million tonnes can be pelletised.	Open pit	Supplied by Newfoundland Hydro under long-term contract
First shipment in 1972. Annual sales reached 30 million tonnes in late 1990s. Interest acquired in 2000 through North. West Angelas first ore shipped in 2002 and mine expanded in 2005. Current capacity approximately 50 million tonnes per year.	Open pit	Supplied through the integrated Hamersley and Robe power network operated by Pilbara Iron

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Mines and production facilities continued

Group smelters and refineries

(Rio Tinto s interest 100 per cent unless otherwise shown)

Smelter/refinery	Location	Title/lease	Plant type/product	Capacity as of 31 December 2012 (based on 100% ownership)
Aluminium				
Rio Tinto Alcan				
Alma	Alma, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium rod, t-foundry, molten metal, high purity, remelt, busbars	438,000 tonnes per year aluminium
Alouette (40%)	Sept-Îles, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium high purity, remelt	597,000 tonnes per year aluminium
Alucam (46.7%)	Edéa, Cameroon	100% freehold	Aluminium smelter producing aluminium slab, remelt	100,000 tonnes per year aluminium
Arvida	Saguenay, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium billet, molten metal, remelt	176,000 tonnes per year aluminium
Bécancour (25.1%)	Bécancour, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium slab, billet, t-foundry, remelt, molten metal	433,000 tonnes per year aluminium

Dunkerque	Dunkerque, France	100% freehold	Aluminium smelter producing aluminium slab, small form foundry, remelt	262,000 tonnes per year aluminium
Grande-Baie	Saguenay, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium slab, molten metal, high purity, remelt	224,000 tonnes per year aluminium
ISAL	Reykjavik, Iceland	100% freehold	Aluminium smelter producing aluminium slab, remelt, billet	191,000 tonnes per year aluminium
Jonquière (Vaudreuil)	Jonquière, Quebec, Canada	100% freehold	Refinery producing specialty aluminas and smelter grade aluminas	1,500,000 tonnes per year alumina
Kitimat[(a)]	Kitimat, British Columbia, Canada	100% freehold	Aluminium smelter producing aluminium billet, slab, remelt	187,000 tonnes per year aluminium
Laterrière	Saguenay, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium slab, remelt, molten metal	239,000 tonnes per year aluminium
Lochaber	Fort William, Scotland, UK	100% freehold	Aluminium smelter producing aluminium slab, remelt	47,000 tonnes per year aluminium
Queensland Alumina (80%)	Gladstone, Queensland, Australia	73.3% freehold; 26.7% leasehold (of which more than 80% expires in 2026 and after)	Refinery producing alumina	3,950,000 tonnes per year alumina
Saint-Jean-de-Maurienne	Saint-Jean-de-Maurienne, France	100% freehold	Aluminium smelter producing aluminium rod, remelt	142,000 tonnes per year aluminium
São Luis (Alumar) (10%)		100% freehold		

	São Luis, Maranhão, Brazil		Refinery producing alumina	3,500,000 tonnes per year alumina
Shawinigan	Shawinigan, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium billet, remelt	102,000 tonnes per year aluminium
Sohar (20%)	Sohar, Oman	100% leasehold (expiring 2039)	Aluminium smelter producing aluminium, high purity, remelt	372,000 tonnes per year aluminium
SØRAL (50%)	Husnes, Norway	100% freehold	Aluminium smelter producing aluminium billet, remelt	184,000 tonnes per year aluminium
Yarwun	Gladstone, Queensland, Australia	97% freehold. 3% leasehold (expiring 2101 and after)	Refinery producing alumina	3,400,000 tonnes per year alumina
Pacific Aluminium				
Bell Bay	Bell Bay, Northern Tasmania, Australia	100% freehold	Aluminium smelter producing aluminium slab, molten metal, small form and t-foundry, remelt	180,000 tonnes per year aluminium
Boyne Smelters (59.4%)	Boyne Island, Queensland, Australia	100% freehold	Aluminium smelter producing aluminium billet, EC grade, small form and t-foundry, remelt	560,000 tonnes per year aluminium
Gove	Gove, Northern Territory, Australia	100% leasehold. All leases were renewed in 2011 for a further period of 42 years. The residue disposal area is leased from the Arnhem Land Aboriginal Land Trust. The Northern Territory government is the	Refinery producing alumina	2,650,000 tonnes per year alumina

		lessor of the balance of the leases; however, on expiry of the 42-year renewed term, the land subject of the balances of the leases will all vest to the Arnhem Land Aboriginal Land Trust.		
Tiwai Point (New Zealand Aluminium Smelters) (79.4%)	Invercargill, Southland, New Zealand	19.6% freehold; 80.4% leasehold (expiring in 2029 and use of certain Crown land)	Aluminium smelter producing aluminium billet, slab, small form foundry, high purity, remelt	350,000 tonnes per year aluminium
Tomago (51.6%)	Tomago, New South Wales, Australia	100% freehold	Aluminium smelter producing aluminium billet, slab, remelt	530,000 tonnes per year aluminium

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Smelter/refinery	Location	Title/lease	Plant type/product	Capacity as of 31 December 2012 (based on 100% ownership)
Other Aluminium				
Sebree	Robards, Kentucky, US	100% freehold	Aluminium smelter producing aluminium billet, t-foundry, remelt	200,000 tonnes per year aluminium
Copper				
Kennecott Utah Copper	Magna, Salt Lake City, Utah, US	100% freehold	Flash smelting furnace/Flash convertor furnace copper refinery	335,000 tonnes per year refined copper
Palabora (57.7%)	Phalaborwa, South Africa	100% freehold	Reverberatory Pierce Smith copper refinery	90,000 tonnes per year refined copper
Diamonds & Minerals				
Boron	California, US	100% freehold	Borates refinery	576,000 tonnes per year boric oxide
Rio Tinto Fer et Titane **Sorel Plant**	Sorel-Tracy, Quebec, Canada	100% freehold	Ilmenite smelter	1,300,000 tonnes per year titanium dioxide slag, 1,000,000 tonnes per year iron
Richards Bay Minerals (74%)	Richards Bay, South Africa	100% freehold	Ilmenite smelter	1,030,000 tonnes per year titanium dioxide slag, 550,000 tonnes per year iron
Iron Ore				
IOC Pellet Plant (59%)	Labrador City, Newfoundland and Labrador, Canada	100% leaseholds (expiring in 2020, 2022 and 2025 with rights of renewal for further terms of 30 years)	Pellet induration furnaces producing multiple iron ore pellet types	13,500,000 tonnes per year pellet

Notes:

(a) Capacity as at 31 December 2012 reflects the closures of two potlines in preparation for the Kitimat modernisation project. The nameplate capacity of the Kitimat smelter remains at 282,000 tonnes per year.

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Mines and production facilities continued

Information on Group power plants

(Rio Tinto s interest 100 per cent unless otherwise shown)

Power plant	Location	Title/lease	Plant type/product	Capacity as of 31 December 2012 (based on 100% ownership)
Aluminium				
Rio Tinto Alcan				
Highlands power stations	Lochaber, Kinlochleven, UK	100% freehold	Hydroelectric power	109MW
Kemano power station	Kemano, British Columbia, Canada	100% freehold	Hydroelectric power	896MW
Quebec power stations	Saguenay, Quebec, Canada (Chute-à-Caron, Chute-à-la-Savane, Chutes-des-Passes, Chute-du-Diable, Isle-Maligne, Shipshaw)	100% freehold (except Péribonka lease to 2058)	Hydroelectric power	3,147MW
Vigelands power station	Nr Kristiansand, Norway	100% freehold	Hydroelectric power	26MW
Yarwun alumina refinery co-generation plant	Gladstone, Queensland, Australia	100% freehold	Gas turbine and heat recovery steam generator	160MW
Weipa power stations	Lorim Point, Andoom, Queensland, Australia	100% leasehold	On-site generation (diesel)	36MW
Pacific Aluminium				
Gladstone power station (42%)	Gladstone, Queensland, Australia	100% freehold	Thermal power station	1,680MW
Gove power station	Nhulunbuy, Northern Territory, Australia	100% leasehold	Heavy oil fired thermal power station	180MW
Copper				
Phalaborwa power station	Phalaborwa, Limpopo Province, South Africa	100% freehold	Steam turbine running off waste	9.27MW

(57.7%)			heat boilers at the copper smelter	
Puncakjaya Power (22.12%)	Grasberg, Papua, Indonesia	Lease	Diesel power plant Thermal power plant	193MW
Kennecott Utah Copper Power Stations	Salt Lake City, Utah, US	100% freehold	Thermal power station Steam turbine running off waste heat boilers at the copper smelter Combined heat and power plant supplying steam to the copper refinery	175MW 31.8MW 6.2MW

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Power plant	Location	Title/lease	Plant type/product	Capacity as of 31 December 2012 (based on 100% ownership)
Diamonds & Minerals				
Boron co-generation plant	Boron, California, US	100% freehold	Co-generation uses natural gas to generate steam and electricity, used to run Boron s refining operations	48MW
Energy				
Energy Resources of Australia (Rio Tinto: 68.4%)	Ranger mine, Jabiru, Northern Territory, Australia	Lease	Five diesel generator sets rated at 5.1MW; 1 diesel generator rated at 1.9MW	27.4MW
Iron Ore				
IOC power station	Sept Îles, Quebec, Canada	100% freehold	Hydroelectric power	22MW
Paraburdoo power station	Paraburdoo, Western Australia, Australia	Lease	LM6000 PC gas fired turbines	153MW
Yurralyi Maya power station (Rio Tinto: 58%)	Dampier, Western Australia, Australia	Lease	LM6000 PD gas fired turbines	180MW

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Governance

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Letter from the chairman

Dear Shareholder,

In our pursuit of greater shareholder value, we must maintain the highest standards of corporate governance. In the section that follows, we focus on our corporate governance framework and practice, provide you with further details about the board and explain how it carries out its responsibilities to safeguard the Group s assets. We acknowledge that the level of write-downs across our coal and aluminium businesses is deeply disappointing. Under Sam Walsh s leadership, there is greater focus, discipline and accountability throughout the organisation. This is underpinned by your board s oversight of the robust corporate governance framework to support our business and strategic delivery.

Strategy and risk management

My role as chairman is to lead the board and to ensure it is focused on its oversight of management and the delivery of our strategy. Sam Walsh s role as chief executive is to focus on sustained operational excellence and growth of the business and to do so with safety as the utmost priority. Our roles are complementary but distinct. The separation of executive and non-executive accountabilities is essential to good governance: the executives, under Sam s leadership, have an operational role, whereas the non-executives have an oversight role, ensuring accountability and exercising strong and deliberate challenge through the board decision-making process to ensure appropriate control mechanisms are in place to safely implement our strategy and plans.

Your board devotes much of its time to reviewing, debating and challenging proposals for investment from management, as well as dealing with a wide range of other issues including safety and the Group s strategic direction, monitoring business performance, optimising capital allocation and expenditure whilst carefully evaluating the wide range of risks facing the business.

Board composition

The board places great emphasis on succession planning, both non-executive and executive. Even though we were successful in bringing forward new talent to the executive team in 2012, the impairments which we booked in early 2013 led to the departure of Tom Albanese and Doug Ritchie. The board is grateful to Tom and Doug for their significant contributions to Rio Tinto over their many years with the Group, and was pleased to appoint Sam Walsh as chief executive. Sam s many years of experience with the Company will ensure a rapid and effective transition towards building a stronger business. The board has also appointed Chris Lynch as chief financial officer-designate. He has a wealth of experience, both within and outside the sector, and will be a great asset to the Executive Committee. The board was also pleased to announce the promotion of Jean-Sébastien Jacques as chief executive, Copper, following Andrew Harding s move to lead the Iron Ore group.

Our efforts continue to focus on ensuring that the profile, skill sets, diversity and individual qualities of our executives and non-executives can serve the current and future needs of the business and the ever-changing environment in which we operate.

We are a balanced and diverse board, comprising myself as chairman, three executive directors and eight independent non-executive directors, all of whom meet strict independence criteria. The directors bring with them truly international experience from a wide range of professional, business and public office backgrounds. For Rio Tinto, diversity embraces a range of different measures, including, of course, gender diversity. We have adopted a diversity and inclusion policy and set measurable objectives for achieving diversity across the Company, including on the board.

We provide new board members with a detailed induction programme and extensive ongoing training, including site visits. In 2012, we visited our mineral sand and coal operations in Southern Africa. We also visited our alumina refineries in Queensland and our underground copper mine in Northparkes, New South Wales, Australia.

Board evaluation

For the first time in 2012, the board s annual performance evaluation was facilitated by an independent external expert, and the board will devote considerable attention to the outcomes of this exercise, when the outcomes are shared in the first half of 2013. I remain happy with the overall effectiveness of the board and the contribution each member of the board is making, while recognising the need for continuous improvement and a focus on accountability, values, strong governance and prudent management of risk in the delivery of our strategy.

We want to ensure we have people on your board for whom corporate governance is not simply a set of rules: we need those who embrace it and appreciate that we want to manage the Group in the interests of all our stakeholders. Good governance is at the heart of everything we do. As you will read in the sections that follow, the board committees, under the effective leadership of their respective chairs, carry out important and demanding roles on the board s behalf and facilitate the embedding of effective governance across the organisation.

Yours sincerely,

Jan du Plessis

Chairman

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Corporate governance

Rio Tinto takes a unified approach to corporate governance to comply with the regulatory obligations associated with its three principal stock exchange listings in the UK, Australia and the US.

Statement of compliance with governance codes and standards in 2012

In compiling this report, the directors have referred to the June 2010 edition of the UK Corporate Governance Code (the Code), the Australian Securities Exchange (ASX) Corporate Governance Principles and Recommendations (the ASX Principles), and the New York Stock Exchange (NYSE) Corporate Governance Standards (the NYSE Standards).

Throughout 2012, and at the date of this report, the Group applied the principles of, and was compliant with the provisions of, the Code and with the ASX Principles.

Rio Tinto plc, as a foreign issuer with American Depositary Shares listed on the NYSE, is obliged by the NYSE Standards to disclose any significant ways in which its practices of corporate governance differ from the NYSE Standards.

The Company has reviewed the NYSE Standards and believes that its practices are broadly consistent with them, with one exception. The NYSE Standards state that companies must have a nominating/ corporate governance committee composed entirely of independent directors which, in addition to identifying individuals qualified to become board members, develops and recommends to the board a set of corporate governance principles applicable to the Company.

Rio Tinto has a Nominations Committee, information about which is set out on page 77. This committee does not develop corporate governance principles for the board s approval. The board itself performs this task and approves the Group s overall system of governance and internal controls.

Further information about the corporate governance framework is available in the Shareholders section of Rio Tinto s website.

The board

Rio Tinto plc and Rio Tinto Limited have a common board of directors. The directors are responsible for the success of the Group and, through the independent oversight of management, are accountable to shareholders for the performance of the business.

Role and responsibilities

The principal role of the board is to set the Group s strategy and to regularly review its strategic direction. In doing this, the board also has responsibility for corporate governance and oversees management s control and accountability framework.

A formal schedule of matters reserved by the board has been established by the directors. This covers areas such as the Group s strategy, major investments, acquisitions and divestments and oversight of risk. It is available on the website.

Responsibility for day-to-day management of the business is delegated to the chief executive and the Executive Committee. In turn, authorities are also delegated to individual members of the Executive Committee, all within an agreed financial control framework. As part of the annual financial planning process, the board sets annual performance targets, which include personal and business performance measures, under the Group s short-term incentive plan (detailed on page 97). These performance targets are determined by the Remuneration Committee on behalf of the board for the chief executive based upon his proposals and objectives for the year. The chief executive establishes targets for the other members of his Executive Committee which are then cascaded throughout management teams. Further details of the performance evaluation of the executive directors and other senior executives is discussed in the Remuneration report.

Board balance and independence

Board composition

The names, skills and experience of each director together with their terms in office are shown in the biographical details on pages 83 to 85. Details of changes to the board during 2012 and in the year to date are set out in the Directors report on page 89.

Director independence

The tests of independence of a non-executive director vary between the jurisdictions where Rio Tinto has listings. The board has adopted a formal policy for the determination of the independence of its non-executive directors which is available on the Group s website. Applying the criteria of the independence policy, the board is satisfied that all of its non-executive directors are independent.

Among the key criteria of the independence policy are independence from management and the absence of any business relationship which could materially interfere with the director s independence of judgment and ability to provide a strong, valuable contribution to the board s deliberations, or which could interfere with the director s ability to act in the best interests of the Group. Where contracts in the ordinary course of business exist between Rio Tinto and a company in which a director has declared an interest, these are reviewed for materiality to both the Group, and the other party to the contract. Material is defined in the policy as being where the relationship accounts for more than two per cent of either party s consolidated gross revenue per annum, although the test also takes other circumstances into account. The chairman was considered independent upon his appointment under the Code, and in the board s view he continues to satisfy the tests for independence under the ASX Principles and the NYSE Standards.

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Executive directors other directorships

Executive directors may be invited to become non-executive directors of other companies. The Nominations Committee, on behalf of the board operates a procedure under which approval may be given to accept such invitations recognising the benefit to be derived to the individual and to Rio Tinto from such appointments. For further information see page 101.

Election and re-election

The directors may appoint additional members to join the board during the year. Directors appointed in this way will be subject to election by shareholders at the first annual general meetings after their appointment. In subsequent years, the directors are expected to submit themselves for re-election at the annual general meetings each year.

Non-executive directors are normally expected to serve at least six years and, except in special circumstances, would not normally serve more than nine years.

Lord Kerr has been a non-executive director since 2003 and has therefore already served for nine years.

Given the recent executive changes, he has agreed to stand for re-election to the boards at the AGMs. The board considers that Lord Kerr will provide continuity given his significant knowledge of the business and has confirmed that he continues to be independent in carrying out his role.

Governance processes

In 2012, there were eight scheduled board meetings and one board meeting convened and held at short notice. Details of the directors attendance at all of the board and committee meetings held in 2012 are set out on the following page.

The board has regular discussions with the executives on the Group s strategy. These discussions will typically include strategy presentations that are given by product group chief executives, or other members of management. An annual two-day strategy-setting meeting with the Executive Committee is held which includes broader, detailed review sessions on the Group s strategic direction. The outputs from this event help underpin the board s annual financial planning exercise and provide strategic direction and focus to the executive team through effective allocation of the Group s resources.

Directors receive timely, regular and appropriate information to enable them to fulfil their duties. They also have direct access to the advice and services of the company secretaries. The directors are also able to obtain independent professional advice at the Group s expense.

In addition, the directors are in regular informal communication with members of the Executive Committee and other members of management. This helps to foster an open and regular exchange of knowledge and experience.

All new non-executive directors undertake a formal induction programme. In addition, they are routinely provided with training and development opportunities. The directors are also encouraged to participate in site visits to the Group s operations around the world and to meet with local employees. In 2012, the board visited our bauxite and alumina operations in Gladstone, Queensland, our copper mine at Northparkes, New South Wales, our mineral sand operations in Richards Bay, South Africa and our coal business in Mozambique.

Board performance evaluation

An annual exercise is undertaken to evaluate the effectiveness of the board, board committees and individual directors.

For 2012, the board evaluation process was facilitated by Independent Board Evaluation, an independent external consultancy with no other connection with the Company, engaged by the chairman and co-ordinated by the company secretary.

A comprehensive brief was provided to Independent Board Evaluation. The evaluation process involved the consultant attending board and committee meetings in an observer capacity. This was supported by detailed interviews conducted with every board member and members of the Executive Committee and the company secretary.

Based on these interviews, the senior independent non-executive director received a report on the chairman, and feedback on his performance has been provided to him.

The chairman appraised the performance of non-executive directors and provided feedback on each individual s performance and contribution.

A similar process was followed for the board committees. Independent Board Evaluation provided feedback to each of the committee chairs on the performance of each committee. In turn, this will be discussed and any actions agreed by each committee later this year.

Following the conclusion of this evaluation exercise, the board plans to hold a dedicated session at one of its scheduled meetings to discuss the output from the performance evaluation and to consider what actions to put into effect during the remainder of 2013.

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Corporate governance continued

Directors membership of and attendance at board and Committee meetings during 2012

	Board scheduled[f]	Board short notice[f]	Audit Committee[f]	Remuneration Committee[f]	Sustainability Committee[f]	Nominations Committee[f]	Chairman s Committee[f]
Jan du Plessi[a]	7/8	1/1		7/7		4/4	19/19
Tom Albanese[b]	8/8	1/1					18/19
Guy Elliott	8/8	1/1					16/19
Sam Walsh[c]	8/8	1/1					
Robert Brown	8/8	1/1			5/5	4/4	
Vivienne Cox	8/8	1/1			5/5	4/4	
Michael Fitzpatrick	8/8	1/1	6/6	9/9		4/4	
Ann Godbehere	8/8	1/1	6/6			4/4	
Richard Goodmanson	8/8	1/1		9/9	5/5	4/4	
Andrew Gould[d]	2/3	1/1		3/4		1/2	
Lord Kerr	8/8	1/1	6/6		5/5	4/4	
Chris Lynch[e]	8/8	1/1	4/4			4/4	
Paul Tellier	8/8	1/1	6/6	9/9		4/4	
John Varley	7/8	1/1		9/9		4/4	

(a) Appointed to the Remuneration Committee on 7 February 2012
(b) Stood down from the board on 17 January 2013
(c) Appointed chief executive on 17 January 2013
(d) Retired from the board on 10 May 2012
(e) Appointed to the Audit Committee 1 June 2012. Appointed chief financial officer-designate on 1 March 2013, at which time Chris Lynch resigned from the Committee.
(f) Number of meetings attended/maximum the director could have attended

Governance structure

The board has established formal committees which are responsible for audit, remuneration, sustainability and matters relating to executive and non-executive succession. In addition, a Chairman s Committee operates under delegated authority between scheduled board meetings. These support the board in ensuring that high standards of corporate governance are maintained across the Group.

The committees are governed by terms of reference, set and approved by the board, which are reviewed annually and can be viewed on the corporate governance section of the website.

The chief executive is assisted by the Executive Committee in monitoring performance and delivering Rio Tinto s strategy.

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Progress against our priorities

What we said

- Review financial and non-financial performance metrics to retain a strong balance sheet;
- Review executive succession planning under the leadership of the Nominations Committee; and
- Deliver year-on-year improvement in safety performance.

What we have achieved

- Carried out the annual strategy session at which we reconfirmed through optimising our asset allocation strategy to balance capital management/dividend versus growth focus on the pursuit of greater shareholder value;
- Continued focus on succession planning, including changes to the Executive Committee implemented in September 2012 and February 2013;
- Hosted two governance round-table meetings with key Australian and UK investors covering the role and accountabilities of the board and committees; and
- Continued focus on safety improvement and simplifying performance assessment so as to be based upon safety measures rather than programmes to drive performance.

What are our priorities

Strategy

- We invest in and operate large, long-life, low-cost mines and businesses in the most favourable industry sectors;
- We pursue greater value for shareholders and optimise future capital allocation by prioritising and investing in only the highest returning projects;
- We continue to focus on retaining a strong balance sheet.

Succession and diversity

- Maintain a focus on executive and non-executive succession planning, taking into account the Group's diversity and inclusion policy.

Performance

- Delivering on existing commitments and growth projects.

Enhance performance at existing businesses by unlocking substantial productivity improvements, aggressively reducing costs and improved management of our sustaining capital.

Target cumulative cash cost savings of over US$5 billion by the end of 2014.

Strengthen existing management systems; instilling greater rigour to internal review processes; introducing greater clarity and accountability to decision-making; and clearer line of sight to critical business issues.

Continue focus on improved safety performance.

Board committees

Audit Committee

Members of the Committee are Ann Godbehere (chair), Mike Fitzpatrick, John Kerr and Paul Tellier. Chris Lynch was appointed to the Committee on 1 June 2012 and stood down upon his appointment as chief financial officer-designate on 1 March 2013.

Key responsibilities

The primary function of the Audit Committee is to assist the board in fulfilling its responsibilities by monitoring the integrity of financial reporting, internal control, risk management and compliance systems.

The Audit Committee s main responsibilities include the review of accounting principles, policies and practices adopted in the preparation of public financial information, review with management of procedures relating to financial controls, including internal audit plans and reports, review with external auditors of the scope and results of their audit, review and approval of the auditors fees, the nomination of auditors for appointment by shareholders, and the review of and recommendation to the board for approval of risk management policies and processes. It also oversees the whistleblowing programme.

In carrying out its responsibilities the Committee has full authority to investigate all matters that fall within its terms of reference. Accordingly, the Committee may:

- obtain independent professional advice in the satisfaction of its duties at the cost of the Group; and
- have direct access to the resources of the Group as it may reasonably require including the external and internal auditors.

Governance processes

The Committee met six times in 2012. The chairman, chief executive, chief financial officer, other senior management and external and internal auditors regularly attend its meetings.

The members of the Committee are independent and free of any relationship that would affect their impartiality in carrying out their responsibilities. The members meet the independence requirements of the Code, the ASX Principles and the NYSE Standards. The Committee meets the composition, operation and responsibility requirements of the ASX Principles.

The Committee is also bound by SEC requirements for audit committees financial experts and the Code and ASX Principles requirement that at least one Committee member should have recent and relevant financial qualifications and experience. Ann Godbehere, chairman of the Committee, is considered by the board to have recent and relevant financial experience, and financial qualifications, and has been designated the Committee s financial expert. All other members of the Committee are, in the opinion of the Committee, deemed to be financially literate by virtue of their business experience.

The Committee applies policies for the pre-approval of permitted services provided by the Group s external auditors PricewaterhouseCoopers LLP (PwC). All of the engagements for services provided by them were either within the pre-approval policies or approved by the Committee. The Committee members are satisfied that the provision of non-audit services by PwC in accordance with this procedure is compatible with the general standard of independence for auditors imposed by relevant regulations, including the Australian Corporations Act 2001 and US legislation.

The Committee considered reports from PwC and Group Audit & Assurance on the activities undertaken in reviewing and auditing the control environment in order to assess the quality and effectiveness of the internal control system. This included an evaluation of the effectiveness of the Group s internal controls over financial reporting and the Group s disclosure controls and procedures in accordance with sections 404 and 302 of the Sarbanes Oxley Act 2002. A review of the scope and the outputs from the annual Internal Control Questionnaire, a key element of Rio Tinto s internal control framework, was also evaluated.

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Corporate governance continued

The external auditor attended all six Committee meetings during the year. In advance of the Committee meetings, the audit partners brief the chairman on key matters. Private sessions are routinely held with members of the external audit team to discuss the status of the audit and nature of interaction with management.

During the year, the Committee reviewed the effectiveness of PwC for Group audit and local statutory audit work. The evaluation, managed by the Group s financial controllers, took the form of a survey comprising a range of questions covering objectivity, quality, and efficiency, and was completed by individual Rio Tinto business units. The results of this survey were presented to the Committee which concluded that PwC continued to provide a high-quality audit and an effective and independent challenge to management. The Committee was satisfied with the external audit process and that the independence of the external auditors was in no way compromised.

PwC has been the external auditor since the formation of the dual listed company structure in 1995. The Committee does not consider it necessary at the present time to undertake a tender process for the Group s external auditors. Since 2002, PwC has followed the requirements of the Sarbanes-Oxley Act 2002 and APB Ethical Standards and rotated both the lead UK and Australian audit partners at least every five years. This continued refreshing of the team brings new perspectives to the audit and promotes healthy debate between auditors and management as well as the Committee. The current UK audit engagement partner, Richard Hughes, was appointed for the 2011 year end and therefore 2015 will be his last year of involvement before transition to a new engagement partner. The Australian audit engagement partner, Paul Bendall, was appointed for the 2012 year end and therefore 2016 will be his last year.

What we did in 2012

- Established dedicated induction, training and development programme for all committee members;
- Reviewed Internal Audit Strategy for 2013/14;
- Monitored effectiveness of the Group s risk management process;
- Oversight of transition of Australian external audit partner;
- Appointment of new head of Group Audit & Assurance;
- Engaged with European Commission over EU audit reform proposals; and
- Focused on impairment, acquisitions and the Annual report.

What we are doing in 2013

In compliance with the revised Code, reviewing the Committee's scope and accountabilities to ensure that, if requested by the board, it can monitor the effectiveness of the Group's reporting processes and provide advice on whether the annual report and accounts, taken as a whole, is fair, balanced and understandable;

Reviewing and, as appropriate, enhancing the Committee's disclosures regarding its activities during the year, including discussion of significant issues it has considered, and a discussion of the processes and checks carried out to ensure the effectiveness and independence of the external auditors;

Reviewing and reinforcing the existing process and control environment;

Monitoring and evaluating the effectiveness of the Group's risk management processes and controls;

Overseeing the 2014 Group Audit & Assurance planning process and, specifically, the 2014 Internal Audit plan;

Continuing the focus on dedicated training and development sessions for Committee members on a range of technical accounting subjects. Subjects earmarked for 2013 include accounting for asset retirement obligations; and accounting for exploration, evaluation and capital projects.

Ann Godbehere

Chairman

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Nominations Committee

Members of the Committee comprise Jan du Plessis (chair) and all of the serving non-executive directors.

Key responsibilities

The Committee is responsible, on behalf of the board, for regularly assessing the balance of executive and non-executive directors and the composition of the board in terms of the diversity and capacity required to oversee the delivery of the Rio Tinto strategy.

The Committee develops and agrees in advance the desired profiles of potential candidates for board membership. It oversees the recruitment process and engages external search consultants to manage searches on its behalf, including constructing shortlists comprising candidates from diverse backgrounds. Following a final review of shortlisted candidates, the Committee will make a recommendation for new board members to the board for approval.

On behalf of the board, the Committee also reviews proposals for senior executive appointments, monitors executive succession planning and oversees the board s policy on external appointments of Executive Committee members.

Governance processes

In 2012, the Committee met four times.

The members of the Committee are independent in accordance with the independence policy adopted by the board.

Sustainability Committee

Members of the Committee are Richard Goodmanson (chair), Robert Brown, Vivienne Cox and John Kerr.

Key responsibilities

The Committee assists the board to oversee management processes, standards, and strategies designed to manage social and environmental risks and achieve compliance with social and environmental responsibilities and commitments. The Committee reviews the effectiveness of management policies and procedures relating to safety, health, employment practices, relationships with neighbouring communities, environment, human rights, land access, political involvement and sustainable development.

Governance processes

In 2012, the Committee met five times. The chairman, chief executive, and other senior management regularly attend its meetings.

The members of the Committee are all independent.

Remuneration Committee

Members of the Committee are John Varley (chair), Jan du Plessis (appointed to the Committee on 7 February 2012), Mike Fitzpatrick, Richard Goodmanson, and Paul Tellier. Andrew Gould was a member of the Committee until his retirement on 10 May 2012.

Key responsibilities

The Remuneration Committee assists the board to fulfil its oversight responsibility to shareholders to ensure that remuneration policy and practices reward fairly and responsibly and with a clear link to corporate and individual performance.

The report of the Remuneration Committee on pages 92 to 125 has been recommended by the Committee for approval by the board.

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Corporate governance continued

Chairman s Committee

Members of the Committee are Jan du Plessis (chair), Guy Elliott, Chris Lynch, further to his recent appointment as chief financial officer-designate, and Sam Walsh.

Key responsibilities

The Committee acts on behalf of the board between scheduled board meetings either in accordance with authority delegated by the board or as specifically set out within its terms of reference. It supports the functioning of the board and ensures that the business of the board and its committees is properly planned and aligned with management. When mandated by the board, the Chairman s Committee will consider urgent matters between board meetings, and deal with the implementation of board decisions on transactions and other corporate matters. Other than for the chairman of the board, the Committee performs the annual review of non-executive directors fees and makes a recommendation to the board, as appropriate.

Diversity and inclusion

Our commitment to diversity and inclusion

We are a global company and, wherever we operate and across every part of our business, we strive to create an inclusive culture in which difference is recognised and valued. By bringing together men and women from diverse backgrounds and giving each person the opportunity to contribute their skills, experience and perspectives, we believe that we are able to develop the best solutions to challenges and deliver sustainable value for Rio Tinto and its stakeholders.

What diversity and inclusion means for Rio Tinto

- Embracing workforce diversity age, gender, race, national or ethnic origin, religion, language, political beliefs, sexual orientation, and physical ability.

- Valuing diversity of perspective leveraging the diverse thinking, skills, experience and working styles of our employees and other stakeholders.

- Building a flexible organisation providing opportunities for work arrangements that accommodate the diverse needs of individuals at different career and life stages.

- Respecting stakeholder diversity developing strong and sustainable relationships with diverse shareholders, communities, employees, governments, customers and suppliers.

How we support diversity and inclusion

We use the following to drive action and build awareness about diversity and inclusion:

- Governance models

- Policies, practices and targets

- Leadership and cultural competence

- Stakeholder relationships

- Education and communication

We prioritise long and short-term programmes based on need and impact.

Read a summary of our Diversity and Inclusion Policy in the corporate governance section of our website.

Our current focus

Our goal is to have a workforce that is representative of the countries and communities in which we operate. Currently, our focus is to improve the representation of women and of people from nationalities which are under-represented in our workforce and continue to build an inclusive culture in which all talent can thrive.

Some of the activities and initiatives relating to diversity that we undertook during the year are:

- The development of executive-sponsored diversity and inclusion plans within the product groups and geographies in alignment with business goals and the Group Diversity and Inclusion strategy aimed at increasing the diversity in our workforce at all levels and building a more inclusive culture. Progress will be evaluated each year by the Executive Committee and Group Diversity Council beginning in 2013.

- The design of a diversity and inclusion scorecard to accompany the above plans with metrics in three areas: 1) Who we are (demographics); 2) How we behave (performance and development); and 3) What we stand for (values), to be applied across Rio Tinto to help baseline, trend and track progress as well as to address areas where we may be underperforming.

- The active involvement with Women in Mining groups, professional women s associations and other targeted recruiting efforts to raise awareness about Rio Tinto and to increase the attraction, development and retention of talented women wherever we operate.

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The publication of a resource and training manual to accompany our *Why gender matters* guide to further integrate gender, diversity and human rights considerations into the management and planning of all Communities and Social Performance (CSP) work across all sections of our business.

The launch of easily-accessible language learning applications with access to over 23 languages to encourage employees to improve existing foreign language skills as well as to learn new languages.

Expansion of our diversity champions network group to include additional geographies and operations and the establishment of several new business unit diversity councils and committees across Rio Tinto increasing leadership engagement, cross-company collaboration, and the sharing and replication of best practices.

The expansion of training programmes aimed at countering unconscious bias-targeting senior leaders, hiring managers and recruiters to help minimise the impact of bias in recruitment and development practices as well as to improve cross-cultural interactions and relationship building needed to globalise our business.

The continuation of a three-year commitment by the chairman to mentoring high-potential female board candidates through the FTSE100 Cross-company Mentoring Programme.

Proportion of women employees and board members

In 2012, the proportion of women on the board was 14 per cent, in senior management 15 per cent and in the overall workforce 18 per cent.

Measurable objectives and progress

We established the following five-year measurable objectives for workforce diversity at the start of 2011.

Measurable objective	Progress during 2012
Women to represent 20 per cent of our senior management by 2015.	Women represented 15 per cent of our senior management in 2012.
Women to represent 40 per cent of our 2015 graduate intake.	Women represented 30 per cent of our 2012 graduate intake.
15 per cent of our 2015 graduate intake to be nationals from regions where we are developing new businesses.	24 per cent of our 2012 graduate intake were nationals from regions where we are developing new businesses.

Two further objectives relating to diversity of the board were established for 2012:

The Nominations Committee will undertake a review of board diversity.

For each director selection and appointment process, the external search firm supporting the Nominations Committee will put forward at least one credible and suitably experienced female candidate.

An assessment of board diversity was completed in 2012 with the support of an external consultancy, Independent Board Evaluation. The output from that assessment will be reviewed in the context of the board s succession plans during 2013.

The search firm was instructed to put forward at least one credible and suitably experienced female candidate for the searches undertaken during 2012. Their details were included in submissions made to the Nominations Committee. No appointment of a non-executive director was made in 2012. Accordingly, this objective remains in place for 2013.

The board has decided to adopt an additional measurable objective directed at gender diversity to undertake specialist training aimed at countering unconscious bias, designed to influence the mindsets that hinder the progress of women and minority groups within the Group.

The board will assess progress against these objectives annually.

Board diversity

More information about the board s process for the selection, appointment and election of directors is available in the corporate governance section of the website.

The Nominations Committee regularly reviews the structure, size and composition of the board. As a consequence of this review in 2012, the board confirmed the following statement as to the mix of skills and diversity it is looking to achieve in membership of the board.

In leading a global mining and metals company, the board seeks to continually evolve its membership by seeking non-executive directors with diverse and complementary skills and perspectives, as well as experience which reflects the geographic spread of the Group s operations. Core skills required for non-executive membership of the board are maintained. These skills may, depending upon the circumstances, comprise international business, financial or public policy experience, strategic acumen or mining or metals industry experience. The board aspires to increase other aspects of diversity, including the gender diversity, of directors in order to bring a diversity of skills, experience and perspective to the governance of the Group. The board recognises that the evolution of the mix of skills and diversity is a long-term process and weighs the various factors relevant to board balance and diversity when vacancies arise.

Corporate governance continued

Other disclosures

Global code of conduct

Rio Tinto s commitment to integrity and compliance is set out in *The way we work.* This contains principles and standards of conduct which reaffirm the Group s commitment to integrity and compliance. It is inspired by our four core values: accountability, respect, teamwork and integrity.

It is supported by Rio Tinto s extensive framework of policies and standards. Core policies are adopted by the board after wide consultation, externally and within the Group. Once adopted, they are communicated to business units worldwide, together with mandatory standards, guidance notes and resources to support implementation. Business units are required to devote the necessary effort by management to implement and report on these policies and standards.

Rio Tinto s core policies, addressed in *The way we work,* include: access to land; business integrity; communities; corporate governance; employment; environment; human rights; internal controls and reporting; occupational health; political involvement; government relations; safety; sustainable development; and transparency. These are supported by policies in the areas of data privacy, risk, information management and security.

Each policy is supported by standards and guidance, expanding on the minimum expectations on topics such as antitrust, continuous disclosure, anti-bribery, compliance, cultural heritage and health, safety and the environment. These policies and standards apply to all Rio Tinto managed businesses. Where the Group does not have operating responsibility for a business, Rio Tinto s policies are communicated to its business partners and they are encouraged to adopt similar policies of their own. Rio Tinto employees are required to undertake training about the requirements of *The way we work* and other core policies.

Whistleblowing programme

The board has adopted a confidential and independently operated whistleblowing programme called *Speak-OUT.* This offers an avenue where concerns can be reported anonymously if employees so choose, subject to local law. This can include any significant concerns about the business, or behaviour of individuals, including suspicion of violations of financial reporting, safety or environmental procedures or business integrity issues generally. During 2012, enhanced features were introduced to the programme, including improved web submission, a new case management tool to better manage cases, and a reporting tool to allow for improved analysis of case statistics and reporting. Rio Tinto is also looking at ways to increase the positive awareness of *Speak-OUT* among employees.

Dealing in Rio Tinto securities

Rio Tinto has a set of rules which restrict the dealing in Rio Tinto securities by directors and employees with access to inside information . These rules require those people to seek clearance from the chairman or the company secretary before any proposed dealing to ensure that they do not deal when in possession of inside information. Directors and members of the Executive Committee will not be given clearance during close periods immediately preceding the announcement of annual and interim results. The rules prohibit the hedging of unvested options or other unvested securities issued as remuneration. The Rules for dealing in Rio Tinto securities can be viewed on the website.

Communication with stakeholders

Rio Tinto recognises the importance of effective timely communication with shareholders and the wider investment community.

To ensure that trading in its securities takes place in an informed market, the Group has adopted continuous disclosure standards which are overseen by the Continuous Disclosure Committee and form part of the Group s corporate governance standards. The Committee is responsible for determining whether information relating to Rio Tinto may require disclosure to the markets under the continuous disclosure requirements in the jurisdictions in which Rio Tinto is listed.

Rio Tinto makes immediate disclosure to the listing authorities of any information that a reasonable person would expect to have a material effect on its share price in accordance with their rules. All information released to the markets is posted on the media section of the website.

In addition to statutory documents, Rio Tinto s website features in-depth information on health, safety and the environment, corporate governance, as well as general investor information, publications and policies and guidance. Annual and half year results, as well as any major presentations, are also webcast. Presentation material from investor seminars is also made available on the website.

The annual general meetings present an opportunity to provide a summary business presentation, to inform shareholders of recent developments and to give them the opportunity to ask questions. Generally, the chairs of all board committees will be available to answer questions raised by shareholders and all directors are expected to attend where possible. In 2012 all of the directors attended the annual general meetings. Rio Tinto s external auditor, PricewaterhouseCoopers, attends the annual general meetings and is available to answer questions about the conduct of the external audit and the preparation and content of the independent auditors report. Any questions received and answers provided ahead of the annual general meetings are made available to shareholders, who also have the opportunity to meet informally with directors after the meetings.

The main channels of communication with the investment community are through the chairman, chief executive and chief financial officer, who have regular meetings with the Companies major shareholders. The senior independent director, other board committee chairs, and non-executive directors are also available on request. The senior independent director has a specific responsibility to be available to shareholders who have concerns, and where contact with the chairman, chief executive or chief financial officer has failed to resolve their concerns, or for whom such contact is inappropriate.

During 2012, these meetings with the investment community focused on the issues of strategy, board succession, corporate governance, executive remuneration, and the operational and financial performance of the Group. Regular investor seminars provide a two-way communication opportunity with investors and analysts, whilst in 2012, corporate governance round tables were hosted to provide investors with an opportunity to engage with non-executive directors. Feedback from such engagement is routinely communicated to the board. Surveys of major shareholders opinions are presented to the board by the Group s investor relations advisers on a regular basis.

Risk management

Risk management

Rio Tinto s overriding objective is to generate attractive sustainable returns to shareholders through a strategy of investing in large, long-term, low-cost mines and businesses. The directors recognise that creating shareholder return is the reward for taking and accepting risk. The risks facing shareholders are, to some extent, managed by the Group s diversified portfolio of assets spread across multiple geographies, currencies and commodities.

A description of the risk factors that could affect Rio Tinto are found on pages 10 to 12.

Risk policy and standard

The board recognises that risk is an integral component of the business, and that it is characterised by both threat and opportunity. The Group fosters a risk aware corporate culture in all decision-making, and is committed to managing all risk in a proactive and effective manner through competent risk management. To support this commitment, risk is analysed in order to inform the management decisions taken at all levels within the organisation. The principles of the risk analysis and management process are set out in the Risk policy and standard which is on the website.

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Risk approach

The Risk policy and standard is supported by an integrated framework of risk governance and reporting specifying how the Group organises the handling of risk. Together with the policy, the framework provides an ongoing process for identifying, evaluating and managing the significant risks faced by the Group. Clear accountability for risk management is defined throughout the Group and is a key performance area of line managers. The process has been in place for 2012 and up to the date of the report.

To support risk understanding and management at all levels, the Group Risk function provides the necessary infrastructure, information collation for the senior executive, and co-ordination between other risk-focused functions. Group Risk reports into the Risk Management Committee.

Internal controls

The directors are responsible for the Group s system of internal controls and for reviewing annually its effectiveness in providing shareholders with a return on their investments that is consistent with a responsible assessment and management of risks. This includes reviewing financial, operational and compliance controls and risk management procedures and their effectiveness. The directors have completed their annual review and assessment for 2012. Whilst the Audit Committee is responsible for oversight of the effectiveness of the risk management process, accountability for identifying and managing risks rests with the chief executive and is cascaded throughout the Group through the Executive Committee.

Internal risk control systems

Two of the Group s management committees, the Executive Committee and the Disclosure and Procedures Committee, regularly review reports related to the Group s control framework in order to satisfy the internal control requirements of the Code, the ASX Principles, the NYSE Standards and section 404 of the Sarbanes-Oxley Act 2002. Each year, the leaders of the Group s businesses and functions complete an Internal Control Questionnaire that seeks to confirm that adequate internal controls are in place, are operating effectively and are designed to capture and evaluate failings and weaknesses, if any exist, and that action is taken promptly, as appropriate. The results of the internal control evaluation are presented to the Audit Committee in support of their review of the Group s internal controls. The Group Audit & Assurance function performs reviews of the integrity and effectiveness of control activities and provides regular reports to the Audit Committee, Sustainability Committee and other management committees.

In 2012, information was reported by management to the Audit Committee to enable it to assess the effectiveness of the internal controls and the management of material business risks. In addition, as part of their role, the board and its committees routinely monitor the Group s material business risks.

Due to the limitations inherent in any risk management system, the process for identifying, evaluating and managing the material business risks is designed to manage, rather than eliminate, risk and to provide reasonable, but not absolute assurance, against material misstatement or loss. Certain risks, for example natural disasters, cannot be managed to an acceptable degree using internal controls. Such major risks are transferred to third parties in the international insurance markets, to the extent considered appropriate. The Group has material investments in a number of jointly controlled entities and associates. Where Rio Tinto does not have managerial control, it cannot guarantee that local management of mining and related assets will comply with Rio Tinto standards or objectives. The review of their internal controls is less comprehensive than that of the Group s managed operations.

Auditors and internal assurance

As indicated in the report of the Audit Committee on page 75,

Rio Tinto has adopted policies designed to uphold the independence of the Group s external auditors by prohibiting their engagement to provide other accounting and other professional services that might compromise their appointment as independent auditors.

The engagement of the external auditors to provide statutory audit services, other services pursuant to legislation, taxation services and

certain other services are pre-approved. Any engagement of the external auditors to provide other permitted services is subject to the specific approval of the Audit Committee or its chairman.

At half year and year end, the chief financial officer and the external auditors submit to the Audit Committee a schedule of the types of services that were performed during the period. The Audit Committee may impose a financial limit on the total value of other permitted services that can be provided. Any non-audit service provided by the external auditors, where the expected fee exceeds a pre-determined level, must be subject to the Group s normal tender procedures.

In exceptional circumstances, the chief financial officer is authorised to engage the external auditors to provide such services without going to tender, but if the fees are expected to exceed certain pre-determined limits then the chairman of the Audit Committee must give prior approval of the engagement.

Further information on audit and non-audit fees of the Group s external auditors as well as remuneration payable to other accounting firms, is set out in note 40 to the financial statements and in the Directors report.

Group Audit & Assurance

Group Audit & Assurance is an internal function which provides independent and objective assurance on the adequacy and effectiveness of the Group s systems for risk management, internal control and governance together with recommendations to improve the efficiency and effectiveness of the relevant systems and processes. The function has adopted international auditing standards set by the Institute of Internal Auditors (IIA).

The function operates independently of management, under a mandate approved by the Audit Committee and the Sustainability Committee and has full access to all functions, records, property and personnel of the Group. The head of Group Audit & Assurance reports functionally to both the Audit Committee and Sustainability Committee, providing each Committee with information relevant to their specific terms of reference.

A risk-based approach is used to focus assurance activities on high-risk areas and audit plans are presented annually to the Audit Committee and Sustainability Committee for approval.

In respect of its internal audit function, Rio Tinto utilises the services of external service providers. The Audit Committee has a policy which addresses conflicts of interest in relation to management requested engagements of the service provider. The policy complies with the IIA s standards on independence. Certain services are pre-approved under the policy as they would not be in conflict with the internal auditor s role. There is a list of prohibited services which may not be undertaken without approval of the head of Group Audit & Assurance, and guidance on the consideration of services which may give rise to a conflict of interest.

Financial reporting

Financial statements

The directors are required to prepare financial statements for each financial period which give a true and fair view of the state of affairs of the Group as at the end of the financial period, and the profit or loss and cash flows for that period. This includes preparing financial statements in accordance with UK company law which give a true and fair view of the state of the Company s affairs, and preparing a Remuneration report which includes the information required by Regulation 11, Schedule 8 of the Large and Medium Sized Companies and Groups (Accounts and Reports) Regulations 2008 and the Australian Corporations Act 2001.

The directors are responsible for maintaining proper accounting records, in accordance with UK and Australian legislation. They have a general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the Group and to prevent and detect fraud and other irregularities. The directors are also responsible for ensuring that appropriate systems are in place to maintain and preserve the integrity of the Group s website. Legislation in the UK governing the preparation and dissemination of financial statements may differ from current and future legislation in

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Corporate governance continued

other jurisdictions. The work carried out by the auditors does not involve consideration of such developments and, accordingly, the external auditors accept no responsibility for any changes, should any be made, to the financial statements after they are made available on the website.

The directors, senior executives, senior financial managers and other members of staff who are required to exercise judgment in the course of the preparation of the financial statements are required to conduct themselves with integrity and honesty and in accordance with the ethical standards of their profession and/or the business.

The directors consider that the 2012 Annual report presents a true and fair view and has been prepared in accordance with applicable accounting standards, using the most appropriate accounting policies for Rio Tinto s business and supported by reasonable judgments and estimates. The accounting policies have been consistently applied. The directors have received a written statement from the chief executive and the chief financial officer to this effect. In accordance with the internal control requirements of the Code and the ASX Principles Recommendation 7.3, this written statement relies on a sound system of risk management and internal controls and confirms that the system is operating effectively in all material respects in relation to financial reporting risks.

Disclosure controls and procedures

The Group maintains disclosure controls and procedures as such term is defined in US Exchange Act Rule 13a-15(e). Management, with the participation of the chief executive and chief financial officer, has evaluated the effectiveness of the design and operation of the Group s disclosure controls and procedures pursuant to Exchange Act Rule 13a-15(b) as of the end of the period covered by this report and has concluded that these disclosure controls and procedures were effective at a reasonable assurance level.

Management s report on internal control over financial reporting

The management of Rio Tinto plc and Rio Tinto Limited is responsible for establishing and maintaining adequate internal control over financial reporting. The Companies internal control over financial reporting is a process designed under the supervision of their common chief executive and chief financial officer to provide reasonable assurance regarding the reliability of financial reporting and the preparation and fair presentation of the Group s published financial statements for external reporting purposes in accordance with International Financial Reporting Standards (IFRS).

Because of its inherent limitations, internal control over financial reporting cannot provide absolute assurance, and may not prevent or detect all misstatements whether caused by error or fraud, if any, within each of Rio Tinto plc and Rio Tinto Limited.

The Group s internal control over financial reporting includes policies and procedures that pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets; provide reasonable assurances that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS and that receipts and expenditures are being made only in accordance with authorisations of management and directors of each of the Companies; and provide reasonable assurance regarding prevention or timely detection of unauthorised acquisition, use or disposition of the Group s assets that could have a material effect on our financial statements.

Management conducted an assessment of the effectiveness of internal control over financial reporting as of 31 December 2012, based on the Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and concluded that it was effective.

PricewaterhouseCoopers LLP and PricewaterhouseCoopers, the auditors of Rio Tinto plc and Rio Tinto Limited respectively, audited the Financial statements included in this Form 20-F and audited the effectiveness of internal controls over financial reporting as of 31 December 2012. Their audit report is included on page 226 of this Annual Report on Form 20-F.

There were no changes in the internal controls over financial reporting that occurred during the period covered by this Annual Report on Form 20-F that have materially affected or are reasonably likely to materially affect the internal controls over financial reporting of each of Rio Tinto plc and Rio Tinto Limited.

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Board of directors

Key for committee memberships:

(A) Audit Committee

(R) Remuneration Committee

(N) Nominations Committee

(S) Sustainability Committee

(C) Chairman s Committee

(I) Independent

Jan du Plessis (R, N and C)

Chairman, BCom, LLB, CA(SA), age 59

Appointment: Director of Rio Tinto since 2008. He was appointed chairman in April 2009. He is the chairman of the Nominations Committee.

Skills and experience: Jan, a South African and British citizen, worked in various management positions in the South African Rembrandt Group from 1981 and in 1988 became group finance director of Compagnie Financière Richemont, the Swiss luxury goods group, before being appointed chairman of British American Tobacco plc (BAT) in 2004, a position which he held until 2009. Jan has been based in Europe for most of his career.

External appointments (current and recent): Non-executive director and senior independent non-executive director of Marks and Spencer Group plc since 2008 and March 2012, respectively, non-executive director of BAT from 1999 until 2009 and chairman of the board from 2004 until 2009, non-executive director and chairman of the audit committee of Lloyds Banking Group plc from 2005 and 2008, respectively, until 2009.

Sam Walsh AO (C)

Chief executive, BCom (Melbourne), age 63

Appointment: Director of Rio Tinto since 2009. He was appointed chief executive in January 2013.

Skills and experience: Sam, an Australian citizen, joined Rio Tinto in 1991, following 20 years in the automotive industry at General Motors and Nissan Australia. He has held a number of management positions during his career at Rio Tinto including chief executive of the Aluminium group from 2001 to 2004, chief executive of the Iron Ore group from 2004 to 2009 and chief executive Iron Ore and Australia from 2009 to January 2013. Sam is a Fellow of the Australian Institute of Management, the Australasian Institute of Mining and Metallurgy, the Chartered Institute of Purchasing and Supply Management, the Australian Institute of Company Directors and the Australian Academy of Technical Science and Engineering. In June 2010, he was appointed an Officer in the General Division of the Order of

Australia.

External appointments (current and recent): Director of Seven West Media Limited, Australia s largest diversified media business, from 2008 until January 2013.

Robert Brown (N, S and I)

Non-executive director, BSc, age 68

Appointment: Director of Rio Tinto since 2010.

Skills and experience: Bob is a Canadian citizen and contributes his considerable experience in large, high-profile Canadian companies. He is chairman of Aimia Inc., a customer loyalty management provider, and serves on the board of BCE Inc. (Bell Canada Enterprises), Canada s largest communications company. He was previously president and chief executive officer of CAE Inc., a world leader in flight simulation and training. Before that he spent 16 years at Bombardier Inc., the aerospace and transportation company, where he was first head of the Aerospace Group and then president and chief executive officer. He has also served as chairman of Air Canada and of the Aerospace Industries Association of Canada. Bob was inducted to the Order of Canada as well as l Ordre National du Québec. He has been awarded honorary doctorates from five Canadian universities.

External appointments (current and recent): Non-executive director and chairman of Aimia Inc. since 2005 and 2008, respectively and, non-executive director of BCE Inc. and Bell Canada since 2009. He is also non-executive director of Fier CPVC Montreal L.P., a venture capital firm, since 2005, president and chief executive officer of CAE Inc. from 2004 until 2009, and non-executive director of Ace Aviation Holdings Inc. from 2004 to 2009.

Vivienne Cox (N, S and I)

Non-executive director, MA (Oxon), MBA (INSEAD), age 53

Appointment: Director of Rio Tinto since 2005.

Skills and experience: Vivienne is a British citizen. She was executive vice president of Gas, Power and Renewables at BP and former chief executive of BP Alternative Energy. During her career at BP she served in a variety of positions ranging from supply and trading, to commercial, finance and exploration and renewable energy. Vivienne holds degrees in chemistry from Oxford University and in business administration from INSEAD.

External appointments (current and recent): Non-executive director of BG Group plc, the exploration arm of British Gas, since February 2012; non-executive director and senior independent non-executive director of Pearson plc since January 2012 and January 2013 respectively; non-executive director of the UK Department for International Development since 2010; non-executive director of The Climate Change Organisation since 2010; non-executive director and non-executive chairman of Climate Change Capital Limited from 2008 and 2009 respectively until March 2012; member of the supervisory board of Vallourec, a steel tube maker, since 2010; member of the offshore advisory committee of Mainstream Renewable Power from 2010 until December 2012; and a member of the board of INSEAD business school since 2009.

Guy Elliott (C)

Chief financial officer, MA (Oxon), MBA (INSEAD), age 57

Appointment: Director and chief financial officer of Rio Tinto since 2002, Guy will retire at the end of 2013. He remains on the boards until then and has been appointed senior executive director. He will continue in his role as chief financial officer until 18 April 2013 when he will step down as chief financial officer.

Skills and experience: Guy, a British citizen, has been with Rio Tinto for more than 30 years. He joined the Group in 1980 in the uranium marketing division having previously been in investment banking. He subsequently held a variety of commercial and management positions, including head of Business Evaluation and president of Rio Tinto Brasil, before becoming chief financial officer.

External appointments (current and recent): Non-executive director and chairman of the audit committee of Royal Dutch Shell plc since 2010 and 2011 respectively, a member of the Takeover Panel since 2012 and non-executive director and senior independent director of Cadbury plc from 2007 and 2008, respectively, until 2010.

Chris Lynch (A, N and I until 1 March 2013)

Executive director, BComm, MBA, age 59

Appointment: Director of Rio Tinto since 2011. He was appointed as an executive director and chief financial officer-designate in March 2013.

Skills and experience: Chris, an Australian citizen, has nearly 30 years experience in the mining and metals industry and is also a leading figure in the Australian business community. His directorship reflects the significance of Australia to Rio Tinto s global operations. He was chief executive officer of the Transurban Group, an international toll road developer and manager with interests in Australia and North America, until July 2012. His career has included seven years at BHP Billiton, where he was chief financial officer and then executive director and group president Carbon Steel Materials. Prior to this Chris spent 20 years with Alcoa Inc. where he was vice-president and chief information officer based in Pittsburgh and chief financial officer Alcoa Europe in Switzerland. He was also managing director of KAAL Australia Limited, a joint venture company formed by Alcoa and Kobe Steel.

External appointments (current and recent): Chief executive officer of the Transurban Group Limited from 2008 until July 2012; non-executive director of AMT Management Limited; Citylink Melbourne Limited, Sydney Roads Limited and The Hills Motorway Limited during 2008; and commissioner of the Australian Football League since 2008.

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Board of directors continued

Ann Godbehere (A, N and I)

Non-executive director, FCGA, age 57

Appointment: Director of Rio Tinto and chairman of the Audit Committee since 2010.

Skills and experience: Ann, a Canadian and British citizen, has more than 25 years experience in the financial services industry. She spent ten years at Swiss Re, a global reinsurer, latterly as chief financial officer from 2003 until 2007. She was interim chief financial officer and executive director of Northern Rock bank after its nationalisation. Ann is a qualified accountant.

External appointments (current and recent): Non-executive director of British American Tobacco plc since 2011; non-executive director of UBS AG since 2009; non-executive director of Atrium Underwriting Group Limited and Arden Holdings Limited since 2007; non-executive director and chairman of the audit committee of Prudential Public Limited Company since 2007 and 2009, respectively; chief financial officer and executive director of Northern Rock (Asset Management) plc from 2008 to 2009.

Richard Goodmanson (R, N, S and I)

Non-executive director, MBA, BEc and BCom, BEng (Civil), age 65 Appointment: Director of Rio Tinto since 2004 and chairman of the Sustainability Committee.

Skills and experience: Richard, a US citizen, was executive vice president and chief operating officer of DuPont until 2009. Prior to this he was president and chief executive officer of America West Airlines and senior vice president of operations for Frito-Lay, Inc., a North American division of PepsiCo. Richard has worked at senior levels for McKinsey & Co, where he led client service teams on major programmes of strategy development. He spent ten years in heavy civil engineering project management, principally in Southeast Asia, including the construction of the Hong Kong Subway System.

External appointments (current and recent): Non-executive director of Qantas Airways Limited since 2008; economic adviser to the governor of Guangdong Province, China from 2003 to 2009; executive vice president and chief operating officer of E.I. du Pont de Nemours and Company Limited from 1999 until 2009; and director of the United Way of Delaware, a charitable organisation, between 2002 and 2009.

Lord Kerr of Kinlochard (A, N, S and I)

Non-executive director, GCMG, MA (Oxon), age 71

Appointment: Director of Rio Tinto since 2003.

Skills and experience: John, a British citizen, was a member of the UK Diplomatic Service for 36 years and headed it from 1997 to 2002 as permanent under secretary at the Foreign Office. He previously served in HM Treasury and in the former Soviet Union and Pakistan, and was ambassador to the European Union and the US. He has been an Independent member of the House of Lords since 2004.

External appointments (current and recent): Advisory board member of Edinburgh Partners Limited since January 2012; director and vice chairman of Scottish Power Limited since 2009 and April 2012 respectively; chairman of the Centre for European Reform (London) since 2008; vice president of the European Policy Centre (Brussels) since 2007; trustee of the Carnegie Trust for the Universities of Scotland since 2005; director of The Scottish American Investment Company plc since 2002; deputy chairman of Royal Dutch Shell plc from 2005 to May 2012; chairman of the Court and Council of Imperial College London from 2005 to 2011; advisory board member of BAE Systems from 2008 to 2011; advisory board member of Scottish Power (Iberdrola) from 2007 to 2009; trustee of the National Gallery in London from 2002 to 2010; trustee of the Rhodes Trust from 1997 to 2010; and a Fulbright Commissioner from 2004 to 2009.

Michael Fitzpatrick (A, R, N and I)

Non-executive director, BEng, BA (Oxon), age 60

Appointment: Director of Rio Tinto since 2006.

Skills and experience: Michael, an Australian citizen, contributes wide-ranging investment and local knowledge of Australian business. He is chairman of Treasury Group Limited, a Sydney-based incubator of fund management companies, chairman of the Australian Football League and a former chairman of the Australian Sports Commission. After leaving professional football in 1983 and working for the Treasury of the State of Victoria and with investment banks in New York, Michael founded the pioneering infrastructure asset management company Hastings Funds Management Limited in 1994. He was a Rhodes Scholar in 1975.

External appointments (current and recent): Non-executive director of Carnegie Wave Energy Limited since November 2012, chairman of Infrastructure Capital Group Limited since 2009, chairman of the Treasury Group Limited since 2005, commissioner and chairman of the Australian Football League since 2003 and 2007 respectively, director of the Walter & Eliza Hall Institute of Medical Research since 2001 and chairman of the Victorian Funds Management Corporation from 2006 to 2008.

Hon. Paul Tellier (A, R, N and I)

Non-executive director, LLL, BLitt (Oxon), LL.D, C.C. age 73

Appointment: Director of Rio Tinto since 2007.

Skills and experience: Paul, a Canadian citizen, entered the civil service in the 1970s. He was clerk of the Privy Council Office and secretary to the Cabinet of the Government of Canada from 1985 to 1992. He became president and chief executive officer of the Canadian National Railway Company from 1992 to 2002. Until 2004, he was president and chief executive officer of Bombardier Inc., the aerospace and transportation company.

External appointments (current and recent): Chairman of Global Container Terminals Inc. since 2007; director of McCain Foods Limited since 1996; trustee of the International Accounting Standards Foundation since 2007; co-chair of the Prime Minister of Canada s Advisory Committee on the Renewal of the Public Service since 2006; strategic adviser to Société Générale (Canada) since 2005; member of the advisory board of General Motors of Canada since 2005; director of Bell Canada from 1996 to 2010; and director of BCE Inc. (Bell Canada Enterprises) from 1999 to 2010.

John Varley (R, N and I)

Non-executive director, BA, MA (Oxon), age 56

Appointment: Director of Rio Tinto and chairman of the Remuneration Committee since 2011 and senior independent non-executive director since May 2012.

Skills and experience: John, a British citizen, joined Barclays PLC in 1982 after working as a solicitor. He was chief executive of Barclays from 2004 until 2010. During a 28-year career with the bank he held several senior positions, including chairman of the Asset Management division, group finance director and deputy chief executive.

External appointments (current and recent): Director of Barclays PLC and Barclays Bank PLC from 1998 until 2010; Non-executive director of BlackRock Inc., an asset management firm, since 2009; non-executive director of AstraZeneca plc since 2006; chairman of Marie Curie Cancer Care since 2011; chairman of Business Action on Homelessness since 2006; and president of the Business Disability Forum since 2005.

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Directors who left the Board

Tom Albanese

Chief executive, BS (Mineral Economics), MS (Mining Engineering), age 55 Appointment: Director of Rio Tinto from 2006 and chief executive from 2007 until January 2013.

Skills and experience: Tom, a US citizen, joined Rio Tinto in 1993 on Rio Tinto s acquisition of Nerco Minerals, a US energy company, where he was chief operating officer. His first position with Rio Tinto was general manager of the Greens Creek mine in Alaska. He then held a series of management positions, including overseeing the integration of North Limited into Rio Tinto operations on North s acquisition in 2000. He was appointed chief executive of the Industrial Minerals group in 2000, and chief executive of the Copper group and head of Exploration in 2004.

External appointments (current and recent): Director of the International Council on Mining and Metals since 2007; and member of the board of visitors, Duke University, Fuqua School of Business from 2009.

Andrew Gould

Non-executive director, BA, FCA, age 66

Appointment: Director of Rio Tinto from 2002 and senior independent non-executive director from 2008 to May 2012.

Skills and experience: Andrew, a British citizen, was chairman of Schlumberger Limited, where he held a succession of financial and operational management positions, including that of executive vice president of Schlumberger Oilfield Services and chief executive officer of Schlumberger Limited.

External appointments (current and recent): Chairman of Schlumberger Limited from 2003 to April 2012; chief executive officer of Schlumberger Limited from 2003 to 2011; non-executive director of BG Group plc since 2011; member of the board of trustees of King Abdullah University of Science and Technology in Jeddah, Saudi Arabia since 2008; and a member of the advisory board of the King Fahd University of Petroleum and Minerals in Dhahran, Saudi Arabia since 2007.

Company secretaries

Ben Mathews

BA (Hons), FCIS, age 46

Skills and experience: Ben joined the Group as company secretary of Rio Tinto in 2007. Prior to this, he spent five years with BG Group plc, an oil and gas company, as company secretary. He has previously worked for National Grid plc, British American Tobacco plc and PricewaterhouseCoopers LLP. Ben is a fellow of the Institute of Chartered Secretaries and Administrators and has a joint honours degree in French and European Studies.

External appointments (current and recent): He has no external appointments.

Tim Paine

BEc, LLB, age 49

Skills and experience: Tim joined the Group as joint company secretary of Rio Tinto Limited in January 2013 and has over 20 years experience in corporate counsel and company secretary roles, including at ANZ Bank, Mayne Group, Symbion Health and Skilled Group. Tim commenced his career as a solicitor in private practice and has also managed his own consulting company.

External appointments (current and recent): He has no external appointments.

Stephen Consedine

BBus, CPA, age 51

Skills and experience: Stephen joined Rio Tinto Limited in 1983 and held various positions in Accounting, Treasury, and Employee Services and was company secretary of Rio Tinto Limited from 2002 until January 2013. He holds a business degree and is a certified practising accountant.

External appointments (current and recent): He has no external appointments.

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Executive Committee

Hugo Bague

MA (Linguistics), age 52

Hugo Bague was appointed Group executive, Organisational Resources in 2009 after joining Rio Tinto as global head of Human Resources in 2007. Previously he worked for Hewlett-Packard where he was the global vice president, Human Resources for the Technology Solutions Group, based in the US. Prior to this he worked for Compaq Computers, Nortel Networks and Abbott Laboratories based in Switzerland, France and Germany.

He has been a non-executive director and member of the nominating and governance committee, and the compensation committee of Jones Lang LaSalle Incorporated, a global real estate services firm, since 2011.

Preston Chiaro

BSc (Hons) (Environmental Engineering), MEng (Environmental Engineering), age 59

Preston was appointed Group executive, Technology & Innovation in 2009. He joined the Group in 1991 at Kennecott Utah Copper s Bingham Canyon mine as vice president, Technical Services. In 1995 he became vice president and general manager of the Boron Operations in California and was chief executive of Rio Tinto Borax from 1999 to 2003. Preston then became chief executive of the Energy group and in 2007, upon a management reorganisation, he also assumed responsibility for the Industrial Minerals group.

Preston was a director of Cloud Peak Energy Inc. from 2008 to 2011, director of Rössing Uranium Limited from 2004 to 2009, and director of the World Coal Institute between 2003 and 2009, serving as chairman from 2006 to 2008. Since 2006 he has been a board member of Resources for the Future, an environmental and natural resources policymaking body.

Jacynthe Côté

BChem, age 54

Jacynthe became chief executive, Rio Tinto Alcan in 2009. She joined Alcan in 1988 and has significant operational and international experience in the aluminium industry. She was chief executive officer, Primary Metal, Rio Tinto Alcan, where she was responsible for all primary metal facilities and power generation installations worldwide. Her previous roles in Alcan include president and chief executive officer, Bauxite & Alumina business group and senior management roles in business planning, human resources and environment, health and safety. Jacynthe has a degree in chemistry from Laval University in Quebec and was awarded an honorary doctorate from Université du Québec à Chicoutimi in 2011.

Jacynthe has been a member of the Advisory Board of the Montreal Neurological Institute since July 2010, member of the Hautes Études Commerciales Board since 2009, member of the Canadian Council of Chief Executives since 2009, and a member of the International Aluminium Institute since 2009.

Alan Davies

BBus (Acctcy) LLB, LLM, FCA, age 42

Alan was appointed chief executive, Diamonds & Minerals in September 2012. He joined the Group in 1997 and has held management positions in Australia, London and the US for the Iron Ore and Energy businesses. Prior to his current role, Alan was president, international operations for Rio Tinto s Iron Ore business with global accountability for operations and projects in Canada, India and Guinea. Alan is a Fellow of the Institute of Chartered Accountants in Australia.

He was a director of the Art Gallery of Western Australia from 2010 to April 2012.

Andrew Harding

BEng (Mining Engineering), MBA, age 46

Andrew Harding was appointed chief executive, Iron Ore in February 2013. Prior to his current role, Andrew spent three years as chief executive, Copper, where he was responsible for a range of mines and projects including the development of the world-class Oyu Tolgoi copper-gold mine in Mongolia. Andrew joined Rio Tinto in 1992 and spent seven years in Rio Tinto Iron Ore. He has also held a range of positions in Technology & Innovation, Energy and Aluminium and was president and chief executive officer of Kennecott Utah Copper.

He was a director of Turquoise Hill Resources Ltd (formerly Ivanhoe Mines Ltd) between 2009 and July 2010; and between 2011 and February 2013.

Jean-Sébastien Jacques

MSc age 41

Jean-Sébastien was appointed chief executive, Copper in February 2013. He joined Rio Tinto in October 2011 as president, International Operations Copper, where he led a senior team and oversaw Rio Tinto s interests in the Palabora Mining Company in South Africa, Northparkes Mines in Australia, Kennecott Eagle Minerals, the Pebble Mine in the US and Sulawesi in Indonesia. Prior to joining Rio Tinto, Jean-Sébastien spent more than 15 years working across Europe, South East Asia, India and the US in operational and strategy roles in the aluminium, bauxite and steel industries. He served as group director, Strategy and was on the executive committee at Tata Steel Group from 2007 to 2011.

He became a director of Turquoise Hill Resources Ltd in February 2013.

Harry Kenyon-Slaney

BSc (Hons) (Geology), age 52

Harry was appointed chief executive, Energy in September 2012. He joined the Group in 1990 from Anglo American Corporation and has held management positions in South Africa, Australia and the UK. Harry spent his early career at Rio Tinto in marketing and operational roles in the uranium, copper and industrial minerals businesses. In 2004, he was appointed chief executive of Energy Resources of Australia and in 2007, managing director of Rio Tinto Iron & Titanium. Prior to his current role, he was chief executive of Rio Tinto s Diamonds & Minerals product group.

He became a director of the World Coal Association in October 2012.

Debra Valentine

BA (History), JD, age 59

Debra was appointed Group executive, Legal, External & Regulatory Affairs in 2009 having joined Rio Tinto as global head of Legal in 2008. She previously worked at United Technologies Corporation in the US where she was vice president, deputy general counsel and corporate secretary. Before then, she was a partner with the law firm O Melveny & Myers, in Washington DC. Debra served as general counsel at the US Federal Trade Commission from 1997 to 2001.

She has been a member of the US-based Council on Foreign Relations since 1993, and the American Law Institute since 1991. She is on the board of the Extractive Industries Transparency Initiative and the North America Advisory Council at Chatham House.

Tom Albanese, Guy Elliott and Sam Walsh were also members of the Executive Committee in 2012 through their positions as chief executive, chief financial officer and chief executive of Iron Ore and Australia respectively. Their biographies are shown on pages 83 and 85.

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Directors   report

The directors present their report and audited financial statements for the year ended 31 December 2012.

Dual listed structure and constitutional documents

An explanation of the dual listed companies structure (DLC) of Rio Tinto plc and Rio Tinto Limited, and of the Companies   constitutional documents can be found on pages 127 to 137. This section also provides a description of voting rights restrictions which may apply in respect of the shares of either Company under specified circumstances.

Activities and business review

Rio Tinto   s principal activities during 2012 were minerals exploration, development, production and processing.

The business review set out on pages 1 to 45 provides a comprehensive review of the development and performance of Rio Tinto   s operations for the year ended 31 December 2012 and the likely future developments and expected results of those operations. The information set out in the business review is incorporated by reference into this report and is deemed to form part of this report.

The subsidiary and associated undertakings principally affecting the profits or net assets of the Group in the year are listed in notes 34 to 37 to the financial statements.

Significant changes and events affecting the Group during 2012 and until the date of this report have been:

On 12 January 2012, Rio Tinto announced the completion of the acquisition of 100 per cent of the issued and outstanding shares of Hathor Exploration Limited for a price of C$4.70 per share.

On 24 January 2012, Rio Tinto announced that it had taken a majority stake in Turquoise Hill Resources Limited (Turquoise Hill), (formerly Ivanhoe Mines Ltd) having purchased shares that took its interest to 51 per cent. On 30 July 2012, Rio Tinto announced the purchase of further shares under Turquoise Hill   s rights offering at a total cost of US$934,998,344, representing approximately 51 per cent of the shares offered under the rights offering. Upon completion of the rights offering, Rio Tinto owned 510,968,850 shares representing an interest of approximately 51 per cent.

On 1 February 2012, following BHP Billiton   s decision to exercise a put option agreed between Rio Tinto and BHP Billiton as part of Richards Bay Minerals   (RBM) restructuring in 2009, the Group announced its intention to increase its stake in RBM to 74 per cent through the acquisition of BHP Billiton   s 37 per cent interest.

On 8 February 2012, the Group announced the commitment of a further US$3.4 billion (Rio Tinto share US$2.9 billion) to the expansion of its Pilbara iron ore operations, comprising US$2.2 billion to extend the life of the Nammuldi iron ore mine and US$1.2 billion for early infrastructure works for the proposed capacity expansion to

353 million tonnes per year. On 20 February 2012, the Group announced a US$518 million investment in autonomous trains for the Pilbara iron ore rail network.

On 14 February 2012, the Group announced that it had approved US$1.4 billion investment in two projects to support higher production at the Escondida copper mine in Chile in which Rio Tinto holds a 30 per cent interest.

On 20 March 2012, Rio Tinto announced that it had priced US$2.5 billion of fixed rate bonds, comprising US$500 million of three-year, US$500 million of five-year, US$1 billion of 10-year and US$500 million of 30-year SEC-registered debt securities.

On 26 March 2012, the Group completed the US$5 billion Rio Tinto buy-back programme announced in February 2011 and subsequently increased to US$7 billion in August 2011.
On 27 March 2012, Rio Tinto announced that it had begun a strategic review of its diamond business that would include exploring a range of options for potential divestment of its interests.

On 28 March 2012, Rio Tinto announced that it had received a binding offer for its specialty aluminas business from H.I.G. The transaction completed on 1 August 2012.

On 18 April 2012, Rio Tinto announced that it had signed an agreement with Turquoise Hill under which Rio Tinto agreed to support and provide certain elements of a comprehensive funding package for Turquoise Hill to underpin the development of the Oyu Tolgoi copper-gold mine in Mongolia. The parties also agreed that Rio Tinto, which owned 51 per cent of Turquoise Hill, would replace a number of the directors on the Turquoise Hill board with Rio Tinto-nominated directors and also nominate a new management team. On 23 May 2012, Rio Tinto announced it had agreed to amend certain terms of the agreement announced on 18 April 2012 to address conditions of regulatory approval and more closely align the terms of the proposed Turquoise Hill rights offering with current market conditions.

On 25 April 2012, Rio Tinto and Chinalco s listed subsidiary, Chalco, announced completion of the agreement to develop and operate the Simandou iron ore project in Guinea, following the completion of all Chinese regulatory approvals. As a result, a consortium led by Chalco made an earn-in payment of US$1.35 billion, in line with an agreement reached with Rio Tinto in March 2010, giving Chalco a 47 per cent interest.

On 9 May 2012, Rio Tinto announced that Chris Lynch had been appointed a member of the Audit Committee with effect from 1 June 2012.

On 21 May 2012, Rio Tinto announced that it had reached an agreement to sell Alcan Cable to General Cable Corporation for US$185 million.

On 19 June 2012, the Group announced its intention to invest US$660 million over the next seven years to extend the life of its Kennecott Utah Copper Bingham Canyon mine in Salt Lake City from 2018 to 2029. The investment will enable production at an average of 180 thousand tonnes of copper, 185 thousand ounces of gold and 13.8 thousand tonnes of molybdenum a year from 2019 to 2029.

On 20 June 2012, Rio Tinto announced the next steps in its phased investment programme, committing US$4.2 billion (100 per cent basis US$6.2 billion) to develop its Tier 1 iron ore business. The investment covers US$3.7 billion (100 per cent basis US$5.2 billion) for expansion of the industry-leading Pilbara iron ore operations in Western Australia and US$501 million (100 per cent basis US$1.0 billion) for further infrastructure development at the Simandou iron ore project in Guinea.

On 8 August 2012, Rio Tinto announced that Blair Athol mine, in Queensland, Australia, would cease mining operations later in the year.

On 17 August 2012, the Group announced that it had priced US$1.25 billion of 5-year, US$1.0 billion of 10-year and US$750 million of 30-year SEC-registered debt securities.

On 5 September 2012, the Group announced that it had completed the sale of the North American portion of its Alcan Cable business to General Cable Corporation for US$151 million in cash, subject to customary adjustments. The Group further announced that it expected the sale of the Alcan Cable Tianjin operation to close later in the year, for US$34 million in cash subject to customary adjustments. The final consideration amounts received following adjustments were $171 million and $58 million respectively.

On 7 September 2012, Rio Tinto announced that it had completed the acquisition of BHP Billiton s interest in Richards Bay Minerals for a purchase price of US$1.7 billion.

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Directors report continued

On 14 September 2012, the Group announced that the High Court of Australia had overturned earlier decisions by the Federal Court not to declare the Hamersley and Robe rail lines open for third party access. On 11 February 2013, the Group announced that the Tribunal had reconsidered the matter and had ruled that the lines should not be opened up for other users.

On 5 November 2012, the Group announced that Oyu Tolgoi had signed a binding agreement with a Chinese power company for the supply of electricity to its mine in Mongolia.

On 4 December 2012, Rio Tinto announced that it had priced EUR 1.25 billion and GBP 500 million of fixed rate notes under its European Debt Issuance Programme.

On 11 December 2012, the Group announced it had reached a binding agreement to sell its 57.7 per cent effective interest in Palabora Mining Company Limited for US$373 million. The purchaser is a consortium comprising the following South African and Chinese entities (respective interests in brackets): (i) The Industrial Development Corporation of South Africa Limited (20 per cent), (ii) Hebei Iron & Steel Group (35 per cent), (iii) Tewoo Group Co., Ltd (20 per cent) and (iv) General Nice Development Ltd (25 per cent). The sale is subject to customary regulatory approvals in South Africa and China.

On 14 January 2013, Rio Tinto entered into an agreement with Chinalco Mining Corporation International Limited (CMCI), a subsidiary of Chinalco, to participate as a cornerstone investor in CMCI s initial public offering (IPO) in Hong Kong on 31 January 2013. Pursuant to the agreement, Rio Tinto acquired approximately one per cent of CMCI s issued share capital post IPO for a total consideration of US$30 million.The shares are subject to a six-month lock-up period.

On 17 January 2013, the Group announced that it expected to recognise a non-cash impairment charge of approximately US$14 billion (post tax) in its 2012 full year results. These impairments included an amount of approximately US$3 billion relating to Rio Tinto Coal Mozambique, as well as reductions in the carrying values of Rio Tinto s aluminium assets in the range of US$10-11 billion. The Group expected to report a number of smaller asset write-downs in the order of US$500 million. The Group also announced that Tom Albanese had stepped down as chief executive and that Iron Ore chief executive Sam Walsh had been appointed as his successor. Doug Ritchie, who led the acquisition and integration of the Mozambique coal assets in his previous role as Energy chief executive, had also stepped down.

On 13 February 2013, Rio Tinto announced that Pacific Aluminium s Gove alumina refinery in Nhulunbuy will continue to operate as planning, approvals and delivery of the gas to Gove project progresses.

On 14 February 2013, the Group announced the appointment of Andrew Harding and Jean-Sébastien Jacques as chief executive, Iron Ore and chief executive, Copper, respectively.

On 28 February, Rio Tinto announced the appointment of Chris Lynch as chief financial officer to succeed Guy Elliott, with effect from 18 April 2013. The Group also announced that Bret Clayton s role of Group executive, Business Support & Operations, will be restructured and its responsibilities will be transferred to other Executive Committee members from 1 March 2013.

Details of events after the statement of financial position date are further described in note 44 to the financial statements.

As permitted by sections 299(3) and 299A(3) of the Australian Corporations Act 2001, information which is likely to result in unreasonable prejudice, regarding likely future developments in, and the expected results of the operations of the Group or its strategies and prospects, has been omitted.

Risk identification, assessment and management

The Group s risk factors are set out on pages 10 to 12.

Share capital

Details of the Group s share capital as at 31 December 2012 can be found at notes 28 and 29 to the financial statements. Details of the rights and obligations attached to each class of shares can be found on page 127 under the heading Voting rights . The voting rights of shares held beneficially by a third party in line with an employee share plan are set out on page 127.

Details of certain agreements triggered on a change of control can be found on page 127 under the heading Dual listed companies structure .

Details of certain restrictions on holding shares in Rio Tinto are described on page 128 under the heading Limitations on ownership of shares and merger obligations . There are no other restrictions on the transfer of ordinary shares in Rio Tinto plc save for:

- restrictions that may from time to time be imposed by laws and regulations (for example, those relating to market abuse and insider dealing);
- restrictions that may be imposed pursuant to the Listing Rules of the UK Financial Services Authority, whereby certain employees of the Group require approval to deal in shares;
- restrictions on the transfer of shares that may be imposed under Rio Tinto plc s Articles of Association or under Part 22 of the UK Companies Act 2006, in either case following a failure to supply information required to be disclosed following service of a request under section 793 of the UK Companies Act 2006; and
- restrictions on the transfer of shares held under certain employee share plans while they remain subject to the plan.

At the annual general meetings held in 2012, shareholders authorised:

the purchase by Rio Tinto Limited and its subsidiaries, and the on-market repurchase by Rio Tinto plc of up to 141,685,000 Rio Tinto plc shares (representing approximately ten per cent of Rio Tinto plc s issued share capital at that time);

the off-market purchase by Rio Tinto plc of up to 141,685,000 Rio Tinto plc shares acquired by Rio Tinto Limited or its subsidiaries under the above authority; and

the off-market or on-market buy-back by Rio Tinto Limited of up to 43.5 million Rio Tinto Limited shares (representing approximately ten per cent of Rio Tinto Limited s issued share capital at the time).

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Purchases

	Rio Tinto plc			Rio Tinto Limited			Rio Tinto Group
	Total number[a] of shares purchased	Average price[b] paid per share US$	Total number of[c] shares purchased as part of publicly announced plans or programmes	Total number[a] of shares purchased	Average price[b] paid per share US$	Total number of[c] shares purchased as part of publicly announced plans or programmes	Approximate dollar value of shares that may yet be purchased under the plans or programmes US$
2012							
1 Jan to 31 Jan	10,318,021	56.29	10,318,021	437,142	67.91		914,440,144
1 Feb to 29 Feb	9,181,889	59.35	9,181,889	295,919	74.38		369,498,379
1 Mar to 31 Mar	6,724,000	54.95	6,724,000	140,463	68.05		
1 Apr to 30 Apr	695,918	54.96		715,527	66.84		
1 May to 31 May				27,521	59.87		
1 Jun to 30 Jun				10,532	55.85		
1 Jul to 31 Jul				34,182	57.65		
1 Aug to 31 Aug				20,151	57.04		
1 Sep to 30 Sep	829,467	49.19		672,063	57.83		
1 Oct to 31 Oct				25,082	58.75		
1 Nov to 30 Nov				15,869	60.25		
1 Dec to 31 Dec	727,080	58.01		24,167	65.33		
Total	28,476,375[d]		26,223,910[e]	2,418,618	65.04		
2013							
1 Jan to 31 Jan				506,239	70.29		
1 Feb to 19 Feb				82,581	70.89		

Notes

(a) Rio Tinto plc ordinary shares of 10p each; Rio Tinto Limited shares.

(b) The average prices paid have been translated into US dollars at the exchange rate on the day of settlement.

(c) Shares purchased by the Companies registrars in connection with the dividend reinvestment plans and employee share plans are not deemed to form part of any publicly announced plan or programme. (d) This figure represents 2.00 per cent of Rio Tinto plc issued share capital at 31 December 2012.

(e) This figure represents 1.84 per cent of Rio Tinto plc issued share capital at 31 December 2012.

During 2012, in order to satisfy obligations under employee share plans, Rio Tinto plc issued 939,423 shares from treasury. Rio Tinto plc s registrar purchased on market 727,080 shares and delivered an additional 1,272,405 shares to plan participants. Rio Tinto Limited s registrar purchased on market and delivered 1,098,185 shares to plan participants.

Also during the year, the Companies registrar purchased on market 1,525,385 Rio Tinto plc shares and 1,320,433 Rio Tinto Limited shares to satisfy obligations to shareholders under the dividend reinvestment plans.

On 4 August 2011, Rio Tinto announced an increase in the share buy-back programme by US$2 billion to US$7 billion, subject to market conditions. The programme was completed on 26 March 2012. In total, 116,862,405 Rio Tinto plc shares were repurchased under the programme since February 2011 for a total aggregate consideration of US$7 billion.

For the period 1 January 2013 to 19 February 2013, Rio Tinto plc issued 606,918 shares from treasury in connection with employee share plans and Rio Tinto Limited s registrar purchased on market and delivered 623,699 shares to plan participants.

Awards over 1,858,662 Rio Tinto plc shares and 1,268,990 Rio Tinto Limited shares were granted under employee share plans during 2012. As at 19 February 2013, awards were outstanding over 7,793,460 Rio Tinto plc shares and 5,096,778 Rio Tinto Limited shares. Upon vesting, awards may be satisfied by the issue of new shares, the purchase of shares on market, or, in the case of Rio Tinto plc, by issuing treasury shares.

Dividends

Details of dividends paid and the dividend policy can be found on page 131.

Directors

The names of the directors who served during the year, together with their biographical details and other information, are shown on pages 83 to 85. Andrew Gould retired at the conclusion of the Rio Tinto Limited annual general meeting held on 10 May 2012.

All directors will stand for re-election at the 2013 annual general meetings.

A table of directors attendance at board and committee meetings during 2012 is on page 74.

Secretaries

Details of the company secretary of each of Rio Tinto plc and Rio Tinto Limited together with their qualifications and experience are set out on page 85.

Corporate governance

A full report on corporate governance can be found on pages 71 to 82 and forms part of this Directors report.

Indemnities and insurance

The Articles of Association and Constitution of the Companies provide for them to indemnify, to the extent permitted by law, officers of the Companies, including officers of wholly owned subsidiaries, against liabilities arising from the conduct of the Group s business. The directors and the company secretaries of the Companies, and certain employees serving as directors of subsidiaries at the Group s request have been indemnified in accordance with these provisions.

No amount has been paid under any of these indemnities during the year.

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Directors report continued

The Group has purchased directors and officers insurance during the year. In broad terms, the insurance cover indemnifies individual directors and officers personal legal liability and legal defence costs for claims arising out of actions taken in connection with Group business. It is a condition of the insurance policy that detailed terms and premiums paid cannot be disclosed.

Employment policies and communication

Information about the Group s employment policies and our employees is available on page 17.

Donations

No donations were made during 2012 for political purposes in the EU, Australia or elsewhere, as defined by the UK Companies Act 2006. During 2012, the Group spent US$292 million on community assistance programmes and payments into benefit receiving trusts set up in directly negotiated community impact benefit agreements.

Charitable donations in the UK during 2012 amounted to £0.3 million.

Government regulations

Rio Tinto is subject to extensive government regulations affecting all aspects of its operations and consistently seeks to apply best practice in all of its activities. Rio Tinto s product diversity and geographical spread help to mitigate the likelihood that any single government regulation could have a material effect on the Group s business.

Rio Tinto s operations globally are subject to various applicable local, state, provincial and federal regulations governing mining and processing, land tenure and use, environmental requirements, workplace health and safety, data privacy, trade and export, corporations, competition, intellectual property, access to infrastructure, foreign investment, securities and taxation. Some operations are conducted under specific agreements with the respective governments and associated acts of parliament.

In relation to hydroelectric power generation in Canada, water rights, as well as power sales and purchases, are regulated by the Quebec and British Columbia provincial agencies.

In addition, Rio Tinto s uranium operations in Northern Territory, Australia and Namibia are subject to specific regulation in relation to mining and the export of uranium.

Rio Tinto s South African-based operations are also subject to black economic empowerment legislation which includes the requirement to transfer (for fair value) 26 per cent of the Group s South African mining assets to historically disadvantaged South Africans by 2014.

Environmental regulation

Rio Tinto measures its performance against environmental regulation by rating incidents on a low, moderate, high, or critical scale of likelihood and consequence of impacting the environment. High and critical ratings are reported to the executive management team and the Sustainability Committee including progress with remedial actions. Prosecutions and other breaches are also used to gauge Rio Tinto s performance.

In 2012, there were seven environmental incidents rated high consequence at Rio Tinto managed operations (2011: 11).

These incidents were of a nature to impact the environment or potentially concern local communities. Of these, three resulted from water discharge, three were spills and one related to air emissions. The incidents included:

- A spill of alumina during unloading of a ship at a port in Cameroon.
- Permit conditions related to water discharge being exceeded on a number of occasions at a smelter in France.
- An off-site release of water in breach of permit conditions at a coal mine in Queensland, Australia.
- Excessive dust being generated from a coal mine in the Hunter Valley, Australia.
- A spill of diesel from storage tanks at a mine site in Mongolia.

During 2012, six operations incurred fines amounting to US$47,102 (2011: US$236,416).

Australian corporations that exceed specified thresholds are required under the Australian National Greenhouse and Energy Reporting Act 2007 to register and report on greenhouse gas emissions and energy use and production. Three Rio Tinto entities, Rio Tinto Limited, Alcan Gove Pty Limited and Pechiney Consolidated Australia Limited, are separately covered by the Act. All three companies submitted their reports by the required 31 October 2012 deadline.

The same three Rio Tinto entities have obligations under the Australian Energy Efficiency Opportunities Act 2006 (EEO). All three completed the required public reporting in 2012. Six assessments for the second five year assessment cycle (one from Alcan Gove Pty Limited and five from Rio Tinto Limited) were completed in 2012. Pechiney Consolidated Australia Limited is scheduled to complete its assessment in 2013.

Further information on the Group s environmental performance is included in the sustainable development section of this Annual report, on pages 14 to 21 and on the website.

Legal proceedings

Neither Rio Tinto plc nor Rio Tinto Limited nor any of their subsidiaries is a defendant in any proceedings which the directors believe will have a material effect on either Company s financial position or profitability. Contingencies are disclosed in note 32 to the financial statements.

Exploration, research and development

The Group carries out exploration as well as research and development in support of its activities as described more fully under Exploration and Technology & Innovation on pages 32 to 33. Amounts charged for the year, net of any gains on disposal, generated a net loss for Exploration and evaluation of US$1,476 million (2011: US$1,348 million). Research and development costs were US$129 million (2011: US$148 million).

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Auditors

PricewaterhouseCoopers LLP and PricewaterhouseCoopers (together PwC) are the auditors of Rio Tinto plc and Rio Tinto Limited respectively. PricewaterhouseCoopers LLP have indicated their willingness to continue in office as auditors of Rio Tinto plc and a resolution to reappoint them as auditors of Rio Tinto plc will be proposed at the 2013 annual general meetings. A separate resolution will seek authority for the Audit Committee to determine their remuneration. PricewaterhouseCoopers will continue in office as auditors of Rio Tinto Limited.

A copy of the declaration given by PricewaterhouseCoopers as the Group s external auditors to the directors in relation to the auditors compliance with the independence requirements of the Australian Corporations Act 2001 and the professional code of conduct for external auditors is set out on page 225 in the financial statements.

No person who was an officer of Rio Tinto during 2012 was a director or partner of the auditors at a time when they conducted an audit of the Group.

Each person who held the office of director at the date the board resolved to approve this report makes the following statements:

- so far as the directors are aware, there is no relevant audit information of which the auditor is unaware; and

- each director has taken all steps that he or she ought to have taken as a director to make him or herself aware of any relevant audit information and to establish that the auditor is aware of that information.

Fees for audit and non-audit services

The amounts payable to the Group s auditors, PwC, were:

	2012	2011
	US$m	US$m
Audit fees(a)	**17.2**	14.4
Assurance services(b)	**5.3**	4.4
Taxation services	**0.7**	1.5
All other fees(c)	**1.4**	3.6
	24.6	23.9

(a) Audit fees relating to statutory audits.

(b) Assurance services are mainly related to half year review procedures, carve-out financial statements, sustainability assurance and limited assurance over the Taxes paid in 2012 report.

(c) All other fees include services in connection with the divestment programme and similar corporate projects. Further information on audit and non-audit fees is set out in note 40 to the financial statements.

During the year, the Audit Committee reviewed the effectiveness of PwC for Group audit and local, statutory audit work. The evaluation took the form of a survey comprising a range of questions covering objectivity and quality and efficiency and was completed by individual Rio Tinto business units. The results of this survey were presented to the Audit Committee which concluded that PwC continued to provide a high-quality audit and an effective and independent challenge to management. The Audit Committee was satisfied with the external audit process and the independence of the external auditors.

PwC has been the external auditor since the formation of the dual listed company structure in 1995. The Audit Committee does not consider it necessary at the present time to undertake a tender process for the Group s external auditors. Since 2002, PwC has followed the requirements of the Sarbanes-Oxley Act 2002 and APB Ethical Standards and rotated both the lead UK and Australian audit partners at least every five years. This continued refreshing of the team brings new perspectives to the audit and promotes healthy debate between auditors and management as well as the Committee.

Based on advice provided by the Audit Committee as set out in the Report of the Audit Committee on page 75, the directors are satisfied that the provision of non-audit services by PwC is compatible with the general standard of independence for auditors and the standards imposed by the Australian Corporations Act 2001 and US legislation.

Financial instruments

Details of the Group s financial risk management objectives and policies and exposure to risk are described in note 31 to the 2012 financial statements.

Value of land

Most of the Group s interests in mining properties and leases, and in other land and buildings, have been included in the financial statements at cost in accordance with its accounting policies. It is not possible to estimate the market value of such interests in land as this will depend on product prices over the long term which will vary with market conditions.

Creditor payments

It is the Group s policy to agree terms of payments with suppliers when entering into contracts and to meet its obligations accordingly. The Group does not follow any specific published code or standard on payment practice.

At 31 December 2012, there were 25 days (2011 restated: 33 days) purchases outstanding in respect of the Group based on the total invoiced by suppliers during the year.

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Letter from the Remuneration Committee chairman

Dear Shareholder

On behalf of the board, I am pleased to introduce our 2012 Remuneration Report, for which we seek your support at our annual general meetings in London in April, and in Sydney in May.

The report is designed to provide you with the necessary information to demonstrate the link between our Group s strategy, its performance, and the remuneration outcomes for its executives.

Incentive plans

As we mentioned last year, a key priority in 2012 was to review the future structure of our incentive plans. Our current long-term incentive plans (LTIPs), which were approved by shareholders in 2004, are due to expire in 2014. Accordingly, we have undertaken a wide-ranging review of our LTIP arrangements to ensure that they continue to incentivise management to deliver our long-term strategy.

Based upon the views expressed by shareholders during our extensive consultations, the Committee is recommending amendments to the Group s LTIPs for approval by shareholders at the 2013 annual general meetings. The new plans incorporate the views and feedback from many major shareholders; the Committee is grateful for the time shareholders took to meet with us and was encouraged by the overall level of support we received.

The main principles of and changes to our LTIP structure, all within the context of no increased overall reward opportunity, are:

- The simplification of our LTIP arrangements by reducing the number of plans from two to a single Performance Share Plan (PSP).

- The addition of a new performance measure (the improvement in our earnings before interest and tax (EBIT) margin relative to the EBIT margin improvement achieved by our major competitors) to complement the existing Total Shareholder Return (TSR) measures. This measure provides a good line of sight to executives; and, with TSR, incentivises management to deliver long-term shareholder value while maximising operational performance in the medium term. We believe that this EBIT margin performance measure will provide an appropriate means of gauging the sustained operational performance of our business and encouraging the cost-competitive operation of our mining assets, a core part of our strategy.

- The extension of the vesting and performance period for awards under the PSP from four years to five. We consider that this duration more appropriately recognises the timeframes over which our business operates, reflecting the long-term nature of our sector, and enhances the alignment of our remuneration structure with our Company strategy.

The simplification of the PSP award structure by consolidating the current potential for 1.5 times vesting of awards for outstanding performance within the maximum face value of awards of 438 per cent of base salary (i.e. the previous face value of 292 per cent with the potential for 1.5 times vesting).

Strengthening the alignment of executives interests with those of shareholders by increasing the executive shareholding guidelines from two to four times base salary for the chief executive; and from two to three times base salary for the other executives.

The introduction of malus and claw back provisions to provide the Committee with the ability to reduce or cancel unvested LTIP awards and to recover vested LTIP awards in certain circumstances.

In order to implement these changes, a resolution to approve the rules of the new PSP is being submitted to shareholders for approval at the 2013 annual general meetings. Further detailed information about the proposed new PSP is provided in the notices of meeting for the 2013 annual general meetings.

The Committee fully intends to keep the Group s long-term incentive arrangements under review, taking into account the practices of our key international competitors. This review will include the percentage of an award under the new PSP that vests for threshold performance, recognising that this is an important issue for some of the shareholders with whom we consulted.

The Committee recognises the importance of ensuring that the outcomes of the Group s executive pay arrangements described in the Policy Report that follows properly reflect the Group s overall performance and the experience of its shareholders over the performance period. It will exercise the discretions reserved to it accordingly.

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The Committee has also approved some changes to the way we measure health and safety performance in our short-term incentive plan (STIP) from 2013. These changes incorporate feedback from shareholders during our consultations in 2012. The weighting of the safety component will be increased from 17.5 per cent to 20 per cent of the overall STIP. Since 2007, the safety component has been increasingly based on leading indicators to drive safety performance. From 2013, in order to simplify further the STIP, performance for executives will be judged on safety outcomes rather than programmes to drive future performance. Further details of the changes are provided on page 97.

2012 performance and remuneration

The financial performance of the business generally exceeded targets set by the board at the beginning of 2012. The board was, however, deeply disappointed by the US$14.4 billion write-downs that we have taken in 2012, primarily in our aluminium and energy businesses. The individual STIP outcomes for 2012 are a direct reflection of these features, as detailed more fully in the report that follows.

The Committee has reviewed the base salary levels for Executive Committee members and, consistent with our stated policy, it has made adjustments taking into account the Group s and individual performance, as well as other factors that it considers relevant such as base salary budgets applying to the broader employee population.

The Committee has considered the Group s overall performance in the context of the LTIP awards that vested at the end of 2012 and has concluded that the vesting of awards based upon the achievement of TSR measures is justified.

2013 decisions

We announced in January that Tom Albanese and Doug Ritchie had stepped down by mutual agreement from their respective roles following the asset write-downs. The Committee determined that their performance in 2012 did not justify them receiving any STIP award. For other members of the Executive Committee, individual performance in 2012 as well as association with the asset write-downs were taken into account. Different levels of STIP award resulted from this, as detailed more fully in the report that follows.

The Committee reviewed in detail each component of the proposed remuneration package for the new chief executive, Sam Walsh, to ensure that an appropriate offer was made to him, focusing on aligning his potential reward with the aim of pursuing greater value for shareholders and increased discipline and accountability throughout the organisation. This approach was reflected in the remuneration packages determined by the Committee for Andrew Harding upon his promotion to become chief executive of the Iron Ore Group in Perth, and for Jean-Sébastien Jacques upon his promotion to the Executive Committee as chief executive of the Copper Group. Most recently, the Committee reviewed and determined each component of the remuneration package for Chris Lynch upon his appointment as chief financial officer, and for Hugo Bague upon his appointment as Group executive, Organisational Resources.

The Committee is mindful of the Group s renewed focus and discipline in delivering its strategy under Sam Walsh s new leadership and will be taking this into account in shaping the future direction and focus of its short and long-term incentive arrangements for management.

Governance

We continue to ensure that the Company meets regulatory and legislative remuneration requirements specified by Australian and UK regulation and, as part of this, we held extensive meetings with shareholders and proxy advisory bodies in Australia and the UK during the year to describe and explain our remuneration policies and practices.

There have been major initiatives by both the UK and Australian governments to strengthen the role of owners in the determination of pay policy and practice. The new UK regulations are expected to be finalised in the first half of 2013. While the final shape of many of these proposals is yet to be definitively determined, the format of this report has been restructured in an attempt to capture the spirit of the UK Government s thinking, particularly with regard to the presentation of a separate Policy Report and an Implementation Report. As we said last year, our endeavour here is to explain what we pay our senior executives and why. Our remuneration structures fixed, short-term and long-term are described in the first section of the pages that follow (the Policy Report). The application of the policy described in the Policy Report to pay decisions during 2012 and 2013 is then described in the Implementation Report.

I am all too conscious of the fact that this report runs to 34 pages. We try to balance the need for a simple narrative of the year s remuneration events with the appetite of many of our shareholders and our regulators for more detail. So, where we can, we use appendices for some of that detail so that the big picture can be observed without too much clutter. But, as always, we welcome your feedback on our report.

Yours sincerely,

John Varley

Remuneration Committee chairman

Remuneration Report

Remuneration Committee responsibilities

The Committee s responsibilities are set out in its terms of reference which are available in the corporate governance section of the Rio Tinto website. The responsibilities of the Committee include:

- determining the remuneration structure and policies, and assessing their cost, including pension and superannuation arrangements for executives;
- determining the use of short and long-term incentive plans (LTIP) for executives;
- overseeing the operation of the Group s short and long-term incentive plans as they relate to executives, including the approval of awards, setting of performance criteria, where applicable, and determination of any vesting;
- determining contractual notice periods and termination commitments and setting any retention and termination arrangements for executives;
- determining awards under the Group s all-employee share plans; and
- determining the terms of service upon appointment and any subsequent changes for the chairman, executives and the company secretary of Rio Tinto plc.

The Committee considers the level of pay and conditions throughout the Group when determining executive remuneration and ensures that the same principles are used when designing the broader employee remuneration policies. The Committee is committed to ensuring that remuneration policy and practices reflect, to the extent practicable, corporate governance guidance on executive remuneration.

The members of the Committee are John Varley (chair), Jan du Plessis (appointed to the Committee on 7 February 2012), Mike Fitzpatrick, Richard Goodmanson and Paul Tellier.

The membership and meeting attendances are detailed in the corporate governance section on page 74. The Committee is supported by executives and members of senior management who regularly attend meetings to provide information as requested by the Committee. These included the chief executive, Hugo Bague (Group executive, Organisational Resources), John Beadle (global practice leader, Performance and Reward) and Ben Mathews (company secretary). None of the attendees mentioned above were present when matters associated with their own remuneration were considered.

How the Committee spent its time in 2012

During 2012, the Committee met nine times. It fulfilled its responsibilities as set out in its terms of reference. In particular, its work has included:

- reviewing and determining base salary increases for the executives;
- reviewing and determining threshold and outstanding performance targets used in the 2012 STIP and so far in 2013, reviewing actual performance against these targets as well as establishing the 2013 STIP financial and safety targets;
- reviewing and determining LTIP grants for the executives and deciding vesting outcomes;
- a detailed review of the proposed changes to the LTIPs;
- extensive consultation with leading shareholders and proxy advisers in Australia and the UK in shaping the LTIPs;
- reviewing and approving the new global employee share plan;
- reviewing and determining the appointment packages for Harry Kenyon-Slaney and Alan Davies as chief executive Energy and chief executive Diamonds and Minerals respectively; and
- a review of remuneration practices against our comparator groups.

Most recently in 2013, the Committee reviewed and determined the terms of departure of Tom Albanese as chief executive and Doug Ritchie.

The Committee reviewed and determined the terms of appointment for Sam Walsh, as our new chief executive and for Andrew Harding and Jean-Sébastien Jacques as our new chief executives for Iron Ore and Copper respectively. In addition, the Committee reviewed and determined the terms of appointment for Chris Lynch as our new chief financial officer and for Hugo Bague upon his appointment as Group executive, Organisational Resources.

Independent advisers

The independent advisers engaged by and reporting to the Committee during 2012 were Deloitte LLP. During 2012 Deloitte LLP provided general and technical executive remuneration services. These services included benchmarking data, and advice about remuneration of employees other than key management personnel across the Group. Deloitte LLP was paid US$357,130 for these services.

As part of this engagement, Deloitte LLP provided remuneration recommendations to the Committee during 2012 (being advice relating to the elements of remuneration for the key management personnel, as defined under the Australian Corporations Act), including Committee meeting attendance, advice in relation to the proposed changes to the LTIPs and advice in relation to management proposals. Deloitte LLP was paid US$133,072 for these services.

To ensure that remuneration recommendations were made free from undue influence by key management personnel to whom they may relate, the Committee has established a Protocol for the engagement of and interaction with remuneration consultants and has monitored compliance with its requirements throughout 2012. Each remuneration recommendation was accompanied by a declaration from Deloitte LLP that the recommendation was made free from undue influence of key management personnel to whom it related. The board has received assurance from the Committee and is therefore satisfied that the remuneration recommendations received from Deloitte LLP were made free from undue influence by key management personnel to whom any of the remuneration recommendations related.

Deloitte LLP is a member of the Remuneration Consultants Group and, as such, voluntarily operates under the Code of Conduct in relation to executive remuneration consulting in the UK. The Code is based upon principles of transparency, integrity, objectivity, competence, due care and confidentiality by executive remuneration consultants. Deloitte LLP has confirmed that it adhered to the Code throughout 2012 for all remuneration services provided to Rio Tinto. It is available at www.remunerationconsultantsgroup.com.

The Committee is comfortable that Deloitte LLP, in providing remuneration advice to the Committee, does not have any connections with Rio Tinto that may impair its independence.

Deloitte LLP also provided various non-audit services to the Group during 2012 (including advice in relation to taxation, project management and consulting and advisory services), and was paid a total of US$33.9 million for these services.

Deloitte LLP is the only remuneration consultant which provided remuneration recommendations to the Committee during 2012. Other services and publications were received from a range of advisers, including Towers Watson and Mercer in relation to remuneration data and external validation of Total Shareholder Return (TSR) performance.

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Remuneration Policy Report

About this Policy Report

Draft legislation was published by the UK Government during 2012, setting out the Government s proposals for reforming the reporting of, and voting on, executive remuneration by listed companies. The regulations are expected to be finalised in the first half of 2013, and Rio Tinto will be required to comply with these regulations in its 2013 annual report. If approved by the UK Parliament, the regulations require the directors to present to shareholders a Remuneration policy statement that is subject to a binding vote for the first time at the 2014 AGMs and at least every three years thereafter. This section of the report aims to align our communication with shareholders closer to the spirit of the draft proposals, and provides the essential narrative of our remuneration policy. The structure of the report will change next year to reflect the final regulations.

This report has been prepared in accordance with applicable legislation and corporate governance guidance in the UK and Australia. Australian legislation requires disclosures in respect of key management personnel , being those persons having authority and responsibility for planning, directing and controlling the activities of the Group. So the key management personnel are, in addition to the directors, the Executive Committee members. The Executive Committee comprises the executive directors, product group chief executive officers (PGCEOs) and Group executives. Throughout this report, the members of the Executive Committee are collectively referred to as executives . They are listed on page 100 which also shows the positions held during the year and dates of appointment.

In addition to executive remuneration, this report covers the remuneration of the chairman and the non-executive directors on page 113.

Our remuneration policies, principles and practices

Our first objective is to spend remuneration resource wisely in pursuit of the implementation of the Group s strategy. We want our pay policies to be regarded as fair by shareholders and employees alike. Although we have appropriate remuneration structures, the Committee preserves considerable discretions, enabling it, if it thinks fit, to override mechanistic outcomes.

Rio Tinto operates in global and local markets where it competes for a limited pool of talented executives. High-quality people, who are capable of achieving stretching performance targets, are essential to generating superior returns for the Group. Our compensation strategies aim to provide this support by enabling the Group to attract and retain people whose contribution will increase shareholder value.

We aim to engage our people over the long-term by fostering diversity, providing challenging work and development opportunities, and encouraging strong delivery by performance. This people strategy is underpinned by our values of respect, integrity, accountability and teamwork and our commitment to provide sustainable growth and development for both Rio Tinto and our employees.

Our remuneration policy is based on the principles of aligning remuneration outcomes with our strategy, and of encouraging strong delivery by employees by differentiating top performers, while achieving simplicity and transparency in the design and communication of remuneration arrangements. The remuneration strategy and the policies which support it, together with a description of how we believe they will help Rio Tinto achieve its vision, are set out below and in the executive remuneration structure table on pages 96 to 99.

Competitive, performance-related remuneration

We aim to provide competitive rewards that attract, retain and motivate executives of the high-calibre required to lead the Group while ensuring rewards remain appropriate and proportionate, both when compared to market practice and to remuneration arrangements for other employees in the Group.

The majority of remuneration is linked to demanding performance targets over both the short and long-term to ensure that executive rewards are aligned with performance delivered for shareholders.
For the purposes of assessing the appropriate level of executive remuneration, the Committee refers to the FTSE30 (excluding financial services companies) as the initial comparator group. The FTSE30 is considered the most relevant comparator group as it comprises organisations broadly comparable to the Group in terms of global reach, revenue, market capitalisation and complexity. References are also made to other relevant supplementary comparator groups, including a cross-section of comparable international industrial organisations and other international mining companies.

Typically we aim to position base salaries at the median of these comparator groups, while our incentive plans are designed with the potential to deliver total remuneration outcomes across the full market range according to business and individual performance.

Benchmarking is undertaken periodically but not annually, and our intention is to apply judgment in evaluating market data.

Health and safety

We have a strong focus on health and safety in the STIP targets.

As an organisation, we strive for superior long-term shareholder value creation in a healthy, safe and environmentally appropriate way. These are key elements of our licence to operate.

Health and safety key performance indicators currently comprise 17.5 per cent of the STIP for executives. From 2013, this component will be increased to 20 per cent and the measures for executives will be split equally between lost time injury frequency rate (LTIFR) and AIFR. We believe, based upon empirical evidence, that these lagging measures provide a stronger link to actual safety performance.

The extent of the impact of a fatality on the STIP score for executives is based on an assessment by the Committee of the impact of leadership, individual behaviour and systems in the incident. Further details on the approach to fatalities are provided on page 97.

For some executives, where relevant, an additional proportion of their individual objectives under the STIP, which comprise 30 per cent of the total STIP opportunity, is linked to safety objectives.

Long-term focus

Consistent with our strategy of investing in and operating large, long-term, low-cost mines and businesses, we seek to provide incentive plans that focus on longer-term performance.

Our incentive plans are designed to promote and reward decision-making with a positive long-term impact while avoiding excessive risks.

Half of the STIP for executives is deferred into shares which vest after three years.

The performance-based options and shares awarded prior to 2013 have a three and four-year time horizon, respectively. The proposed time horizon for performance shares under the new Performance Share Plan is five years. As a transitional measure, it is proposed that any awards granted in 2013 under this plan will vest 50 per cent after four years and 50 per cent after five years.

Options will no longer be granted under the new compensation regime, but existing options which vest may be exercised, as now, up to ten years after the grant.

The Committee fully intends to keep the Group s long-term incentive arrangements under review, taking into account the practices of our key international competitors. This review will include the percentage of an award under the new Performance Share Plan that vests for threshold performance, recognising that this is an important issue for some of the shareholders with whom we consulted.

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Remuneration Policy Report continued

Shareholder alignment

We reward executives for delivering shareholder value by using relative TSR as the measure for our LTIP.

For LTIP awards to be granted from 2013 under the new Performance Share Plan, the Committee is proposing a new relative EBIT margin improvement measure to complement the current relative TSR measures and to incentivise executives to deliver long-term shareholder value while maximising operational performance in the medium term. This measure will comprise one third of the total value of the LTIP awards.

The reward opportunity under the remaining portion of the LTIP awards will be delivered based on relative TSR performance against both the HSBC Global Mining Index and the broader market of large global companies as measured through the Morgan Stanley Capital World Index (MSCI).
TSR is considered an appropriate performance measure for the LTIPs as it captures objectively the return Rio Tinto delivers to its shareholders over the long term and rewards executives based on the Group s TSR performance against its comparators.

The choice of both the HSBC Global Mining Index and MSCI reflects the fact that Rio Tinto competes in a global market for investors as well as within the mining sector and is consistent with rewarding executives for providing stable returns over the long term relative to the broader market and the mining sector.

When remuneration is delivered

The following chart provides a timeline of when total remuneration is delivered, using 2012 as an example.

Executive remuneration structure

The Committee seeks to achieve a remuneration mix which best reflects the long-term nature of the business. The total remuneration package is therefore designed to provide an appropriate balance between fixed and variable components with a focus on long-term variable pay. The remuneration structure for executives, including the relationship between each element of remuneration and Group performance, is summarised below. Further details on the key performance indicators used to assess Group performance are provided on page 8.

	Link to Group performance	Remuneration arrangements
Fixed		
Base salary		Base salaries are reviewed annually effective 1 March.

	Provides the fixed element of the remuneration package. Reflects an employee s sustained contribution to the organisation.	Any increases are determined with reference to underlying Group and individual performance, global economic conditions, role responsibilities, an assessment against relevant comparator groups, internal relativities and base salary budgets applying to the broader employee population. Benchmarking is undertaken periodically but not annually, and our intention is to apply judgment in evaluating market data. Base salaries for 2013 are included in the Implementation Report.
Benefits	Provide locally competitive post- employment and other benefits in a cost-efficient manner.	Post-employment benefit arrangements include pension or superannuation and post-retirement medical benefits, where applicable. Other benefits include healthcare, accident insurance, provision of company-provided transport, professional advice and secondment and relocation payments made to and on behalf of executives living outside their home country.

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Performance-related (At risk)

Short Term Incentive Plan (STIP)	Focuses participants on achieving demanding annual performance goals, which are based on the Group s key performance indicators (KPIs), to create sustainable shareholder value. We demand that sustainable business practices are adhered to, particularly in the context of safety.	The maximum annual bonus opportunity for outstanding performance under the STIP for executives is 200 per cent of base salary (if target performance is achieved, the bonus opportunity is up to 120 per cent of base salary for executive directors and up to 100 per cent of base salary for other executives). 50 per cent of the STIP is delivered in cash and 50 per cent is delivered in deferred shares under the Bonus Deferral Plan (BDP). Threshold, target and outstanding performance levels are established for all STIP measures in order to drive high levels of business and individual performance. The STIP awards for achieving these performance levels are 50 per cent, 100 per cent and 200 per cent of the target STIP opportunity respectively. There is no award for below threshold performance. The financial performance targets for the measures identified below are established through an annual planning process, where the product group and Group plans are reviewed and ultimately determined by the board. The central case or base plan delivers what the board considers to be target performance. Target performance is intended to be stretching. Probability factors are then applied based upon a range of potential operating and cost scenarios to establish the threshold and outstanding performance levels. These threshold (below target) and outstanding (above target) levels are determined by the Committee at the beginning of each performance year. The following measures and weightings were used to determine STIP payments for executives in 2012:

Business measures	Weighting for executive directors and Group executives %	Weighting for PGCEOs[(a)] %
Rio Tinto Group		
Underlying earnings flexed and unflexed	26.25	10.50
Cash flow flexed and unflexed	26.25	10.50
Product group		
Underlying earnings flexed and unflexed		15.75
Cash flow flexed and unflexed		15.75
Total financial measures	52.50	52.50
Health and safety	17.50	17.50

Total business measures	70.00	70.00
Individual measures, e.g. cost management, achievement of strategic initiatives	30.00	30.00
Total	100.00	100.00

(a) For 2012 Sam Walsh was considered a PGCEO with regard to STIP performance measures.

From 2013, the health and safety component of the STIP will be increased to 20 per cent and the financial measures will be reduced to 50 per cent.

The health and safety score for executives is capped at 100 per cent (out of a maximum of 200 per cent) if there is a fatality in their area of accountability. The extent of the final impact of any fatalities on the STIP score for executives is based on a judgment process that assesses the impact of leadership, individual behaviour and systems in the incident. An additional adjustment may also be made to the STIP score for executives for severe permanent disability injuries.

The Committee selected the financial measures because they are KPIs used in managing the business. In measuring performance against the annual plan, the original plan is flexed to exclude the impact of uncontrollable fluctuations in exchange rates, quoted metal prices and other prices. Earnings and cash flow results are therefore compared against equally weighted flexed and unflexed targets.

In 2013, there will be a specific focus for executives on management of our cost base within our STIP.

Bonus Deferral Plan (BDP)	Ensure ongoing alignment between executives and shareholders through deferral of STIP into Rio Tinto shares.	50 per cent of the STIP is delivered in cash and 50 per cent delivered in deferred shares under the BDP. The BDP vests in the December of the third year after the end of performance year to which they relate.
Performance Share Plan (PSP) (2013 onwards)	Simple structure to align executive reward with shareholders returns and operational performance over a truly long-term horizon. Award levels are set to incentivise executives to meet the long-term strategic goals of the Group, to provide retention	A resolution to approve the rules of the new PSP is being submitted to shareholders for approval at the 2013 annual general meetings. Further detailed information about the new PSP is provided in the notices of the 2013 annual general meetings. In the event of any variation between the summary below and the new PSP rules, the PSP rules will apply. As discussed with shareholders during the consultation process, awards under the new PSP will have a maximum face value of 438 per cent of base salary, which is unchanged from the maximum

for the executive team and to contribute towards the competitiveness of the overall remuneration package.

TSR rewards the deliver of superior returns to shareholders over the long term.

value available under the current PSP framework.

The awards have been calculated independently by our consultants (Towers Watson and Deloitte LLP) to have an expected value of approximately 50 per cent of the face value. This compares with an expected value of approximately 65 per cent of the face value under the current PSP. Expected value is face value, adjusted for the probability of the performance target being met.

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Remuneration Policy Report continued

Performance-related (At risk)

Performance Share Plan (PSP) (2013 onwards) continued

EBIT margin improvement rewards gauging the sustained operational performance of our business and the cost-competitive operation of our mining assets, a core part of our strategy.

How performance is generated is as important as what level of performance is delivered. Before vesting, the Committee must satisfy itself that relative TSR and EBIT margin performance are an appropriate reflection of the underlying performance of the business and can adjust vesting accordingly.

Awards will normally have a five-year performance period to provide long- term alignment with shareholders. As a transitional measure, awards granted in 2013 will vest 50 per cent after four years and 50 per cent after five years.

This means that the maximum expected value that could be awarded under the new PSP is 219 per cent of base salary (ie 438 per cent x 50 per cent).

Actual award levels proposed for 2013 vary by executive and are included in the Implementation Report on pages 102, 104 and page 106. In all cases, the maximum face value of PSP awards granted to Executive Committee members in 2013 will be lower than the maximum value granted to participants under the current PSP in 2012 of 438 per cent of base salary.

Conditional share awards vest subject to the achievement of stretching performance conditions, comparing Rio Tinto s performance against:

- One third: TSR relative to the HSBC Global Mining Index;
- One third: TSR relative to the Morgan Stanley Capital World Index (MSCI); and
- One third: Improvement in EBIT margin relative to the following ten global mining comparators (for 2013 awards): Alcoa, Antofagasta, Anglo American, Barrick Gold, BHP Billiton, Freeport McMoRan, Peabody, Teck Resources, Vale and Xstrata

Each component of the award will be assessed independently. For the TSR components, the award will vest as follows:

Outperformance of the index by 6 per cent per annum	1.0x award vests
Performance between equal to the index and 6 per cent outperformance	Proportionate vesting between 0.225x and 1.0x vesting
Performance equal to the index	0.225x award vests
Performance less than the index	Nil vesting

For the EBIT margin measure, change in the EBIT margin of Rio Tinto and each of the comparator companies (measured on a point to point basis using the last financial year in the performance period and the financial year prior to the start of the performance period) will be calculated using independent third-party data. Vesting will be subject to Rio Tinto s ranked position using the following schedule:

Equal or greater to 2nd ranked company	1.0x award vests
Between the 5th and 2nd ranked companies	Proportionate vesting between 0.225x and 1.0x vesting
Above the 6th ranked company	0.225x award vests
Equal to the 6th ranked company or below	Nil vesting

With respect to the EBIT margin measure, the Committee will consider, on a discretionary basis, any specific, significant below the line items (e.g. impairments) reported by Rio Tinto or its peers during the performance period when determining any level of vesting indicated by third-party data.
The outperformance required for maximum vesting under all components of the award is considered by the Committee to be stretching.
If, but only if, vesting is achieved, participants in the PSP shall be entitled to receive a number of additional shares whose market value reflects the aggregate cash amount of dividends that would have been received had the number of shares which have vested at the end of the performance period been held throughout the period.

Previous long-term incentive structure

Subject to approval from shareholders at the annual general meetings, from 2013 onwards, long-term incentive awards will be made solely under the proposed PSP as set out in the table above.

In 2012 and prior years, awards were made in the form of options under the Share Option Plan (SOP) and/or performance shares under the PSP. This section summarises the key features of the awards which were made in 2012.

Executives were able to express a preference regarding the mix of their long-term incentive opportunity.

They could choose either a mix of performance shares and share options (with a maximum face value performance share award of 200 per cent of base salary, and a performance kicker leading to a vesting up to 1.5 times for exceptional performance), together with a maximum share option award of 300 per cent of base salary.

Or alternatively, they could choose to receive the full award in performance shares (with a maximum face value performance share award of 292 per cent of base salary, and a performance kicker leading to a vesting up to 1.5 times for exceptional performance).
The maximum value of award from selecting the full award in performance shares was therefore 438 per cent of base salary (292 per cent x 150 per cent).

It is assumed that for 2012 executives selected the full award in performance shares for ease of comparison to grants under the new plan.

The total expected value of awards made under either preference was the same, at 190 per cent of base salary.

Both awards were based solely on relative TSR performance to reward executives for increasing the share price and delivering superior TSR performance against other companies over a long-term timeframe.

Before awards vest, the Committee must also satisfy itself that TSR performance is an appropriate reflection of the underlying performance of the business and/or the health of the Group. The Committee may therefore adjust vesting accordingly.

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Performance-related (At risk)

Share Option Plan (SOP) **(pre-2013)**	Three-year performance period. Awards have a maximum face value of 300 per cent of base salary. Options vest subject to the achievement of a stretching TSR performance condition, comparing Rio Tinto s TSR performance to that of the HSBC Global Mining Index. Vesting of awards made in 2012 is as follows:

Outperformance of the index by 5 per cent per annum	Awards vest in full
Performance between index and 5 per cent outperformance	Proportionate vesting of residual award for performance between index and 5 per cent outperformance of the index
Performance equal to index	Awards of up to 20,000 options or one-third of the award (whichever is higher)
Performance less than index	Nil vesting

The SOP will cease operation from 2013. No further awards of share options will be made.

Performance Share Plan (PSP) **(pre-2013)**	Four-year performance period. Subject to the mix chosen (see above) awards have a maximum face value of 292 per cent of base salary with the potential for 1.5 times of this value, ie 438 per cent of base salary, for outstanding performance. The expected value of awards is 190 per cent of base salary. For 2012 awards, conditional share awards vest subject to the achievement of a stretching TSR performance condition, comparing Rio Tinto s TSR performance against: 50 per cent: the HSBC Global Mining Index 50 per cent: the Morgan Stanley Capital World Index (MSCI) Vesting of awards made in 2012 is as follows:

Outperformance of the index by 8 per cent per annum	1.5x award vests
Performance between index and 8 per cent out-performance	Proportionate vesting for performance between index and 8 per cent outperformance of the index.
Outperformance of the index by approximately 5 per cent per annum	1.0x award vests
Performance equal to index	0.35x award vests
Performance less than index	Nil vesting

If, but only if, vesting is achieved, a cash payment will be paid equal to the dividends that would have been received had the number of shares which have vested at the end of the performance period been held throughout the performance period.

Performance evaluation process for executives

Rio Tinto conducts an annual performance evaluation process for all of its executives. In the case of members of the Executive Committee, the chief executive conducts the review. In the case of the chief executive, a performance review is conducted by the chairman of the board who makes recommendations for decision by the Remuneration Committee.

The key objectives of the performance evaluation process are to:

- improve organisational effectiveness by creating alignment between the executive s individual objectives and Rio Tinto s strategy, and

- provide a consistent, transparent and balanced approach to measure, recognise and reward executive performance.

Individual objectives for members of the Executive Committee are proposed by the chief executive and reported to the Remuneration Committee at the beginning of the year. Annual performance reviews are completed early in the following year. Performance evaluations for each executive took place in accordance with the process described. Individual objectives and awards for 2012 for executives are set out in the tables on pages 102, 107 and 108.

Discretion

The Committee recognises the importance of ensuring that the outcomes of the Group s executive pay arrangements described in this Policy Report properly reflect the Group s overall performance and the experience of its shareholders over the performance period.

The Committee undertakes to its owners that it will exercise discretion diligently and in a manner that is aligned with our strategy to create long-term shareholder value. Accordingly, when reviewing the operation of short and long-term incentive plans and the outcome of awards made under these plans, the Committee will, when evaluating safety, financial, Group and individual performance, consider the overall shareholder experience during the performance period in question. It is the Committee s intention that the mechanistic outcome of performance conditions relating to awards made under such plans will routinely be subject to review to avoid outcomes which could be seen as contrary to shareholders expectations. However, such discretion should not operate as an automatic override, and it must be exercised judiciously so as not to reduce the motivation of key executives.

To the extent that discretion is applied in any year, the Committee undertakes that this will be clearly explained and disclosed to shareholders. The discretion exercised in relation to 2012 remuneration is described in the Implementation Report.

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Remuneration Policy Report continued

Executives service contracts

The executive directors have service contracts that can be terminated by either party with 12 months notice in writing, or immediately by paying the base salary only in lieu of any unexpired notice. The other executives have service contracts which can be terminated by the company with 12 months notice in writing and by the employee with six months notice in writing, or immediately by paying the base salary only in lieu of any unexpired notice. For Jacynthe Côté, the 12 months notice includes salary and target STIP opportunity, in line with typical market practice in Canada and her former Alcan Inc. contract.

Sam Walsh s employment concludes, without the need for either party to give notice, on 31 December 2015. The Company may also terminate his employment for any reason on 31 December 2014, provided it gives notice of this decision by 31 October 2014. Chris Lynch s employment concludes, without the need for either party to give notice, on 28 February 2017. The Company may also terminate Chris Lynch s employment for any reason on 29 February 2016, provided it gives notice of this decision by 31 December 2015.

In the case of dismissal for cause, the Company can terminate employment without notice and without payment of any salary or compensation in lieu of notice. Deferred bonus shares and outstanding awards under the LTIP are forfeited in these circumstances.

If termination is a result of redundancy, the terms of the relevant policy may apply in the same way as for other local employees. In the case of involuntary termination, Jacynthe Côté may be eligible to receive 24 months salary and target STIP opportunity inclusive of notice in line with entitlements under her Alcan Inc. contract.

Name	Position(s) held during 2012	Date of appointment to position
Executive directors		
Tom Albanese[a]	Chief executive	1 May 2007
Guy Elliott[b]	Chief financial officer	19 June 2002
Sam Walsh[c]	Chief executive, Iron Ore and Australia	5 June 2009
Other executives		
Hugo Bague	Group executive, People & Organisation	1 August 2007
Preston Chiaro	Group executive, Technology & Innovation	1 November 2009
Bret Clayton	Group executive, Business Support & Operations	1 November 2009
Jacynthe Côté	Chief executive, Rio Tinto Alcan	1 February 2009
Alan Davies	Chief executive, Diamonds & Minerals	1 September 2012
Andrew Harding[d]	Chief executive, Copper	1 November 2009

Harry Kenyon-Slaney	Chief executive, Energy Diamonds & Minerals	1 September 2012 1 November 2009
Doug Ritchie[(e)]	Chief executive, Energy	1 November 2009
Debra Valentine	Group executive, Legal & External Affairs	15 January 2008

(a) Mr Albanese held the role of chief executive until 17 January 2013, and will leave the Group on 16 July 2013.
(b) Mr Elliott will retire from the Group on 31 December 2013.
(c) Mr Walsh held the role of chief executive Iron Ore and Australia until 16 January 2013, and was appointed chief executive on 17 January 2013.
(d) Mr Harding was appointed chief executive Iron Ore on 14 February 2013.
(e) Mr Ritchie held the role of chief executive Energy until 31 August 2012 and took long service leave from 1 September 2012 until 31 December 2012. He will leave the Group on 16 July 2013. Mr Ritchie s 2012 base salary of A$967,000 remains unchanged.

The treatment of leavers, and the consequences of a change of control

The share plan rules govern entitlements that executive participants may have upon termination of employment.

Performance Share Plan (2013 onwards)

For grants made under the new PSP, awards will continue to the normal vesting date and remain subject to the performance conditions. If the executive leaves during the first 36 months from the date of grant, the award will be reduced pro rata to reflect the number of days worked, up to and including the date of termination, as a proportion of the first 36 months from the date of grant. In circumstances where the executive resigns or is dismissed for misconduct, or for any other reason that the Committee decides, the award will lapse.

Malus and clawback

The Committee has authority under the proposed PSP to reduce or cancel PSP awards in the event of gross misconduct, a materially adverse error in the Company s or a product group s financial statements, or exceptional events that have a materially detrimental impact on the value of any Group company. These are termed malus provisions, The Committee has also proposed clawback provisions, authorising it to recover the value of any shares which have vested under the new PSP (or a cash equivalent) on an individual basis, in the case of deliberate misconduct by a participant which has a material impact on the value or reputation of a Group company, or for any other reason that the directors decide in a particular case.

Share Option Plan (SOP)

If an executive leaves, awards will lapse unless he is an eligible leaver, being an executive who leaves the Group, in general, by reason of ill-health, injury, disability, agreed retirement, redundancy, transfer of the undertaking in which the executive works, change of control of the executive s employing company, or death. In addition, the Committee retains discretion to determine whether an executive is an eligible leaver.

If the executive is an eligible leaver, vested awards will lapse one year from the termination date and unvested awards will lapse one year from the vesting date. Unvested awards remain subject to the satisfaction of performance conditions. For awards made in 2012, if an executive leaves within 24 months of the date of grant, the award will be reduced pro-rata to reflect the number of months worked, as a proportion of the first 24 months from the date of grant.

Performance Share Plan (pre-2013)

If an executive leaves, awards will lapse unless he is an eligible leaver. If the executive is an eligible leaver, awards will continue to the normal vesting date and remain subject to the satisfaction of performance conditions. For awards made in 2012, if an executive leaves within 24 months of the date of grant, the award will be reduced pro-rata to reflect the number of months worked, as a proportion of the first 24 months from the date of grant.

Bonus Deferral Plan (BDP)

If an executive leaves, awards will lapse unless he is an eligible leaver. If the executive is an eligible leaver, awards will vest on the normal vesting date. Any dividend equivalent shares will be calculated on the vested shares.

Management Share Plan (MSP)

If an executive leaves, the awards will lapse unless he is an eligible leaver. If the executive is an eligible leaver, awards will vest on the termination date, unless the Committee decides that the awards will vest on the normal vesting date. The awards will be reduced pro-rata to reflect the proportion of the period between the date of grant and the normal vesting date which has not elapsed. Any dividend equivalent shares will be calculated on the vested shares.

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Shareholding policy for executives

The Group recognises the importance of aligning executives interests with those of shareholders and they are therefore expected to build up a meaningful shareholding. The Committee intends that executives should aim to reach, within five years of appointment, a holding equivalent in value to:

- four times base salary for the chief executive; and
- three times base salary for other executives.

These were increased from the previous level of two times base salary as part of the changes to the Group s long-term incentive arrangements from 2013. The Committee expects that this shareholding will be built up by holding shares that vest under the LTIPs. Details of executives share interests in the Group are set out in Table 3 on page 118.

Complementary shareholding requirements will be introduced for senior management below the Executive Committee in 2013.

Share dealing policy

Executives and employee insiders are bound by the Rules for dealing in Rio Tinto securities which comply with the requirements of the ASX Listing Rules and are consistent with the UK Listing Authority s Model Code. These rules are available on the Rio Tinto website. The rules apply fixed close periods before results announcements as well as other prohibited periods during which key management personnel and employee insiders are prohibited from trading Rio Tinto securities. Directors, other executives and employee insiders are required to certify that they do not hold any inside information when seeking clearance to deal in Rio Tinto securities. All employees subject to the rules receive regular training and information.

Executives and employee insiders are prohibited from engaging in hedging arrangements, dealing in derivatives or entering into other arrangements, including borrowing against share and performance share holdings which limit the economic risk related to Rio Tinto securities, including in relation to securities awarded under LTIPs.

Executives external and other appointments

Executives may be invited to become non-executive directors of other companies. It is Rio Tinto s policy that such appointments can broaden the experience and knowledge of executives, to the benefit of the Group. This policy limits each executive s external appointment to one FTSE100 company directorship or equivalent. Consequently, where there is no likelihood that such an appointment will give rise to a conflict of interest, the board will normally provide consent to the appointment. The executive is permitted to retain any fees earned.

In 2012, the following executive directors received fees from external appointments: Guy Elliott received US$212,147 (2011: US$219,918) and Sam Walsh received A$161,000 (2011: A$137,084).

Details of all board members and executives external appointments can be found on pages 83 to 84.

Company secretary remuneration

The executive remuneration policy applies to the company secretary of both Rio Tinto plc and Rio Tinto Limited. They may participate in the Group s incentive arrangements. The individual performance measures for the company secretaries STIP comprise Group and individual objectives. Their personal measures reflect the key responsibilities of the company secretarial role and include ensuring compliance with regulatory requirements, continual improvement of corporate governance practice and measures related to the provision of corporate secretarial services to the Group.

Chairman and non-executive directors remuneration

Chairman

The Committee determines the terms of service, including remuneration, of the chairman. It is Rio Tinto s policy that the chairman should be remunerated on a competitive basis and at a level which reflects his contribution to the Group, as assessed by the board. The chairman is not present at any discussion regarding his own remuneration.

The chairman receives a fixed annual fee and does not receive any additional fee or allowance either for committee membership or for overseas travel. He is provided with a car and driver for business purposes, and private healthcare. He is also covered under the Group s accident policy. These are disclosed as benefits in Table 1b on page 116. He does not participate in the Group s incentive plans or pension arrangements.

Non-executive directors

Fees paid to non-executive directors reflect their respective duties and responsibilities and the time required to be spent by them so as to make a meaningful and effective contribution to the affairs of Rio Tinto. Non-executive directors receive a fixed annual fee comprising a base fee, committee membership or committee chairmanship fees, as applicable, and allowances for attending meetings which involve medium or long distance air travel. Rio Tinto does not pay retirement or post-employment benefits to non-executive directors; neither do any of them participate in any of the Group s incentive plans. Where the payment of statutory minimum superannuation contributions for Australian non-executive directors is required by Australian superannuation law, these contributions are deducted from the director s overall fee entitlements. Non-executive directors are also covered under the Group s accident policy.

The fees payable to non-executive directors are subject to review by the Chairman s Committee. During 2011, the review took into account market and related developments. In light of Rio Tinto s size, the complexity of its dual listed company structure and the resulting demands on directors as well as market developments, the base fee for non-executive directors was increased to £85,000 from 1 January 2012. Other fees were also increased, as indicated in the table on page 113, with effect from 1 January 2012, including allowances for overseas meetings involving long and medium distance flights. There have been no changes to the fees or allowances since that time.

Shareholding policy for non-executive directors

The board has adopted a policy whereby non-executive directors are encouraged to build up a shareholding within three years of their appointment equal in value to one year s base fee. To help facilitate this, a non-executive directors share purchase plan has been established under which non-executive directors may elect to invest a proportion of their fees net of tax on a regular basis to acquire shares on the open market. Details of non-executive directors share interests in the Group are set out in Table 3 on page 118.

Letters of appointment

The chairman s letter of appointment stipulates his duties as chairman of the Group. His appointment may be terminated without liability on the part of Rio Tinto in accordance with the Group s constitutional documents dealing with retirement, disqualification from office or other vacation from office. Otherwise, his appointment may be terminated by giving 12 months notice. There are no provisions for compensation payable on termination of his appointment, other than if his appointment as chairman is terminated by reason of his removal as a director pursuant to a resolution of shareholders in general meeting.

Non-executive directors have formal letters of appointment setting out their duties and responsibilities. These letters are available for inspection at Rio Tinto plc s registered office, and at its annual general meeting. Each non-executive director is appointed by the board subject to their election and annual re-election by shareholders as detailed on page 73. Non-executive directors appointments may be terminated by giving three months notice. There are no provisions for compensation payable on termination of their appointment.

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Remuneration Implementation Report

About this Remuneration Implementation Report

If the draft legislation published by the UK Government in 2012 is approved, an Implementation Report will be presented to shareholders for approval for the first time in 2014. This report aims to bring our disclosure closer to the spirit of the draft proposals by outlining how our remuneration policy was implemented in 2012 and how it is intended to be operated in 2013. For example, we have used the actual value of LTIP awards that vested in the remuneration tables that follow. We have also referred to the face value of awards proposed to be made in 2013 and the maximum potential value of PSP awards granted in 2012. This disclosure is provided in detail for each executive. However, the structure of the report will change next year to reflect the final regulations.

All remuneration numbers are shown gross of tax and in the relevant currency.

Sam Walsh (executive director and chief executive Iron Ore and Australia)

Base salary

The Committee has increased Sam s base salary by 14.9 per cent with effect from 17 January 2013 to reflect Sam s appointment as chief executive.

	2013	2012	% change
Base salary (stated in A$ 000)	**1,900**	1,654	14.9

Salaries are normally reviewed on 1 March.

STIP objectives for 2012

In addition to the health, safety and financial measures summarised in the executive remuneration structure table on page 97, the following individual objectives were set for 2012:

- Delivery of the Pilbara 290Mt project portfolio and the 360Mt study projects together with expansion options beyond 360Mt.

- Delivery of expansion initiatives at IOC, progress the Simandou Joint Venture and project studies and formation of the Orissa Joint Venture.

- Implementation of improvements arising from the safety diagnostic and construction and contractor safety work undertaken in the Pilbara in 2011.

Provide leadership to the business in Australia.

Support our people strategy by building capability, diversity, engagement and leadership.

STIP outcomes for 2012

The following table summarises the outcomes for each objective.

Measures	Weight (%)	Score (out of 200%)	Weighted score (out of 200%)
Group financial	21.0	85	17.8
PG financial	31.5	100	31.5
PG health and safety	17.5	97	17.0
Individual	30.0	140	42.0
Total	100.0		108.3

The Group s performance against the financial targets was 85 per cent.

The Iron Ore group achieved strong earnings and cash flow results for 2012 and the performance against the financial targets was 100 per cent.

The total safety score for the Iron Ore group was close to target and resulted in a score of 97 per cent (out of a maximum of 200 per cent).

The Committee, with input from the chairman of the board, assessed Sam s performance against his individual objectives as 140 per cent (out of 200 per cent) for his individual contribution to the business during the year.

As a result, Sam received a STIP award of 108.3 per cent of target, equivalent to 130 per cent of base salary, 50 per cent to be delivered in cash in March 2013, and the remainder to be delivered in deferred shares, vesting in December 2015.

LTIP award granted in 2012

As reported last year, the maximum potential value of the award is 438 per cent of base salary. The eventual value of the award will depend on the Group s relative TSR performance during the years 2012-2015.

LTIP award for 2013

Subject to shareholder approval of the proposed new PSP, Sam s PSP award in 2013 will have a face value of 420 per cent of base salary. Half of the award may vest after four years in 2017, and half the award may vest after five years in 2018, subject to the Group s performance against its relative TSR and the relative EBIT margin measures.

LTIP outcome for the period ended 31 December 2012

The performance shares under the PSP awarded in 2009 had a four-year performance period that ended on 31 December 2012. This award partially vested at 92.5 per cent (61.7 per cent of maximum) and Sam received 29,861 shares on 20 February 2013. He also received a cash payment of A$109,079 equal to the aggregate net dividends that would have been paid on the vested shares. No dividends are paid on the shares that lapsed.

Share options under the SOP granted in 2010 had a performance period that ended on 31 December 2012. This award has vested in full. Sam has an option over 83,763 shares at a price of A$76.15 per share. The market price of Rio Tinto Limited shares at 19 February 2013, being the latest practicable date before the date of publication of this report, was A$70.51. These options can be exercised from 22 March 2013. Further details of the awards vesting in 2013 and in prior years are provided on pages 111 and 120.

Shareholding

At 19 February 2013, the value of Sam s shareholding was 1.74 times his current base salary.

Superannuation

Sam s target defined benefit superannuation at age 62 was a lump sum multiple of 4.05 times final basic salary, being 20 per cent for each year and proportionate month of service with the Company, provided through an employer funded superannuation plan as provided to other Australian based employees. In line with other Australian based employees with defined benefit provision who remain in service beyond age 62, Sam s benefit will be calculated as the greater of:

(a) 20 per cent of basic salary, averaged progressively over the three years to age 65, for each year of service and proportionate month with the Company to date of retirement; or

(b) (i) his accrued benefit at age 62 of 4.05 times final basic salary; plus

(ii) Company contributions at the Superannuation Guarantee rate, currently nine per cent of basic salary, less tax; plus

(iii) investment earnings at the rate the trustee of the superannuation fund may determine from time to time for the period from age 62 to the date of retirement.

In line with typical market practice in Australia, Sam receives an additional Company contribution on a defined contribution basis of 20 per cent of the lesser of:

(a) 50 per cent of the annual STIP award; or

(b) 20 per cent of base salary.

The accrued lump sum benefit as at 31 December 2012 was A$6,836,000 (31 December 2011: A$6,245,000). The additional Company contribution for 2012 was A$64,000 (2011: A$59,000). Further details are set out in table 2 on page 117.

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Sam will receive relocation costs between Perth and London. He is also eligible for a housing allowance during his secondment.

Sam will be eligible to receive the value of unused annual leave and long service leave at the conclusion of his employment in accordance with applicable Australian legislation; the value of this leave as at 17 January 2013 was A$1,231,318 and A$1,513,967 respectively.

Total remuneration

The table below provides a summary of actual remuneration in respect of 2010, 2011 and 2012 stated in Australian dollars, prior to Sam s appointment as chief executive. This is in addition to statutory disclosure requirements set out in Table 1a on page 114. The purpose of this table is to enable shareholders better to understand the actual remuneration received and to provide an overview of the actual outcomes of the Group s remuneration arrangements. The remuneration details set out in table 1a on pages 114 and 115, include theoretical accounting values relating to various parts of the remuneration packages, most notably LTIP arrangements. Accordingly, the numbers below are not directly comparable with those in table 1a on page 114.

(stated in A$ 000)	**2012**	2011	2010
Base salary paid[a]	**1,643**	1,571	1,475
STIP payment cash	**1,075**	1,196	1,416
STIP payment deferred shares[b]	**1,075**	1,196	1,416
Total short-term pay	**3,793**	3,963	4,307
Value of LTIP awards vesting[c]	**2,225**	1,383	1,016
Superannuation[d]	**410**	372	377
Other benefits[e]	**231**	92	100
Total remuneration	**6,659**	5,810	5,800
Percentage change in total remuneration (2012 versus 2011; 2011 versus 2010)	**14.6%**	0.2%	
Percentage of total remuneration provided as performance related pay (STIP and LTIP)	**65.7%**	65.0%	66.3%
Percentage of total remuneration provided as non-performance related pay (Base salary, Pension & Other benefits)	**34.3%**	35.0%	33.7%
Percentage of maximum STIP awarded[f]	**65.0%**	75.2%	96.0%
Percentage of maximum STIP forfeited	**35.0%**	24.8%	4.0%
Percentage of target STIP awarded	**108.3%**	125.4%	160.0%

(a) Salary paid in the financial year to 31 December. Salaries are reviewed with effect from 1 March. (b) Value of STIP deferred under the BDP.

(c) 2012 figures are based on the estimated value of the LTIP awards which vested in respect of the performance period that ended 31 December 2012.

(d) Superannuation represents the value of one year s superannuation accrual calculated using an IAS19 methodology and assumptions on rates of investment return, inflation and salary increases and is sensitive to changes to those assumptions.

(e) Includes healthcare, car allowance, activities in relation to Rio Tinto s sponsorship of the medals for the 2012 London Olympics and other contractual payments.

(f) The maximum potential STIP award is 200 per cent of base salary.

The graphs below show the potential value of the 2013 remuneration package at below threshold, threshold, target and outstanding performance levels together with the proportion of the package delivered through fixed and variable remuneration. The values have been calculated based on the proposed amendments to the LTIP in 2013.

The PSP, STIP-deferred shares and STIP-cash are all performance-related remuneration.

Potential value of 2013 remuneration package

Proportion of the 2013 remuneration package value delivered through fixed and variable remuneration

Guy Elliott (chief financial officer)

Base salary

	2013	2012	% change
Base salary (stated in £ 000)	**738**	738	0.0

Salaries are normally reviewed on 1 March.

STIP outcomes for 2012

The Committee has determined that Guy would not receive a STIP award for 2012 in light of the impairment charges to the Group.

LTIP award granted in 2012

As reported last year, the maximum potential value of the award is 438 per cent of base salary. The eventual value of the award will depend on the Group s relative TSR performance during the years 2012-2015.

LTIP award for 2013

The Committee has determined that no LTIP award will be granted to Guy for 2013 in light of his forthcoming retirement.

LTIP outcomes for the period ended 31 December 2012.

The performance shares under the PSP awarded in 2009 had a four-year performance period that ended on 31 December 2012. This award partially vested at 92.5 per cent (61.7 per cent of maximum) and Guy is eligible to receive 33,062 shares from 18 February 2013. He also received a cash payment of £77,064, equal to the aggregate net dividends that would have been paid on the vested shares. No dividends are paid on the shares that lapsed.

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Remuneration Implementation Report continued

Share options under the SOP granted in 2010 had a performance period that ended on 31 December 2012. This award has vested in full. Guy has an option over 88,749 shares at a price of £37.05 per share. The market price of Rio Tinto plc shares at 19 February 2013 being the latest practicable date before the date of publication of this report was £37.14. These options can be exercised from 22 March 2013. Further details of the awards vesting in 2013 and in prior years are provided on pages 111 and 120.

Shareholding

At 19 February 2013, the value of Guy s shareholding was 5.2 times his current base salary.

Pension

Guy s target defined benefit pension is equal to 2.3 per cent of basic salary for each year of service with the Company to age 60, through funded and unfunded arrangements as provided to other UK based employees. The accrued pension as at 31 December 2012 was £547,000 per annum, (31 December 2011: £514,000 per annum). Further details are set out in table 2 on page 117.

Total remuneration

The table below provides a summary of actual remuneration in respect of 2010, 2011 and 2012 stated in pounds sterling. This is in addition to statutory disclosure requirements set out in Table 1a on page 114. The purpose of this table is to enable shareholders better to understand the actual remuneration received and to provide an overview of the actual outcomes of the Group s remuneration arrangements. The remuneration details, set out in table 1a on pages 114 and 115, include theoretical accounting values relating to various parts of the remuneration packages, most notably LTIP arrangements. Accordingly, the numbers below are not directly comparable with those in table 1a on page 114.

(stated in £ 000)	**2012**	2011	2010
Base salary paid[(a)]	**735**	713	675
STIP payment cash	**0**	0	632
STIP payment deferred shares[(b)]	**0**	0	632
Total short-term pay	**735**	713	1,939
Value of LTIP awards vesting[(c)]	**1,311**	1,100	563
Pension[(d)]	**382**	351	331
Other benefits[(e)]	**149**	210	173
Total remuneration	**2,577**	2,374	3,006
Percentage change in total remuneration (2012 versus 2011; 2011 versus 2010)	**8.6%**	(21.0%)	
Percentage of total remuneration provided as performance related pay (STIP and LTIP)	**50.9%**	46.3%	60.8%
Percentage of total remuneration provided as non-performance related pay (Base salary, Pension & Other benefits)	**49.1%**	53.7%	39.2%

Percentage of maximum STIP awarded[f]	**0%**	0.0%	93.6%
Percentage of maximum STIP forfeited	**100%**	100.0%	6.4%
Percentage of target STIP awarded	**0%**	0.0%	155.9%

(a) Salary paid in the financial year to 31 December. Salaries are reviewed with effect from 1 March.

(b) Value of STIP deferred under the BDP.

(c) 2012 figures are based on the estimated value of the LTIP awards which vested in respect of the performance period that ended 31 December 2012.

(d) Pension represents the value of one year s pension accrual calculated using an IAS19 methodology and assumptions on rates of investment return, inflation and salary increases and is sensitive to changes to those assumptions.

(e) Includes healthcare, provision of a car and driver, activities in relation to Rio Tinto s sponsorship of the medals for the 2012 London Olympics and other contractual payments.

(f) The maximum potential STIP award is 200 per cent of base salary.

The graphs below show the potential value of the 2013 remuneration package at below threshold, threshold, target and outstanding performance levels together with the proportion of the package delivered through fixed and variable remuneration.

The STIP-cash is performance related remuneration.

Potential value of 2013 remuneration package

Proportion of the 2013 remuneration package value delivered through fixed and variable remuneration

Retirement

Guy will retire on 31 December 2013.

During 2013, he will receive his contractual remuneration, including base pay, eligibility for STIP, benefits and pension contributions, until his retirement date. Any 2013 STIP award will be made in cash and paid in March 2014. Upon his retirement, good leaver treatment and pro-rating will apply to any outstanding LTIP awards in accordance with the Plan rules. In accordance with his contractual commitments, he will also be eligible for post-retirement medical insurance under the Rio Tinto Medical Expenses Plan, subject to the rules of the Plan.

Chris Lynch (chief financial officer-designate)

Chris Lynch will be on a standard Rio Tinto plc contract which includes a 12-month notice period. He will receive a remuneration package comprising a base salary of £800,000, target annual bonus opportunity of 120 per cent of base salary and a PSP award with a face value of 420 per cent of base salary in 2013. He will receive benefits including pension, medical insurance, relocation costs from Melbourne to London and transitional housing support.

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Tom Albanese (former chief executive)

Base salary

	2013	2012	% change
Base salary (stated in £ 000)	**1,056**	1,056	0.0

Salaries are normally reviewed on 1 March.

STIP outcomes for 2012

The Committee has determined that Tom will receive no STIP award for 2012. He will not receive a STIP award for 2013.

LTIP award granted in 2012

This award will lapse when Tom leaves the Group.

LTIP award for 2013

The Committee has determined that no LTIP award will be granted to Tom for 2013.

LTIP outcome for the period ended 31 December 2012

The performance shares under the PSP awarded in 2009 had a four-year performance period that ended on 31 December 2012. This award partially vested at 92.5 per cent (61.7 per cent of maximum) and Tom received 44,417 shares on 19 February 2013. He also received a cash payment of £103,531, equal to the aggregate net dividends that would have been paid on the vested shares. No dividends are paid on the shares that lapsed.

Share options under the SOP granted in 2010 had a performance period that ended on 31 December 2012. This award has vested in full. Tom has an option over 119,230 shares at a price of £37.05 per share. The market price of Rio Tinto plc shares at 19 February 2013, being the latest practicable date before the date of publication of this report, was £37.14. These options can be exercised from 22 March 2013. Further details of the awards vesting in 2013 and in prior years are provided on pages 111 and 120.

All further outstanding, unvested LTIP awards will lapse when Tom leaves the Group.

Pension

Tom s target defined benefit pension is equal to two-thirds of basic salary at age 60, through funded and unfunded arrangements as provided to other UK-based employees. This is inclusive of benefits accrued in the US. The accrued pension as at 31 December 2012 was £552,000 per annum, (31 December 2011: £476,000 per annum). Further details are set out in table 2 on page 117.

Total remuneration

The table below provides a summary of actual remuneration in respect of 2010, 2011 and 2012 stated in pounds sterling. This is in addition to statutory disclosure requirements set out in Table 1a on page 114. The purpose of this table is to enable shareholders better to understand the actual remuneration received and to provide an overview of the actual outcomes of the Group s remuneration arrangements. The remuneration details set out in table 1a on pages 114 and 115 include theoretical accounting values relating to various parts of the remuneration packages, most notably LTIP arrangements. Accordingly, the numbers below are not directly comparable with those in table 1a on page 114.

(stated in £ 000)	**2012**	2011	2010
Base salary paid[(a)]	**1,052**	1,010	907
STIP payment cash	**0**	0	797
STIP payment deferred shares[(b)]	**0**	0	797
Total short-term pay	**1,052**	1,010	2,501
Value of LTIP awards vesting[(c)]	**1,762**	1,478	873
Pension[(d)]	**1,360**	1,230	1,105
Other benefits[(e)]	**195**	269	208
Total remuneration	**4,369**	3,987	4,687
Percentage change in total remuneration (2012 versus 2011; 2011 versus 2010)	**9.6%**	(14.9%)	
Percentage of total remuneration provided as performance related pay (STIP and LTIP)	**40.3%**	37.1%	52.6%
Percentage of total remuneration provided as non-performance related pay (Base salary, Pension & Other benefits)	**59.7%**	62.9%	47.4%
Percentage of maximum STIP awarded[(f)]	**0%**	0.0%	87.8%
Percentage of maximum STIP forfeited	**100%**	100.0%	12.2%
Percentage of target STIP awarded	**0%**	0.0%	146.4%

(a) Salary paid in the financial year to 31 December. Salaries are reviewed with effect from 1 March.

(b) Value of STIP deferred under the BDP.

(c) 2012 figures are based on the estimated value of the LTIP awards which vested in respect of the performance period that ended 31 December 2012.

(d) Pension represents the value of one year s pension accrual calculated using an IAS19 methodology and assumptions on rates of investment return, inflation and salary increases and is sensitive to changes to those assumptions.

(e) Includes healthcare, provision of a car and driver, activities in relation to Rio Tinto s sponsorship of the medals for the 2012 London Olympics and other contractual payments.

(f) The maximum potential STIP award is 200 per cent of base salary.

Termination

Tom leaves the Group on 16 July 2013. Until this date, he will receive his base salary, benefits and pension contributions. Tom will return to the US prior to his termination date, and be eligible to receive post-retirement medical coverage in the US for himself and his spouse, in line with contractual commitments.

He received his 2009 performance share and the 2010 share option awards, both of which vested prior to his termination date in accordance with the plan rules, as indicated in this report. He will also be able to exercise any vested but unexercised share options up to his termination date.

Tom will not receive a STIP award for either 2012 or 2013, nor an LTIP award in 2013. When he leaves the Group, all outstanding but unvested LTIP and BDP awards earned in previous years will lapse and be forfeited.

No termination payments will be made to Tom Albanese.

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Remuneration Implementation Report continued

What we paid our other Executive Committee members and why

Base salary

The base salary increase for Debra Valentine was in line with the 2013 salary budgets applying to the broader Rio Tinto employee population in the UK and US. The increases for Andrew Harding and Hugo Bague reflect their appointments as chief executive Iron Ore and Group executive, Organisational Resources respectively.

Stated in 000	2013	2012	% change
Hugo Bague[(a)]	**£472.5**	£429.5	10.0
Preston Chiaro	**US$789.0**	US$789.0	0.0
Jacynthe Côté[(b)]	**C$930.0**	C$930.0	0.0
Alan Davies[(c)]	**A$771.3**	A$748.8	3.0
Andrew Harding[(d)]	**£546.0**	£436.0	25.2
Jean-Sébastien Jacques[(e)]	**£436.0**		
Harry Kenyon-Slaney[(f)]	**£512.3**	£512.3	0.0
Debra Valentine	**US$671.6**	US$652.0	3.0

(a) Hugo Bague s base salary increase of 10.0 per cent reflects his appointment as Group executive, Organisational Resources effective 1 March 2013.

(b) Jacynthe Côté s base salary was converted to Canadian dollars from March 2012 to align earnings currency with home base expenditures.

(c) Alan Davies was appointed to his current role effective 1 September 2012.

(d) Andrew Harding s base salary increase of 25.2 per cent reflects his appointment as chief executive, Iron Ore and the additional scope and responsibilities of his role, effective from 14 February 2013.

(e) Jean-Sébastien Jacques base salary upon his appointment as chief executive, Copper on 14 February 2013.

(f) Harry Kenyon-Slaney received a base salary increase of 17.5 per cent from £436,000 to £512,300, effective from 1 September 2012, upon appointment to his new role.

(g)

Bret Clayton stepped down from the Executive Committee on 1 March 2013 and therefore is not shown in the 2013 salary or any other forward looking tables relating to 2013.

STIP objectives and outcomes for 2012

A summary of the assessed score against achievement of financial, health and safety and individual objectives by executive is set out in the table on pages 107 and 108.

These assessments were undertaken against specific individual targets (for the Group or a product group, as appropriate), set at the start of the year. The Committee also exercised discretion to reduce some payouts from a purely formulaic assessment, in order to appropriately reflect overall performance in the year, as indicated in the table. As a result, 2012 STIP payouts for the executives range from 0 per cent to 113.9 per cent of target. Half of the bonus is delivered in cash and half in the form of deferred shares.

LTIP awards granted in 2012

The maximum potential value of PSP awards granted in 2012 is 438 per cent of base salary. The eventual value of the award will depend on the Group s relative TSR performance during the years 2012-2015.

LTIP awards for 2013

Subject to shareholder approval of the proposed new PSP, the Committee has decided that the PSP awards in 2013 will have a face value of awards as shown in the table opposite. Half of the award will vest after four years in 2017, and half the award will vest after five years in 2018, subject to the Group s performance against its relative TSR and the relative EBIT margin measures.

The average face value of awards made to Executive Committee members is 380 per cent of base salary.

Note that in all cases, this maximum value available to Executive Committee members is lower than the maximum value available through grants made under the current PSP in 2012, of 438 per cent of base salary.

Maximum value (Percentage of 1 March base salary)	2013
Hugo Bague	**400**
Preston Chiaro	**300**
Jacynthe Côté	**300**
Alan Davies	**420**
Andrew Harding	**420**
Jean-Sébastien Jacques	**380**
Harry Kenyon-Slaney	**420**
Debra Valentine	**400**

LTIP outcomes for the period ended 31 December 2012

The performance shares under the PSP awarded in 2009 had a four-year performance period that ended on 31 December 2012. These awards partially vested at 92.5 per cent (61.7 per cent of maximum).

PSP awards were only made to employees who were executive directors or PGCEOs in 2009 (Tom Albanese, Preston Chiaro, Bret Clayton, Jacynthe Côté, Guy Elliott and Sam Walsh). Other executives were awarded only Management Share Plan (MSP) and SOP grants in 2009.

Share options under the SOP granted in 2010 had a performance period that ended on 31 December 2012. These awards vested in full. Options can be exercised from 22 March 2013.

Further details of the LTIP outcomes for the period ended 31 December 2012 and in prior years are provided on pages 111 and 120.

Post-employment benefits

Executives may participate in pension, superannuation and post-employment medical benefits offered to the broader employee population in similar locations.

Termination

Doug Ritchie leaves the Company on 16 July 2013. Until this date he will receive base pay, benefits and superannuation contributions. He will not receive an increase on his base salary of A$967,000 for 2013. Neither will he receive a STIP award either for 2012 or 2013, nor an LTIP award for 2013.

He received his 2010 SOP award, which vested prior to his termination date in accordance with the SOP rules. He will also be able to exercise any vested but unexercised SOP awards up to his termination date. When he leaves the Group, all outstanding unvested LTIP and BDP awards earned in previous years will lapse and be forfeited. Save for the statutory payment of outstanding annual leave and long service leave, no termination payments will be made to Doug Ritchie.

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Measures	Weight (%)	Score (out of 200%)	Weighted score (%)	Summary of 2012 individual objectives
Hugo Bague				Develop a human capital planning framework that enables greater flexibility for developing talent across all levels of the organisation and enables each business to focus human capital investments where they matter the most
Group financial	52.5	85	44.6	
Group health and safety[a]	17.5	100	17.5	
Individual	30.0	133	39.9	
Total (% of salary out of 200%)	100.0		102.0	
(a) The health and safety score was reduced from 120 to 100 per cent of target due to fatalities.				Demonstrate progress against Group diversity targets
				Improve employee engagement though delivering on agreed actions
				Support leadership development in emerging regions and executive succession planning and development
Preston Chiaro				Increase the effectiveness of project development and implementation capabilities
Group financial	52.5	85	44.6	
T&I health and safety	17.5	115	20.2	
Individual	30.0	115	34.5	
Sub total[a]	100.0		99.3	
Discretionary adjustment			(49.7)	Delivery of new technologies to the product groups at commercial scale
Total (% of salary out of 200%)			49.6	
(a) The Committee decided that the STIP outcome be reduced by 50 per cent in light of the impairment in the Coal business resulting in a final weighted score of 49.6 per cent of base salary.				Implement changes resulting from a review of the T&I organisation and improve engagement and partner relations
				Support our people strategy by building capability, diversity, engagement and leadership
Bret Clayton				
The Committee decided that Bret Clayton will not receive a STIP award for 2012 in light of the impairment in the Coal business.				
Jacynthe Côté				Continue to drive sustainable cost reductions, EBITDA margins through
Group financial	21.0	85	17.8	

PG financial	31.5	91	28.7	business improvement, asset sales and closures where appropriate
PG health and safety[(a)]	17.5	75	13.1	
Individual	30.0	89	26.7	
Sub total[(b)]	100.0		86.3	
Discretionary adjustment			(64.7)	
Total (% of salary out of 200%)			21.6	Continue to reduce carbon footprint

(a) The health and safety score was reduced from 112 to 75 per cent of target due to a fatality.

Delivery of projects, particularly Yarwun 2 commissioning, according to targets

(b) The Committee decided that the STIP outcome be reduced by 75 per cent in light of the impairment in the Aluminium business resulting in a final award of 21.6 per cent of base salary.

Protect the pipeline of growth projects while maintaining flexibility with timelines

Support our people strategy by building capability, diversity, engagement and leadership

Alan Davies[(a)]				Deliver business value and engage people through implementation of the business improvement programme based on lean principles
Group financial	21.0	85	17.8	
PG financial	31.5	76	23.9	
PG health and safety	17.5	98	17.2	
Individual	30.0	120	36.0	
Total (% of salary out of 200%)	100.0		94.9	

(a) Scores relate to the period 1 September 2012 31 December 2012.

Communicate the Diamonds & Minerals business strategy and engage people though the development and delivery of the product group identity and culture

Progress portfolio of major growth projects in a safe, timely and cost-effective manner while identifying and progressing M&A opportunities

Support our people strategy by building capability, diversity, engagement and leadership

Outline initial thoughts on a strategy to address current critical issues across

				Diamonds & Minerals
Andrew Harding				Demonstrate leadership and build credibility within Diamonds & Minerals, gearing for long-term success in the role Ensure appropriate resources, structure and support to deliver sustainable value in key strategic locations
Group financial	21.0	85	17.8	
PG financial	31.5	116	36.6	
PG health and safety[(a)]	17.5	100	17.5	
Individual	30.0	140	42.0	
Total (% of salary out of 200%)	100.0		113.9	

(a) The health and safety score was reduced from 133 to 100 per cent of target due to a fatality.

Provide the leadership, resources and support to deliver Oyu Tolgoi to first ore, transition to operations and preparedness for first commercial production

Continue to pursue growth opportunities and meet studies targets for La Granja and Resolution

Deliver sustainable improvement in safety and productivity and provide focused leadership in process safety and underground safety for the Group

Support our people strategy by building capability, diversity, engagement and leadership

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Remuneration Implementation Report continued

Measures	Weight (%)	Score (out of 200%)	Weighted score (%)	Summary of 2012 individual objectives
Harry Kenyon-Slaney				Deliver business value and engage people through implementation of the business improvement programme based on lean principles
Group financial	21.0	85	17.8	
PG financial[a]	31.5	72	22.6	
PG health and safety[a]	17.5	113	19.8	
Individual[a]	30.0	133	39.9	
Total (% of salary out of 200%)	100.0		100.1	
				Communicate the Diamonds & Minerals business strategy and engage people though the development and delivery of the product group identity and culture
				Progress portfolio of major growth projects in a safe, timely and cost-effective manner while identifying and progressing M&A opportunities
				Support our people strategy by building capability, diversity, engagement and leadership
				Outline initial thoughts on a strategy to address current critical issues across Energy
				Demonstrate leadership and build credibility within Energy, gearing for long-term success in the role
Debra Valentine				Improve operational efficiency of the Legal and External Affairs function in accordance with support strategy review targets
Group financial	52.5	85	44.6	
Group health and safety	17.5	120	21.0	
Individual	30.0	131	39.3	
	100.0		104.9	

(a) Scores are pro-rated for the period while chief executive Diamonds & Minerals (1 January 2012 31 August 2012) and for the period while chief executive Energy (1 September 2012 31 December 2012).

Total (% of salary out of 200%)	Establish new Human Rights framework to link existing initiatives and internal controls Provide support on key strategic projects and investment opportunities Continue focus on developing relationships with key external stakeholders across key countries Implement cyber security strategy to protect high-value technology, assets and information and protect the value of technology projects through patents and licences where appropriate Support our people strategy by building capability, diversity, engagement and leadership

Total remuneration

The tables below provide a summary of actual remuneration in respect of 2011 and 2012 stated in the currency of payment. This is in addition to statutory disclosure requirements set out in Table 1a on page 114. The purpose of this table is to enable shareholders to better understand the actual remuneration received by executives and to provide an overview of the actual outcomes of the Group s remuneration arrangements. The remuneration details, set out in table 1a on pages 114 and 115, include theoretical accounting values relating to various parts of the remuneration packages, most notably LTIP arrangements.

	Hugo Bague		Preston Chiaro		Bret Clayton	
(stated in 000)	**2012**	2011	**2012**	2011	**2012**	2011
Base salary paid[a]	**£427**	£406	**US$786**	US$763	**US$760**	US$738
STIP payment cash	**£219**	£248	**US$196**	US$389	**US$0**	US$476
STIP payment deferred shares[b]	**£219**	£249	**US$196**	US$390	**US$0**	US$476
Total short-term pay	**£865**	£903	**US$1,178**	US$1,542	**US$760**	US$1,690
Value of LTIP awards vesting[c]	**£4**	£1,123	**US$1,217**	US$1,032	**US$1,174**	US$996
	£27	£27	**US$383**	US$256	**US$342**	US$236

Pension or superannuation[(d)]						
Other benefits[(e)]	**£220**	£281	**US$101**	US$209	**US$1,156**	US$1,070
Total remuneration	**£1,116**	£2,334	**US$2,879**	US$3,039	**US$3,432**	US$3,992
Percentage change in total remuneration (2012 versus 2011)	**(52.2%)**		**(5.3%)**		**(14.0%)**	
Percentage of total remuneration provided as performance related pay (STIP and LTIP)	**39.6%**	69.4%	**55.9%**	59.6%	**34.2%**	48.8%
Percentage of total remuneration provided as non-performance related pay (Base salary, Pension & Other benefits)	**60.4%**	30.6%	**44.1%**	40.4%	**65.8%**	51.2%
Percentage of maximum STIP awarded[(f)]	**51.0%**	59.9%	**24.8%**	50.6%	**0.0%**	63.9%
Percentage of maximum STIP forfeited	**49.0%**	40.1%	**75.2%**	49.4%	**100.0%**	36.1%
Percentage of target STIP awarded	**102.0%**	119.9%	**49.6%**	101.2%	**0.0%**	127.8%

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	Jacynthe Côté[g]		Alan Davies[h]		Andrew Harding	
(stated in 000)	**2012**	2011	**2012**	2011	**2012**	2011
Base salary paid[a]	**C$921**	C$864	**A$250**		**£433**	£410
STIP payment cash	**C$100**	C$475	**A$118**		**£248**	£249
STIP payment deferred shares[b]	**C$101**	C$475	**A$119**		**£249**	£250
Total short-term pay	**C$1,122**	C$1,814	**A$487**		**£930**	£909
Value of LTIP awards vesting[c]	**C$1,380**	C$1,969	**A$378**		**£0**	£728
Pension or superannuation[d]	**C$474**	C$432	**A$3**		**£27**	£27
Other benefits[e]	**C$139**	C$42	**A$204**		**£484**	£507
Total remuneration	**C$3,115**	C$4,257	**A$1,072**		**£1,441**	£2,171
Percentage change in total remuneration (2012 versus 2011)	**(26.8%)**				**(33.6%)**	
Percentage of total remuneration provided as performance related pay (STIP and LTIP)	**50.8%**	68.6%	**57.4%**		**34.5%**	56.5%
Percentage of total remuneration provided as non-performance related pay (Base salary, Pension & Other benefits)	**49.2%**	31.4%	**42.6%**		**65.5%**	43.5%
Percentage of maximum STIP awarded[f]	**10.8%**	54.2%	**47.5%**		**57.0%**	59.4%
Percentage of maximum STIP forfeited	**89.2%**	45.8%	**52.5%**		**43.0%**	40.6%
Percentage of target STIP awarded	**21.6%**	108.5%	**94.9%**		**113.9%**	118.9%

	Harry Kenyon-Slaney		Doug Ritchie[i]		Debra Valentine	
(stated in 000)	**2012**	2011	**2012**	2011	**2012**	2011
Base salary paid[a]	**£459**	£410	**A$961**	A$917	**US$648**	US$620
STIP payment cash	**£256**	£236	**A$0**	A$467	**US$342**	US$399
STIP payment deferred shares[b]	**£257**	£237	**A$0**	A$467	**US$342**	US$400
Total short-term pay	**£972**	£883	**A$961**	A$1,851	**US$1,332**	US$1,419
Value of LTIP awards vesting[c]	**£4**	£514	**A$0**	A$1,954	**US$381**	US$2,291
Pension or superannuation[d]	**£94**	£87	**A$270**	A$245	**US$219**	US$213
Other benefits[e]	**£219**	£127	**A$167**	A$73	**US$1,510**	US$816
Total remuneration	**£1,289**	£1,611	**A$1,398**	A$4,123	**US$3,442**	US$4,739
Percentage change in total remuneration (2012 versus 2011)	**(20.0%)**		**(66.1%)**		**(27.4%)**	
Percentage of total remuneration provided as performance related pay (STIP and LTIP)	**40.1%**	61.3%	**0.0%**	70.0%	**30.9%**	65.2%
Percentage of total remuneration provided as non-performance related pay (Base salary, Pension & Other)	**59.9%**	38.7%	**100.0%**	30.0%	**69.1%**	34.8%
Percentage of maximum STIP awarded[f]	**50.1%**	56.3%	**0.0%**	50.2%	**52.5%**	63.4%
Percentage of maximum STIP forfeited	**49.9%**	43.7%	**100.0%**	49.8%	**47.5%**	36.6%
Percentage of target STIP awarded	**100.1%**	112.7%	**0.0%**	100.5%	**104.9%**	126.8%

(a) Salary paid in the financial year to 31 December. Salaries are reviewed with effect from 1 March.

(b) Value of STIP deferred under the BDP.

(c) 2012 figures are based on the estimated value of the LTIP awards which vested in respect of the performance period that ended 31 December 2012.

(d) Pension or superannuation represents the value of one year s pension or superannuation accrual calculated using an IAS19 methodology and assumptions on rates of investment return, inflation and salary increases and is sensitive to changes to those assumptions. For Bret Clayton and Debra Valentine the 2011 the Other post employment benefits component has been restated as an incorrect methodology was used to value them. The figures previous disclosed in 2011 were US$235,000 for Bret Clayton and US$215,000 for Debra Valentine.

(e) Includes healthcare, tax advice, car allowance or car and activities in relation to Rio Tinto s sponsorship of the medals for the 2012 London Olympics. Will include active or legacy expatriate related benefits, as relevant.

(f) The maximum potential STIP award is 200 per cent of base salary.

(g) All 2011 amounts have been converted from US$ to C$ at the 2011 average exchange rate.

(h) Remuneration details reflect remuneration received for the period 1 September 2012 31 December 2012.

(i) Outstanding LTIP awards will lapse upon leaving the Group.

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Remuneration Implementation Report continued

Potential value of 2013 remuneration package

The table below shows the potential minimum and maximum value of the 2013 remuneration package and the threshold, target and maximum value of the 2013 STIP and LTIP awards. The values have been calculated based on the proposed amendments to the LTIP in 2013.

Stated in 000	Currency	**Minimum potential remuneration**[(a)]	Threshold value of STIP and LTIP awards[(b)]	Target value of STIP and LTIP awards[(c)]	Maximum value of STIP and LTIP awards[(d)]	**Maximum potential remuneration**
Hugo Bague	£	**£441**	£618	£1,324	£2,648	**£3,089**
Preston Chiaro	US$	**US$789**	US$927	US$1,973	US$3,945	**US$4,734**
Jacynthe Côté	C$	**C$930**	C$1,093	C$2,325	C$4,650	**C$5,580**
Alan Davies	A$	**A$771**	A$1,115	A$2,391	A$4,782	**A$5,553**
Andrew Harding	£	**£546**	£789	£1,693	£3,385	**£3,931**
Jean-Sébastien Jacques	£	**£436**	£591	£1,264	£2,529	**£2,965**
Harry Kenyon-Slaney	£	**£512**	£740	£1,588	£3,176	**£3,688**
Debra Valentine	US$	**US$672**	US$940	US$2,015	US$4,030	**US$4,702**

(a) Base salary is the minimum potential remuneration.

(b) Calculated based on threshold performance under the STIP and threshold PSP vesting.

(c) Calculated based on target performance under the STIP and target PSP vesting.

(d) Calculated based on outstanding performance under the STIP and maximum PSP vesting.

Remuneration mix

The graphs below show the proportion of the package delivered through fixed and variable remuneration. The values have been calculated based on the proposed amendments to the LTIP in 2013. The PSP, STIP deferred shares and STIP cash are all performance related remuneration.

Proportion of the 2013 remuneration package value delivered through fixed and variable remuneration

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Remuneration Report appendix

Long-term incentives vesting outcomes for the period ended 31 December 2012

2009 PSP awards (four-year performance period)

A group of eight comparator companies was used to assess Rio Tinto s relative TSR performance, which is the performance measure used to determine the vesting of awards made under the 2009 PSP. For PSP awards made from and including 2010, two indices are used for assessing Rio Tinto s relative TSR performance as detailed in the table on page 112. The Committee is recommending the inclusion of a relative EBIT margin measure for awards to be granted from 2013 representing one-third of the total potential value of the overall award.

PSP awards were only made to executive directors and PGCEOs in 2009 (Tom Albanese, Preston Chiaro, Bret Clayton, Jacynthe Côté, Guy Elliott and Sam Walsh). Other executives were awarded only MSP and SOP grants in 2009 which vested respectively in January 2012 and March 2012.

PSP performance period that ended on 31 December 2012

Comparator companies[a]	Alcoa, Anglo American, Barrick Gold, BHP Billiton, Freeport-McMoRan, Newmont Mining, Vale, Xstrata
Performance period (4 years)	1 January 2009 31 December 2012
Performance condition	Rio Tinto must achieve a ranking of 5th (median of the comparator group) for threshold vesting at 35 per cent. The maximum vesting is 1.5 times the award with equal steps between 5th and 1st rank. No awards vest below the threshold levels.
TSR Ranking	3rd (108.2 per cent TSR)
% of shares vested	92.5 per cent (61.7 per cent of maximum)
% of shares forfeited	7.5 per cent (38.3 per cent of maximum)

(a) The comparator companies were selected at the start of the performance period.
The 2008 average share price was abnormally inflated by the BHP Billiton bid. The Committee at that time used the average of the Rio Tinto share price over the three-month period commencing 12 February 2009 (as opposed to a 12-month period commencing 1 January 2008) for the purpose of calculating the opening share price for TSR performance over the performance period. It used the same period in relation to the PSP comparator companies. However, the usual 12-month methodology was used to calculate the ending share prices for TSR comparison

purposes, for Rio Tinto and comparator companies. The usual conventions were also applied to set the levels of award based upon the prior year average share price which resulted in a significant reduction in shares awarded compared to the prior year. This approach was consistently adopted by the Committee for the 2009 SOP awards which vested in 2012.

The table below summarises the average vesting of performance shares for executive directors and PGCEOs over the five-year period 2009-2013.

Performance period	Vesting year	% of shares vested	% of maximum shares vested
2005-2008	2009	92.5	62
2006-2009	2010	39.6	26
2007-2010	2011	36.4	24
2008-2011	2012	0.0	0
2009-2012	2013	92.5	62
Average vesting		52.2	35

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Remuneration Report appendix continued

2010 SOP awards (three-year performance period)

The HSBC Global Mining Index is used to assess Rio Tinto s relative TSR performance which is the performance measure used to determine the vesting of awards made under the SOP.

SOP performance period that ended on 31 December 2012

Comparator group	HSBC Global Mining Index
Performance period (3 years)	1 January 2010-31 December 2012
Rio Tinto outperformance	26.0%
Outperformance required for full vesting	15.8%
% of options vested	100%
% of options forfeited	

The methodology used to calculate the starting share prices for TSR comparison purposes, for Rio Tinto and the index, was the 12-month average prior to the commencement of the performance period. The methodology used to calculate the ending share prices for TSR comparison purposes, for Rio Tinto and the index, was the last 12 months in the performance period. The usual conventions were also applied to set the number of options awarded, based upon the prior year average share price.

The table below summarises the average vesting of share options for executive directors and PGCEOs over the five-year period 2009-2013.

Performance period	Vesting year	% of options vested
2006-2008	2009	100
2007-2009	2010	0
2008-2010	2011	0
2009-2011	2012	100
2010-2012	2013	100
Average vesting		60

MSP awards

Although executives are not eligible to receive awards under the MSP, Alan Davies received grants prior to his appointment as PGCEO.

Plan period	Plan period that ended 31 December 2012
Vesting period	22 March 2010-31 December 2012
% of shares vested	100
% of shares forfeited	

Debra Valentine received an MSP award when she joined the Group in 2008 which vested in January 2012.

Five-year TSR and relevant index TSR

Relative TSR is the single performance measure used to determine the vesting of awards made under the PSP and SOP prior to 2013. Rio Tinto s TSR relative to the relevant index, or the comparator group in the case of the PSP, over the performance period has a direct impact on the levels of LTIP vesting.

The effect of this performance on shareholder wealth, as measured by TSR delivered during the relevant calendar year, is detailed in the table.

Year	Dividends paid during the year US cents per share	Share price Rio Tinto plc pence 1 Jan	Share price Rio Tinto plc pence 31 Dec	Share price Rio Tinto Limited A$ 1 Jan	Share price Rio Tinto Limited A$ 31 Dec	**Total shareholder return (TSR) Group %**
2012	163.5	3,125	3,512	60.30	66.01	14.7
2011	117.0	4,487	3,125	85.47	60.30	(31.1)
2010	90.0	3,390	4,487	74.89	85.47	31.3
2009	68.0	1,231	3,390	29.97	74.89	171.5
2008	152.0	4,392	1,231	105.65	29.97	(71.4)

The graph below illustrates the TSR performance of the Group against the HSBC Global Mining Index and the MSCI over the past five years. These two indices are used to assess Rio Tinto s relative TSR performance for awards made under the PSP from and including 2010. The HSBC Global Mining Index alone is used to determine the vesting of awards made under the SOP. The graph has been prepared in accordance with the requirements of Schedule 8 of the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 and is not an indication of the likely vesting of awards granted under the PSP and SOP. The remuneration structure table on pages 97 to 99 provides further details of the performance conditions for the PSP and SOP.

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What we paid our non-executive directors

Fees

The table below sets out the annual fees payable to the chairman and the non-executive directors.

	2013	2012	2011
Director fees			
Chairman s fee	**£700,000**	£700,000	£700,000
Non-executive director base fee	**£85,000**	£85,000	£80,000
Senior independent director	**£40,000**	£40,000	£35,000
Committee fees			
Audit Committee chairman	**£35,000**	£35,000	£35,000
Audit Committee member	**£20,000**		