

RIO TINTO PLC  
Form 20-F  
March 15, 2011

**Table of Contents**

**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
- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the fiscal year ended: 31 December 2010
- 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 plc**

**Rio Tinto Limited  
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		
7.125% Notes due 2013	New York Stock Exchange	7.125% Notes due 2013	New York Stock Exchange
5.875% Notes due 2013		5.875% Notes due 2013	

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	New York Stock Exchange		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

\* Evidenced by American Depositary Receipts. Each American Depositary Share Represents one Rio Tinto plc Ordinary Shares 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	1,529,003,871	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  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

**Table of Contents**

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  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 (Section 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  No

\* This requirement does not apply to the registrant until its fiscal year ending December 31, 2011.

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  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  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

This document comprises the annual report on Form 20-F and the annual report to shareholders for the year ended December 31, 2010 of Rio Tinto plc and Rio Tinto Limited (the 2010 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. 333-151839, and Registration Statements on Form S-8 File Nos. 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 2010 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.

**Table of Contents****Form 20-F Cross Reference Table**

<b>Item Number</b>	<b>Number Description</b>	<b>Report section reference</b>	
<b>1.</b>	<b>Identity of directors, senior management and advisors</b>	Not applicable	
<b>2.</b>	<b>Offer statistics and expected timetable</b>	Not applicable	
<b>3.</b>	<b>Key Information</b>		
A	Selected financial information	Performance highlights	2-3
		Five Year review	74
		Dual listed companies structure	269
		Dividend rights	274
		Exchange rates	274
B	Capitalisation and indebtedness	Not applicable	
C	Reasons for the offer and use of proceeds	Not applicable	
D	Risk factors	Risk factors	25-28
<b>4.</b>	<b>Information on the company</b>		
A	History and development of the company	Striving for global leadership	V
		Shareholder information	
		Operational structure	262
		Nomenclature and financial data	262
		History	262
		Registered offices	279
		Acquisition and divestments	75
		Capital projects	76-77
B	Business overview	Strategic context	14-15
		Group strategy	18-21
		Product overview	6-7
		Key performance indicators	22-23
		Group overview	4-5
		Corporate governance	
		Governmental regulations	111
C	Organisational structure	Financial statements	
		Notes 37-40	223-225
D	Property, plant and equipment	Metals and minerals production	80-83
		Ore reserves	84-93
		Mines and production facilities	94-101
		Financial statements	
		Note 13-property, plant and equipment	193
<b>4A.</b>	<b>Unresolved staff comments</b>	None	
<b>5.</b>	<b>Operating and financial review and prospects</b>		
A	Operating results	Operating review	
		Aluminium	42-45

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	Copper	46-49
	Diamond & Minerals	50-53
	Energy	54-57
	Iron Ore	58-61
	Financial review	66-73
	Sustainable development	29-30
B	Liquidity and capital resources	
	Financial review	
	Cash Flow	71
	Statement of financial position	71
	Financial risk management	71
	Liquidity and capital management	72
	Financial statements	
	Note 33-financial risk management	210-215
C	Research and development, patents and licenses	
	Exploration	62-63
	Technology & Innovation	64-65

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---

**Table of Contents**

<b>Item Number</b>	<b>Number Description</b>	<b>Report section reference</b>	
D	Trend information	Product Overview	4-5
		Chairman's statement	8-9
		Chief executive's statement	10-11
E	Off-balance sheet arrangements	See item 5.A	
		Financial review	
		Off balance sheet arrangements and contractual commitments	73
		Financial statements	
		Note 35-contingent liabilities and commitments	221-222
F	Tabular disclosure of contractual obligations	Financial review	
		Off balance sheet arrangements and contractual commitments	73
<b>6.</b>	<b>Directors, senior management and employees</b>		
A	Directors and senior management	Board of directors	102-105
		Executive committee	106-107
B	Compensation	Remuneration report	128-155
C	Board practices	Board of directors	102-105
		Executive committee	106-107
		Corporate governance	114-127
D	Employees	Financial statements	
		Note 4-employment costs	183
		Note 36-average number of employees	222
E	Share ownership	Remuneration report	
		Table 3	147
<b>7.</b>	<b>Major shareholders and related party transactions</b>		
A	Major shareholders	Shareholder information	
		Substantial shareholders	274
		Analysis of ordinary shareholders	275
		Twenty largest registered shareholders	275
B	Related party transactions	Financial statements	
		Note 44- related party transactions	232
C	Interests of experts and counsel	Not applicable	
<b>8.</b>	<b>Financial Information</b>		
A	Consolidated statements and other financial information	See Item 18 below	
		Financial statements	
		Note 35-contingent liabilities and commitments	221
		Shareholder information	
		Dividends	262-263
B	Significant changes	Financial statements	

	Note 48-events after the statement of financial position date	233
--	---	-----

**9. The offer and listing**

A	Offer and listing details	Shareholder information Market listings and share prices	263-265
B	Plan of distribution	Not applicable	
C	Markets	Shareholder information Market listings and share prices	263-265
D	Selling shareholders	Not applicable	
E	Dilution	Not applicable	
F	Expenses of the issue	Not applicable	

**10. Additional Information**

A	Share capital	Not applicable	
B	Memorandum and articles of association	Shareholder information Material contacts Articles of association and constitution	268-271 271-272
C	Material contracts	Shareholder information Material contracts	268-271
ii	Rio Tinto 2010 Annual report		

---



**Table of Contents**

<b>Item Number</b>	<b>Number Description</b>	<b>Report section reference</b>	
D	Exchange controls	Shareholder information Exchange controls and foreign Investment	268
E	Taxation	Shareholder information Taxation	266-268
F	Dividends and paying agents	Not applicable	
G	Statement by experts	Not applicable	
H	Documents on display	Shareholder information Market listings and share prices	265
I	Subsidiary information	Not applicable	
<b>11.</b>	<b>Quantitative and qualitative disclosures about market risk</b>	Financial review Cautionary statements about share prices	66-73 V
<b>12.</b>	<b>Description of securities other than equity securities</b>	Shareholder information Market listings and share prices	263-264
<b>13.</b>	<b>Defaults, dividend arrearages and delinquencies</b>	Not applicable	
<b>14.</b>	<b>Material modifications to the rights of security holders and use of proceeds</b>	Not applicable	
<b>15.</b>	<b>Controls and procedures</b>	Corporate governance Financial reporting	126-127
<b>16.A</b>	Audit committee financial expert	Corporate governance Audit committee report	119-120
B	Code of ethics	The way we work Corporate governance Global code of conduct	16 123-124
C	Principal Accountant fees and services	Director s report Principal auditor-audit and non audit fees and services Corporate governance Governance process Auditors and internal assurance Financial statements Note 43-Auditors remuneration	112-113 119 125-126 231
D	Exemptions from the listing standards for audit committees	Not applicable	
E	Purchases of equity securities by the issuer and affiliated purchasers	Directors report Share capital	109-110

		Purchase of shares	110
F	Change in Registrant's Certifying Accountant	Not applicable	
G	Corporate Governance	Corporate governance	
		Compliance with national governance codes and standards in 2010	127
<b>17.</b>	<b>Financial statements</b>	Not applicable	
<b>18.</b>	<b>Financial statements</b>	Report of the independent auditors	257
		Consolidated financial statements	156-254
<b>19.</b>	<b>Exhibits</b>		

**Table of Contents**

Striving  
for  
global  
sector  
leadership

iv Rio Tinto 2010 Annual report

---

**Table of Contents**

More information

Website [ww.w.riotinto.com](http://ww.w.riotinto.com)

The Shareholders section of [ww.w.riotinto.com](http://ww.w.riotinto.com) provides financial and corporate information about the Group as well as Rio Tinto share price charts and data, an events calendar, dividend information and the latest presentations by management for investors and financial analysts.

The contents of the Company's website should not be considered to form a part of or be incorporated into this report.

Results presentations

Our results presentations are available live on webcast. A playback of the most recent presentation is downloadable at [ww.w.riotinto.com](http://ww.w.riotinto.com)

Messaging service/Rio Tinto news alert

Receive news alerts about Rio Tinto via text or email by subscribing to our messaging service on [ww.w.riotinto.com/newsalerts](http://ww.w.riotinto.com/newsalerts)

The *Annual report* and *Auditors' report* comply with the Australian and UK reporting requirements.

Copies of Rio Tinto's shareholder documents are available on the website at [ww.w.riotinto.com](http://ww.w.riotinto.com). They can also be obtained free of charge from the Company. Some shareholders may prefer to receive the *Annual review* which contains the summary financial statements although shareholders should note that it does not allow as full an understanding of the Group.

**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 Securities Act of

1933, and Section 21E of the Securities Exchange Act of 1934. The words intend, aim, project, anticipate, estimate, plan, believes, expects, 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, 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 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.

Sustainable development

Sustainable development is integral to the way we work. Within this report we have provided our 2010 sustainable development performance highlights.

The Our approach section of our website contains details of our programmes to deliver on our commitment to sector leading sustainable development and more comprehensive data on our progress.

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Inside this report

Overview

A description of our business and markets, the Group's strategy and the outlook for 2011

<u>Performance highlights</u>	2
<u>Group overview</u>	4
<u>Product overview</u>	6
<u>Chairman's statement</u>	8
<u>Chief executive's statement</u>	10
<u>Chief financial officer's statement</u>	12
<u>Strategic context</u>	14
<u><i>The way we work</i></u>	16
<u>Group strategy</u>	18
<u>Key performance indicators</u>	22
<u>Risk management</u>	24
<u>Risk factors</u>	25

Performance

How we did by product group and function, together with a review of progress in sustainable development

<u>Sustainable development review</u>	29
<u>Aluminium</u>	42
<u>Copper</u>	46
<u>Diamonds &amp; Minerals</u>	50
<u>Energy</u>	54
<u>Iron Ore</u>	58
<u>Exploration</u>	62
<u>Technology &amp; Innovation</u>	64
<u>Financial review</u>	66
<u>Five year review</u>	74
<u>Acquisitions and divestments</u>	75
<u>Capital projects</u>	76

Production, reserves and operations

Information tables and details of our assets

<u>Summary</u>	78
<u>Metals and minerals production</u>	80
<u>Ore reserves</u>	84
<u>Mines and production facilities</u>	94

Governance

Introducing the board of directors and senior management, with an explanation of our approach to corporate governance and remuneration

<u>Board of directors</u>	102
<u>Executive committee</u>	106
<u>Directors report</u>	108
<u>Corporate governance</u>	114
<u>Remuneration report</u>	128

Financial statements

Detailed financial information

<u>Detailed contents</u>	156
<u>Group income statement</u>	157
<u>Group statement of comprehensive income</u>	158
<u>Group cash flow statement</u>	159
<u>Group statement of financial position</u>	160
<u>Group statement of changes in equity</u>	161
<u>Reconciliation with AAS</u>	162
<u>Outline of dual listed companies structure and basis of financial statements</u>	162
<u>Notes to the 2010 financial statements</u>	163
<u>Financial information by business unit</u>	250
<u>Summary of ASIC relief</u>	254
<u>Independent auditors report</u>	257

Additional information

Other useful information

<u>Shareholder information</u>	262
<u>Definitions</u>	276
<u>Financial calendar</u>	278
<u>Useful information and contacts</u>	279
<u>EX-8.1</u>	
<u>EX-12.1</u>	
<u>EX-13.1</u>	
<u>EX-15.1</u>	
<u>EX-99.1</u>	

Symbols used within this report

More content online at [www.riotinto.com](http://www.riotinto.com)

Key performance indicators within this report

More content within this report

[www.riotinto.com](http://www.riotinto.com) 1

---



**Table of Contents**

Performance highlights

Record financial and operational performance

Strong financial performance

Record underlying earnings of US\$14.0 billion, 122 per cent above 2009

Record cash flows from operations of US\$23.5 billion, up 70 per cent

Record underlying EBITDA of US\$26.0 billion, up 82 per cent on 2009

Net debt decreased from US\$18.9 billion to US\$4.3 billion at the end of 2010

Exceptional operational delivery

18 per cent decrease in all injury frequency rate from 2009

Production at, or above, capacity at many operations

Record annual production of iron ore

Annual hard coking coal production up 20 per cent on 2009

Bauxite production up nine per cent

Growth potential across the business

US\$11 billion of major capital approvals in 2010, with

US\$13 billion of capital expenditure expected in 2011

US\$5.6 billion committed in 2010 on Pilbara expansion (100 per cent basis) to grow production by more than 50 per cent

The Oyu Tolgoi copper-gold project came under Rio Tinto's management, with a pathway to increase ownership of Ivanhoe Mines Ltd to 49 per cent

US\$1 billion approved to modernise hydropower based aluminium portfolio in Canada

Continuing progress on sustainable development

Reduced greenhouse gas (GHG) emissions intensity by 3.7 per cent from 2008

43 per cent decrease in the rate of new cases of occupational illness from 2009

Community contributions of US\$166 million, up 40 per cent on 2009

Dividend

Dividend declared	<b>2010</b>	2009	2008	2007	2006
US cents	<b>108.00</b>	45.00	111.22	111.23	85.07
UK pence	<b>67.35</b>	28.84	67.49	56.20	44.22
Australian cents	<b>111.21</b>	51.56	146.22	125.72	110.69

*Notes*

- \* All references in this report to net earnings and underlying earnings relate to profit attributable to equity shareholders of Rio Tinto. Underlying earnings is defined below and is reconciled to net earnings on page 182. EBITDA is earnings before interest, taxes, depreciation and amortisation. Underlying EBITDA excludes the same items that are excluded from underlying earnings. EBITDA and underlying EBITDA are reconciled to the income statement in the Financial information by business unit section of the financial statements.

*Notes to pages 2 and 3*

- (a) The accounting information in these charts is based on IFRS accounting information.
- (b) Underlying earnings is the key financial performance indicator which management uses internally to assess performance. It is presented here as an additional 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 2010 financial statements. Both net earnings and underlying earnings deal with amounts attributable to 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.

2 Rio Tinto 2010 Annual report

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**Table of Contents**

[www.riotinto.com](http://www.riotinto.com) 3

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**Table of Contents**

Group overview

Opportunities for long term growth

Major global operations

Our assets are ideally positioned to serve our customers worldwide. The majority of our operations are in Australia and North America, but we also have businesses in South America, Europe, southern Africa and Asia. While our operating heartland is in OECD (Organisation for Economic Co-operation and Development) countries, much of our sales are to emerging economies which are driving the anticipated growth in metals and minerals demand. To meet rising demand, we will continue to pursue value-adding organic growth, plus targeted small to medium sized acquisitions.

Our five product groups (below) are supported by our Exploration and Technology & Innovation groups.

Aluminium

We are a global leader in the aluminium industry. Our closely integrated facilities include high quality bauxite mines and alumina refineries, as well as some of the world's lowest cost primary aluminium smelters.

**Products**

Bauxite, alumina, aluminium

**Key strengths**

Effective portfolio management, improving our already strong position and moving assets further down the cost curve.

Largest bauxite producer in the industry.

Self generated hydroelectricity at many facilities.

Global scale gives the group the ability to seize opportunities and support customers worldwide as markets continue their recovery.

One of the best growth project pipelines in the aluminium industry, supported by our management expertise and proprietary AP Technology .

Copper

With diverse assets and leading technology, our Copper group is uniquely positioned to supply growing global demand. In 2010, we produced 678 thousand tonnes of copper, making us the world's fifth largest supplier. We also produced 772 thousand ounces of gold and 13 thousand tonnes of molybdenum as by-products of our copper operations.

**Products**

Copper, gold, molybdenum, silver, nickel

**Key strengths**

Participation in and ownership of several world class operating assets. Management of the Oyu Tolgoi project, scheduled to be a top ten copper producer and a significant gold producer.

Investment in a substantial growth profile.

Industry leading technology and innovation.

Diamonds & Minerals

The Diamonds & Minerals group comprises mining, refining and marketing operations across three sectors. Rio Tinto Diamonds is one of the world's leading diamond producers, active in mining and sales and marketing. Rio Tinto

Minerals is a world leader in borates and talc, with mines, processing plants, commercial and research facilities. Rio Tinto Iron & Titanium is an industry leader in high grade titanium dioxide.

**Products**

Diamonds, borates, titanium dioxide feedstocks, talc, high purity iron, metal powders, zircon, rutile

**Key strengths**

Poised to benefit from late-cycle demand growth.

Substantial brownfield and greenfield development pipeline.

Contribution to Group underlying earnings (a) (b)

Full operating review on page 42

Contribution to Group underlying earnings (a) (b)

Full operating review on page 46

Contribution to Group underlying earnings (a) (b)

Full operating review on page 50

(a) Items excluded from net earnings to arrive at underlying earnings are explained in note 2 to the 2010 financial statements.

(b) Aggregate product group underlying earnings contribution of 107 per cent is reduced to 100 per cent by negative amounts for Other items and Net interest.

**Table of Contents**

**Energy**

We are a leading supplier of thermal and coking coal to the Asian seaborne market and are one of the world's largest uranium producers, serving electric power utilities worldwide. Our Energy portfolio includes: Rio Tinto Coal Australia; a coal mine at Colowyo in Colorado, US; Energy Resources of Australia, which produces uranium oxide from its Ranger operation; and Rössing, a Namibian uranium oxide producer.

**Products**

Thermal coal, coking coal, uranium

**Key strengths**

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

Emphasis on operational excellence, thereby reducing waste and greenhouse gas emissions and engaging our people.

Contribution to Group underlying earnings <sup>(a)</sup> <sup>(b)</sup>

Full operating review on page 54

**Iron Ore**

We are the second largest producer supplying the global seaborne iron ore trade. After a decade of dramatic expansion in Australia, and more recent growth in both Australia and Canada, we believe we are well positioned to benefit from the continuing demand surge in China and other Asian markets. We are driving performance through effective project management and enhanced operational efficiency.

**Products**

Iron ore, salt

**Key strengths**

Proximity of the expanded Pilbara operations 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.

Contribution to Group underlying earnings <sup>(a)</sup> <sup>(b)</sup>

Full operating review on page 58

**Exploration**

Exploration is one of the Group's core activities – largely paying for itself through the sale of non-core discoveries. Potential Tier 1 discoveries (see page 62) are retained for development and operation. These have included two of the largest copper opportunities in the world at Resolution in Arizona, US and La Granja in Peru. Exploration has also delivered one of the world's largest known undeveloped high grade iron ore deposits, at Simandou in Guinea, as well as the Caliwingina channel iron deposits in the Pilbara, Australia.

Full operating review on page 62

**Technology & Innovation**

Our centralised team of specialists focuses on improving current technologies and operations, with emphasis on project development, execution and evaluation. The Group's Innovation Centre concentrates on step changes that will give us competitive advantages in developing the orebodies of the future. A special Energy & Climate Strategy Centre is dedicated to improving the Group's use of energy, reducing greenhouse gas emissions and understanding the effects of climate change on our operations and prospects.

Full operating review on page 64



## **Table of Contents**

### Product overview

Touching your life every day

### Major global commodities

Few people around the world can spend a day without using a metal or mineral in some way. In the production and supply of metals and minerals, Rio Tinto is one of the world's most diversified companies. Major products are aluminium, copper, diamonds, coal, iron ore, uranium, molybdenum, gold, borates, titanium dioxide, salt and talc.

### Aluminium

#### **Bauxite, alumina, aluminium**

Rio Tinto is a leading global supplier of bauxite, alumina and primary aluminium. In a closely integrated value chain, the mineral bauxite is refined into alumina which is smelted into aluminium metal. Aluminium is one of the most widely used metals and its largest markets are transportation, building and construction.

### Copper

#### **Copper**

About two thirds of copper production is used in electrical applications due to its high conductivity. It helps power our lives, in homes and factories, cars, computers, phones and equipment. Further major uses are in air conditioning and refrigeration, plumbing and roofing.

#### **Molybdenum**

Molybdenum is a metallic element frequently used in alloys with stainless steel and other metals. It enhances the metal's toughness, high temperature strength and corrosion resistance. We produce molybdenum as a by-product from the Kennecott Utah Copper operations.

#### **Gold**

Gold has enjoyed a mystique and value unrivalled by other metals. Most gold that is not stored as bullion for investment purposes goes into jewellery. Gold's conductivity and non corrosive properties make it a vital fabrication material in technology, electronics, space exploration and dentistry. We produce gold as a by-product from our copper mines.

#### **Silver**

Silver is a good conductor of electricity and does not corrode. 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 a metal of beauty, used to make lasting products for the home and person. Rio Tinto produces silver as a by-product of its copper production.

### Diamonds & Minerals

#### **Diamonds**

Diamonds share the role with gold as an important component in jewellery that ranges from top end jewellery through to more affordable pieces. Rio Tinto is able to service all diamond jewellery markets as it produces the full range of diamonds in terms of size, quality and colour distribution including whites, champagnes, cognacs, greys, blues and greens and the rarest of all, pink diamonds.

#### **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.

Segmental analyses of sales revenue by product and by destination have been included in note 32 to the 2010 financial statements.

6 Rio Tinto 2010 Annual report





## **Table of Contents**

### **Titanium dioxide**

The minerals ilmenite and rutile, together with titanium 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.

### **Talc**

Talc is hydrated magnesium silicate and is the softest rock in the world. It is an important ingredient in the manufacture of paper, paints, moulded plastics for cars and other familiar products. Rio Tinto produces various grades of talc for niche markets.

### **Energy**

#### **Coal**

Coal is plentiful, relatively inexpensive, and safe and easy to transport. We are a large producer in 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 treated into coke, is used in furnaces with iron ore to produce 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 sent away for further processing into fuel rods for nuclear power stations.

### **Iron Ore**

#### **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 mines are located in Australia and Canada.

#### **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.

### **Marketing channels**

All sales and marketing activity is conducted by Rio Tinto's product groups who utilise a range of sales and marketing channels to interact with customers. These channels include direct sales, sales via distributors and sales via agents. No customer facing sales and marketing activity is handled outside of the product groups.

**Table of Contents**

Chairman's statement

A year of record results

Our commitment to operational excellence has seen us capitalise on improved conditions in the external environment.

*Jan du Plessis*

Rio Tinto had an outstanding 2010. After responding to the challenges of the global financial crisis, and taking steps to stabilise and strengthen our organisation, we are now concentrating on, and delivering, operational excellence. This focus has allowed us to benefit from opportunities that have arisen in the more favourable external environment, and to deliver record results in 2010.

The exemplary performance of Rio Tinto's people was fundamental to our success in 2010. Their efforts enabled us in many cases to work our assets throughout the year at, or above, nameplate capacity, while also improving our safety performance. In 2010, we set a new Group record in the annual production of iron ore.

We achieved record underlying EBITDA of US\$26.0 billion, and record underlying earnings of US\$14.0 billion, up 82 per cent and 122 per cent on 2009, respectively. Net earnings were US\$14.3 billion compared with US\$4.9 billion in 2009.

We remain committed to efficient capital management. It is our belief that the long term creation of shareholder value requires a balanced approach to investing in growth and returning excess capital to shareholders, while maintaining a strong balance sheet. Our confidence both in our own portfolio and in future demand

for our products has allowed us to increase our annual dividend by 20 per cent compared with our previous commitment. We are also proceeding with a US\$5 billion share buy-back, which we intend to complete by the end of 2012, subject to market conditions.

Improved global economy

The world's major developed economies gradually stabilised during 2010, in response to government fiscal and monetary stimulus packages. Most were experiencing renewed GDP growth by the third quarter of 2009. China saw a sharp rebound in GDP growth, up from an annualised rate of nearly six per cent in 2009 to over ten per cent in 2010. This economic stimulus has helped trade to recover from the low point of the global crisis, and thanks to our stronger balance sheet, we have been well positioned to benefit from this recovery. We have sharpened our focus on our programme of organic growth and, for 2011, we envisage continuing this focus, with capital expenditure set to increase to US\$13 billion.

We believe we are well prepared for the key challenges facing the mining industry as we grow to meet rising demand. We will need to overcome skills shortages as we compete for new talent not only with other mining companies, but also with other expanding sectors, such as oil and gas. This trend will become more apparent as we move into new, riskier geographies. There will be new technical challenges as we develop more remote and complex orebodies, and increased competition from new players in our sector. Although we anticipate continued volatility in our markets, we will need to look beyond the peaks and troughs of a cycle and be prepared to expand through volatile times.

## Table of Contents

### Sustainable development

As the world becomes more reliant on the metals and minerals we produce, we are increasingly challenged to grow and to find new, more efficient ways of providing our markets with the raw materials they demand. And as we grow, we are able to share more of the sustainable benefits of our activities with those around us.

Rio Tinto's commitment to sustainable development permeates our entire business. It is integral to our daily operations, to our legacy, and to our future. By maintaining our reputation as a responsible employer, neighbour, partner and citizen, we are constantly renewing our licence to operate. This approach gives us continuing access to the people, capital and resources we need.

We are recognised as a leader in sustainable development, as evidenced by our continued listing on the FTSE4Good, the Dow Jones Sustainability Indexes and the Carbon Disclosure Leadership Index. Our reputation helps us forge robust alliances with other organisations that lead the way in sustainable development, such as the three year partnership we formed with the International Union for Conservation of Nature in 2010. By sharing knowledge and best practice with our partners, we seek to continue to deliver sustainable benefits to the people and places where we work.

### Governance and risk

To achieve our vision of global sector leadership, we must continue to maintain the highest standards of corporate governance. These standards are underpinned by ethical guidance in the form of our global code of conduct, *The way we work*; the application of best practice; and continually striving for excellence to create value for our shareholders. Based upon our agreed strategic framework, Rio Tinto's board supports and oversees the Group's management in its delivery of sustained operational excellence as well as growth opportunities, whether organic or through prudent corporate activity.

The board recognises that risk is an integral and unavoidable part of doing business and that while risk carries threats, it also offers opportunities. Our processes for handling risk effectively are embedded throughout our organisation and are essential for maintaining our competitive advantage. There is a more detailed discussion of risk management on page 24.

Board succession planning is an essential component of effective corporate governance and the continued success of our business. In 2010, we strengthened our board through the appointment of two new non executive directors, Ann Godbehere and Robert Brown.

We also saw two retirements from the board. Sir David Clementi, who was chairman of the Audit committee, stepped down in May 2010, as did David Mayhew. In accordance with a provision of the new UK Corporate Governance Code, all of the Directors will stand for re-election by shareholders annually with effect from the 2011 annual general meetings. As previously indicated, Yves Fortier, formerly chairman of the board of Alcan Inc and also Sir Rod Eddington, will not be standing for re-election by shareholders in 2011. Yves and Rod have each made significant contributions to the board during their tenure with Rio Tinto and I would like to express my personal appreciation of the tremendous support they have given to me over the years. Meanwhile, Andrew Gould, Senior Independent Director and chairman of the Remuneration committee, has announced that he will be leaving the Board at the conclusion of the 2012 annual general meetings.

On behalf of the board, I continue to lead the succession and routine refreshment of directors to ensure the most appropriate balance of skills and experience, and to drive effective decision making.

### Outlook

Urbanisation and industrialisation in populous parts of the world will continue to provide a strong platform for increasing demand for metals and minerals. Although long term fundamentals for growth are strong, there are downside risks in the short term, and potential for medium term volatility due to persistent economic imbalances. Financial systems remain fragile, particularly in OECD countries. The increase in sovereign debts, and government measures to address fiscal imbalances, are likely to temper short term growth.

We constantly seek to assess the potential impact of these factors on the Group's plans, and to enhance our capabilities to predict demand and understand our markets.

Our people's commitment

It is inspiring to see the way our global team of people works together and strives for ways to improve our collective performance. Throughout the year, their commitment, talent and integrity have led to the delivery of remarkable results.

On behalf of the board, I would like to thank all of our people for their hard work during the past year. Our thanks also go to our shareholders, whose continued support of Rio Tinto has helped us achieve record levels of performance in 2010.

Jan du Plessis, *chairman*

**Table of Contents**

Chief executive's statement

Strong momentum and value adding growth

From a position of increased strength and with growth firmly on our agenda, we are making significant progress towards our vision of global sector leadership.

*Tom Albanese*

2010 saw Rio Tinto move steadily towards its vision of global sector leadership, recording exceptional performance and creating a clear pathway for sustainable growth.

We are now financially stronger and have greater optionality, thanks to significant progress with our divestment programme, efficiencies derived from our business transformation initiatives and record annual production in our iron ore business.

Improved pricing and market conditions also enhanced our flexibility and enabled us to approve US\$11 billion in major capital projects during 2010. Growth is firmly on our agenda.

These achievements are a credit to the 77,000 employees who work for Rio Tinto across the world and I would like to thank them for their ongoing commitment.

In 2010, we increased our focus on operational efficiency and risk management, with a particular emphasis on compliance and continuous improvement. Running operations which are safe, reliable and injury and illness free is our number one priority. We are proud to have improved our safety record, with an 18 per cent decrease in the all injury frequency rate. However, I must record with sorrow the deaths of three people in our managed facilities.

We have increased our focus on process and contractor safety, remaining absolutely committed to safety in the workplace. We are determined to achieve zero harm in all of our operations.

Strategy

Our strategy has remained absolutely consistent to invest in and operate large, long term, cost competitive mines and assets, driven not by the choice of commodity but rather by the quality of each opportunity.

To achieve this, we focus on a portfolio of Tier 1 assets diversified by commodity, market and geography. This approach has underpinned our ability to overcome the challenges of previous years. I am greatly encouraged by the Group's performance, which is a testament to our focus on creating shareholder value in the long term.

2010 objectives

As a result of the investments announced during the year, we have significantly enhanced our global presence in key operational areas.

In 2010, to support the execution of our strategy, we focused the business on five short term priorities: operational delivery; prudent balance sheet management; pursuing our growth path; completing the proposed Western Australian iron ore production joint venture; and strengthening our relationship with China.

I am pleased to say we made significant progress in almost all of these areas.

Our focus on operational delivery helped us break production records. We took steps to optimise our financial position and, as a result, our balance sheet is stronger. We grew organically, reflecting confidence in our business and the outlook for our markets.

The cessation of our plans to form a Western Australian iron ore production joint venture with BHP Billiton was a disappointment, but we respect the regulators' views. We remain focused on a more than 50 per cent expansion of our iron ore business in the Pilbara, leveraging our world class assets and organisational capability.

We began 2010 with a difficult period in China, but went on to make significant progress in developing stronger ties there. In March 2010, four employees based in Shanghai were convicted of receiving bribes and obtaining commercial secrets. This disappointing and unacceptable behaviour violated the Group's strong ethical culture as well as Chinese law, hence their employment was terminated. The independent forensic investigation found that any illegal activities were conducted entirely outside the Group's systems.

10 Rio Tinto 2010 Annual report

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**Table of Contents**

We also looked towards the future. In July, we signed a joint venture agreement with Chalco for the development and operation of the Simandou iron ore project in Guinea and we continue to have discussions with the Government of Guinea. At the end of the year, we signed a memorandum of understanding with Chinalco to establish a landmark exploration joint venture in China, and also agreed to extend our Channar Mining joint venture in the Pilbara with our partner, Sinosteel Corporation.

In a year of considerable progress across the Group, several projects stand out: our iron ore expansion plans in the Pilbara; our increased interest in the Oyu Tolgoi copper-gold project in Mongolia and the signing of an agreement to become the development and operating manager of Oyu Tolgoi; and progress towards modernising and expanding our Canadian aluminium portfolio. At the end of the year we announced a recommended offer for Riversdale Mining Limited, which, if successful, would provide us with a substantial Tier 1 coking coal development pipeline in Mozambique. This is an example of the small to medium sized acquisitions that we are currently focused on.

**A strong framework for sustainable development**

Wherever we operate, whatever we do, sustainable development underpins our vision. Our sustainable development approach gives governments confidence that we will develop resources in a way that will benefit their economies and communities and will protect their environments.

The mining and natural resource sector occupies an increasingly strategic and exposed position in the thinking of governments and other stakeholders. While these factors can lead to tensions, with effective management, new opportunities will emerge. Through proactive leadership, and by building relationships with all our stakeholders, we can turn this area of challenge and complexity into a source of competitive advantage.

We will continue to show leadership in areas such as employee health and safety; community engagement; and in global issues vital to the future of the world's environment such as carbon, water use and biodiversity.

**Well placed to meet rising demand**

Prices for many of our products recovered during the year driven principally by demand growth in China and the OECD countries. Iron ore and copper prices were particularly strong. While government stimulus measures generally supported a gradual return to normalised global trade, the improvement in developed economies faded slightly during the latter part of 2010.

We believe the recovery momentum of the major economies will remain uncertain and volatile as the impact of the fiscal and monetary stimuli fades. Therefore, we remain cautious about the short term view of the economy. Globally, we expect GDP growth in 2011 to continue at broadly healthy levels of around 4.5 per cent. However, the pace of economic recovery will vary between the different markets we supply.

In the longer term, we believe the fundamentals are strong, but we will not be complacent. Much of the anticipated growth in demand for minerals will be driven by China and other emerging economies. Implementation of our established strategy will enable us to take advantage of increasing demand from these fast growing regions.

**Financial recovery**

We will meet that demand from a strong financial position. In the past year we have transformed the Group's balance sheet. Our robust operating performance, including record annual production in iron ore, led to record cash flows and underlying earnings in 2010. We completed a number of disposals, making asset sales totalling US\$4.2 billion in 2010. This takes the total divestments completed since 2008 to more than US\$11 billion and largely completes the disposal programme launched in 2007.

**Achieving our vision**

With a focus on organic growth, we will also consider strategic merger and acquisition opportunities of moderate size that fit our overall direction and help us achieve our vision.

As we move into 2011 we have established a longer term vision for global sector leadership, reflecting the long term nature of our business. Our strategy and business model are explained in detail on p18.

**The people who make it all happen**



We are fortunate in the Group that our geographic spread gives us access to the skills and talents of a highly diverse workforce. But there is much more we have to do and we have set ambitious plans to foster greater diversity. It is our policy to offer our employees career opportunities that are rewarding and stimulating with real opportunities for personal and professional development. For example, training and recruitment programmes are under way in a number of countries in which we have embarked on major development opportunities. These include Madagascar, Mongolia and Guinea.

We recognise that given our ambitious growth plans, our recruitment challenge will be substantial, particularly in some of our more competitive labour markets. We will not fulfil this requirement without a concerted effort to make Rio Tinto the employer of choice, something we are committed to achieving.

I want to take this opportunity to thank our shareholders, my leadership team and all of our employees across the world. It has been a year of exceptional performance and momentum, which was truly a team effort. I am looking forward to building on this success in 2011.

In a world of increasing commodity demand and growing sustainable development challenges I believe Rio Tinto will set itself apart through its leadership in operational delivery, exploration, technology and innovation and sustainable development to become the preferred industry partner and developer.

Tom Albanese, *chief executive*

**Table of Contents**

Chief financial officer's statement  
Sustainable growth in shareholder value

Rio Tinto is once again able to invest in its high quality value adding growth programme, maintain a strong balance sheet and deliver capital returns to shareholders.

*Guy Elliott*

Record breaking financial performance

Record underlying earnings of US\$14.0 billion were 122 per cent higher than 2009 driven by the continuing recovery in commodity prices and strong operational performance. Record cash flows from operations of US\$23.5 billion demonstrated the exceptional cash generation capabilities of our Tier 1 assets.

Strong operational performance during 2010 allowed us to benefit fully from the strong price environment. The broader global recovery meant that we began to face pressures on our costs that are likely to continue in the coming year. In particular, labour and contractor costs in some geographies such as Western Australia are expected to rise. However, we are focusing on productivity improvements, effective procurement and operating efficiency to help to offset these input cost pressures.

The markets for our products are increasingly complex, with the introduction of new pricing mechanisms in the bulk commodity markets, the continued emergence of base metals as a financial asset class and the volatile macroeconomic environment in which we continue to operate. To navigate these challenges effectively Rio Tinto has formed a Marketing Leadership team. This team will support our marketing vision of optimising the value of our resources, enabling our sales and marketing teams to become increasingly nimble and customer focused.

Restoration of balance sheet strength

We transformed our balance sheet in 2009 and we further improved on that position during 2010. Through strong cash flows from operations and the completion of US\$4.2 billion in divestments, we reduced our net debt from US\$18.9 billion to US\$4.3 billion.

In addition to reducing net debt, we have also improved our medium term debt maturity profile and reduced our weighted average interest cost. In October 2010 we successfully issued US\$2 billion in bonds with five, ten and 30 year maturities at record low interest rates for the metals and mining industry. The proceeds were used in a successful tender for US\$1.9 billion of bonds due in 2013.

These actions are part of a prudent approach to managing the balance sheet. This has been rewarded by an improvement in our overall credit rating.

A strong balance sheet will allow Rio Tinto to invest at all points of the commodities cycle in our first class growth projects. It may help us to withstand sudden large shocks to the global economy that could arise from the significant imbalances that currently exist, enabling us to take advantage of value creating opportunities as they arise.

The investment environment

Over the long term we expect industrialisation and urbanisation in developing economies, including China and India, to continue to drive underlying growth in demand for the commodities that we produce. In Europe and North America high levels of government debt will mean difficult decisions for governments as they rebalance their economies.

These worldwide discontinuities introduce the risk of unexpected shocks in the global economy. Our outlook is therefore for strong underlying growth for our products but with a potentially high degree of volatility.

It is important that we have a stable environment within which we can invest. A key to successful mineral development is a culture of trust, transparency and mutual benefit to all parties. Australia's proposed Resource Super Profits Tax and its subsequent replacement with the Mineral Resource Rent Tax proposal highlighted that resources and resource nationalism are now major items on the political agenda

12 Rio Tinto 2010 Annual report

---

**Table of Contents**

in many countries. Rio Tinto is committed to working constructively with all host governments to ensure that tax policy development does not create a hostile environment for investment.

Within this context our strategy remains to invest in Tier 1 resources – those with the potential for a long life, that are cost competitive and that have options to expand. We do not prioritise investment in any particular commodity and do not limit ourselves to those commodities in which we currently operate. Similarly, we do not target or avoid specific geographies. By focusing on identifying and investing in Tier 1 assets which will add value to our shareholders, regardless of the commodity concerned, we will remain a diversified natural resources group.

**Investing in organic growth**

We have a very strong pipeline of high quality organic projects and a mineralisation position which allows sustainable long term growth. Because the quality of our projects is high, we will maintain our position as a large, cost competitive producer.

We have continued to invest in the business with capital expenditures in 2010 of US\$4.6 billion. During the year we approved US\$11 billion for new major projects including expansion of our iron ore infrastructure and mines in Western Australia and Canada, the first phase of an aluminium smelting plant in Quebec using our new AP60 technology, and the modernisation of the Kitimat aluminium smelter in British Columbia.

The approval of these and other projects in 2010 together with ongoing projects such as the expansion of Yarwun alumina refinery and the Kestrel coking coal mine will drive the allocation of capital in 2011, when we expect capital expenditure of approximately US\$13 billion.

In 2010 we began to reinvigorate our exploration and evaluation programmes. The Group has a long history of finding high quality assets through exploration. We are funding feasibility and pre-feasibility studies on projects such as the further expansion of our Pilbara operations, Simandou, La Granja, Resolution, and the Kennecott Utah Copper extension. This work will develop the next generation of Tier 1 assets.

Rio Tinto has a very substantial inventory of projects which have not yet reached the stage of development approval. These projects provide us with valuable growth potential over the longer term.

**Business development**

Since the beginning of 2008 we have realised over US\$11 billion of gross cash proceeds from the sale of non core assets. The majority of the divestments identified during the strategic review in 2007 are now complete, including nearly all of the Alcan downstream businesses. However, we will continue to review the portfolio of assets to identify those that are no longer consistent with our strategy, with a particular focus on higher cost aluminium assets.

We are also constantly reviewing the market for potential opportunities to add to our portfolio through small to medium sized acquisitions and other business combinations.

In December we announced a recommended cash offer for Riversdale Mining. This is a good fit with Rio Tinto's strategy of focusing on small to medium sized acquisitions that provide access to large, long term, cost competitive assets.

In December we signed an agreement with Ivanhoe Mines, the owner of 66 per cent of the world class Oyu Tolgoi copper-gold project in Mongolia, whereby Rio Tinto will become the development and operating manager of that project. We have now increased our ownership interest in Ivanhoe Mines to 42.1 per cent and secured the right to increase this further to 49 per cent.

We will continue to look for further innovative opportunities to enter into new joint ventures with various parties. In the past we have gained access to new resources, new geographies and special expertise through such vehicles and will look to continue to do so in the future.

We continue to employ a disciplined approach to investing in growth opportunities. Investments in projects and business combination opportunities must continue to meet our strict criteria of investing in high quality large, long term, cost competitive and expandable assets at good value.

**The return of capital to shareholders**

Our first priority for allocation of capital has always been, and remains, to make value adding investments in our business in order to optimise shareholder value. We are committed to achieving and maintaining a single A credit rating.

A further priority is our dividend. We were pleased to announce a final dividend of 63 US cents per share. The total dividend in respect of 2010 was 108 US cents per share, 20 per cent higher than the dividend commitment we had made to shareholders at the time of the rights issues in June 2009. This will form the basis of a progressive dividend policy, so that we expect the US dollar value of ordinary dividends will increase over time. The interim dividend is set at one half of the total dividend for the previous year and is therefore expected to be 54 US cents per share in 2011. Under the progressive dividend policy the final dividend for each year is expected to be at least equal to the previous interim dividend.

We recognise that during times of high cash generation a progressive dividend policy alone will not return excess cash to shareholders. Therefore, we are undertaking a US\$5 billion share buy-back programme over 2011 and 2012, subject to market conditions. This commitment will still leave us with the flexibility to make significant investments in our business while remaining committed to achieving a single A credit rating.

Rio Tinto is once again able to invest in its high quality value adding growth programme, maintain a strong balance sheet and deliver capital returns to shareholders. Our established strategy, financial discipline and leadership in project execution all mean that we are well positioned to continue creating sustainable growth in shareholder value over the coming decades.

Guy Elliott, *chief financial officer*

## **Table of Contents**

### Strategic context

A global perspective for metals and minerals

### Competitive environment

Rio Tinto is a major producer in most of the metals and minerals markets in which it operates. It is generally among the top five global producers by volume in each such market. Rio Tinto's activities are spread across the globe. Most of Rio Tinto's competitors are private sector companies which are publicly quoted. Several are, like Rio Tinto, diversified in terms of commodity exposure, but others are focused on particular commodities.

High quality, long life mineral resources, on the basis of attractive financial returns, are relatively scarce.

Nevertheless, Rio Tinto holds interests in some of the world's largest deposits. Rio Tinto expects world production volumes to grow in line with global economic growth. In addition, higher demand from China and potentially India, as a result of high rates of economic growth and urbanisation trends in those countries, could contribute further to increases in world production volumes in the long term.

### Global economy

The introduction of large fiscal and monetary stimuli by governments around the world started to take effect towards the middle of 2009. Global trade started to recover during the second half of the year, led by activity in Asia. Major developed economies gradually stabilised with most experiencing renewed GDP growth by the third quarter of 2009. The recovery continued into 2010, although with marked differences in the pace and sustainability of growth between OECD and emerging Asian countries. The emergence of a two-speed economy reflects the fact that financial excesses leading to the global crisis had developed primarily in advanced economies, which now face a significant adjustment process. However, it is also a reminder that many of the global imbalances that had accumulated over the past decade remain, and in some cases, have become more acute.

The recovery in the OECD has so far been dependent on government stimulus and an initial phase of inventory rebuilding, with the growth momentum built since the middle of 2009 fading slightly in the latter part of 2010. Sovereign debts in advanced economies have increased significantly as a result of the financial crisis and governments in several countries are now faced with tough decisions to address fiscal imbalances by reducing spending and raising taxes, with likely negative consequences for short term growth. Financial systems remain fragile implying scope for volatile outcomes ahead.

Although the short term prospects for emerging economies are much brighter, Asian countries continue to rely strongly on demand from advanced economies. The reform process required to boost domestic consumption is likely to be lengthy. In the meantime, growth in China has become even more dependent on investment than before the global financial crisis, with fixed capital formation now accounting for over 40 per cent of China's GDP. Such imbalances are likely to remain key challenges for the global economy in coming years. However the key underlying trends of urbanisation and industrialisation in populous parts of the world will continue to provide a strong platform for growth.

### China

The sharp rebound in China's economic growth since the first quarter of 2009 resulted from the Chinese Government's rapid response to the collapse of global trade as well as a reversal of tightening policy introduced during 2008 to combat an overheating property market. The RMB4 trillion stimulus package introduced in late 2008 and the accompanying surge in bank lending spurred the development of infrastructure projects and a quick turnaround in housing construction activity. Having fallen to an annualised pace of nearly six per cent in early 2009, China's GDP growth exceeded ten per cent in 2010.

With the growth momentum firmly back on track, the Chinese Government renewed its attempts to quell rising house prices through a series of policy interventions. The key challenge is for the Government to successfully contain inflation and asset bubbles in an environment of excess liquidity. The Government is also pushing for more incremental structural reforms to boost household consumption.

As the Chinese economy transitions towards its 12th five year plan, it is likely to focus increasingly on development strategies and institutional reforms aimed at reducing some of the growing domestic imbalances. This should translate into a stronger focus on technology and services as well as policies targeting the development of inland and rural

areas. Although such reforms could ultimately lead into a phase of economic growth that is less commodity intensive than over the past ten years, investment and the development of infrastructure projects should remain an important aspect of the Chinese economy in the medium term. China consumed 400kg of steel per capita in 2009, about half the levels seen in Japan at its peak, with significant scope for further increases in coming years.

14 Rio Tinto 2010 Annual report

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**Table of Contents**

Commodity markets

The start of a stabilisation in the global economy from the second quarter of 2009, and more importantly the rapid turnaround of the Chinese economy, triggered a sharp rebound in commodity prices. Chinese imports of metals and minerals soared to new highs during 2009 as a result of recovering underlying demand, restocking, scrap shortages, closure of high cost domestic capacity and some speculative activity facilitated by rising liquidity. As a result China's share of global demand in 2009 increased to between 35 and 50 per cent for several commodities and up to two thirds for traded iron ore.

China's strong appetite for commodities continued into 2010 in combination with resurgent demand from OECD economies. Although minerals and metals consumption in advanced economies remained below pre-crisis levels, the demand trends contributed to a further tightening in some markets and a return to prices seen in mid 2008 for commodities such as copper and iron ore. In a significant shift in energy markets in 2009, China became a net importer of thermal coal. This continued into 2010, absorbing supply from traded Asian seaborne coal and keeping upward pressure on prices. Meanwhile, the aluminium market has moved closer to balance during 2010 benefiting from strong demand from the recovering automotive sector. However, overall stock positions remain high compared to historical levels.

For bulk commodities, a key development during 2010 has been a further step away from previous benchmark price settlement mechanisms and towards more market oriented and shorter term pricing arrangements. These movements reflect changing market dynamics, with China being the main catalyst through rapid demand growth and greater fragmentation of the demand and supply sides. Pricing periods for coking coal and iron ore have moved towards quarterly cycles and, in the case of iron ore, references to published price indices started to appear in term contracts. Although still relatively underdeveloped, these new pricing arrangements are attracting the attention of financial institutions with the establishment of financial tools such as futures contracts for iron ore.

The growing influence of financial investors is also being felt in the already well developed base metals markets, with discussions during 2010 focused on plans to introduce physically backed Exchange Traded Funds for aluminium and copper. Low interest rates are already facilitating the financing of stock positions in the aluminium market where a large proportion of on and off LME inventories are currently understood to be tied into financing deals. Such activities are likely to continue in a context of further quantitative easing, the major effects of which are to reduce real interest rates, weaken the US dollar, raise inflation expectations and increase asset prices, especially for assets leveraged to growth in developing countries such as commodities.

Despite the greater participation of an increasing web of financial players in the commodity markets, physical fundamentals remain key in driving price dynamics. In a context of renewed strong demand, cost inflation is starting to creep up again across the mining industry with potential supply side challenges as a consequence.

Outlook for 2011

Forecasters have become more cautious about the strength in OECD economies in 2011 but the IMF is still predicting global growth above four per cent and Chinese GDP is expected to grow above nine per cent. Historically global growth at these levels has provided a strong basis for commodity demand allowing Rio Tinto to run its operations at full capacity.

Some risks to the near term outlook include an inevitable reduction in the level of fiscal and monetary stimulus, much of which is commodity intensive. Another key risk is linked to sovereign debt crises, especially in Europe, and the potential impact that these could have on the stability of global financial markets as well as implications for investor and consumer confidence.

Looking to the longer term, increasing prosperity in developing countries including China and India, with associated industrialisation and urbanisation, will continue to drive underlying growth in demand for commodities. At the same time, it is apparent that global imbalances might take many years to resolve. This points to a high average growth setting for our markets but also one characterised by potential strong volatility. Rio Tinto, and the mining industry in general, are responding to the rapid demand recovery and stronger prices with reinvigorated capital expenditure expansion plans. This is in turn putting renewed pressure on skills, equipment and key raw material availability with



implications for cost escalation and project schedules.

**Table of Contents**

*The way we work*

Our global code of conduct

*The way we work* defines how we conduct ourselves as a business. It is underpinned by our values, our approach to sustainable development, and by effective corporate governance.

Chairman's introduction

Four values define Rio Tinto: accountability, respect, teamwork and integrity.

They guide everything we do and are expressed through the principles and standards of conduct as set out in a global code of conduct called *The way we work* (available on our website at [www.riotinto.com/library](http://www.riotinto.com/library)).

*The way we work* defines the way we manage the economic, social, political, environmental and governance challenges of our operations. It also frames a unified approach to complying with the regulatory obligations of our stock exchange listings in the UK, Australia and the US. Everyone in the Group is required to take training on *The way we work*.

But most important of all, our values help the Group to fulfil our commitment to shareholders to maximise total returns whilst also fulfilling our commitment to contribute to sustainable development. This is because, as a company with a reputation for acting responsibly, we will be welcome as investors, partners and members of the local community wherever in the world we operate.

This will hold true even as expectations and regulations surrounding corporate governance change following the global financial crisis and our business evolves.

We regularly review our practices to make sure they are aligned with changing regulations and that they continue to support the principles and values contained in *The way we work*.

Jan du Plessis, *chairman*

Related information online at [www.riotinto.com](http://www.riotinto.com)

[www.riotinto.com/library](http://www.riotinto.com/library)

[www.riotinto.com/ourapproach](http://www.riotinto.com/ourapproach)

Related sections within this report

Report on corporate governance

p114

Risk management

p24

Sustainable development review

p29

16 Rio Tinto 2010 Annual report

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## **Table of Contents**

### Governance

#### **The role of the board**

Rio Tinto plc and Rio Tinto Limited have a common board of directors who are responsible for the Group's success and accountable to shareholders for our performance.

Consistent with accepted good practice, the board consists of a mix of executives and independent non executives, the majority being independent non executives. This combination balances innovative thinking with business knowledge and experience.

The board has established committees responsible for audit, executive remuneration, executive and non executive succession, social and environmental matters and assisting the board to deliver its responsibilities. Each plays a vital role in underpinning how we work.

To ensure their relevance and continuing adherence to best practice, the committees annually review their terms of reference. More detailed descriptions of the board and its committees are on pages 118 and 122.

#### **Managing risk**

Rio Tinto recognises that risk is an integral component of its business, and that it is characterised by both threat and opportunity. The Group fosters a risk aware corporate culture in all decision making. Through skilled application of high quality, integrated risk analysis and management, we enhance opportunities and reduce threats, and so achieve and maintain competitive advantage.

The Group's Risk standard guides the process by providing an overall methodology and structure for the handling of risk within the organisation. The Group seeks to provide the board and senior management with a consistent, Group wide perspective of the key risks. Reports are submitted to the board twice per year and include assessment of the likelihood and impact if risks materialise, along with risk management initiatives.

#### **Sustainable development**

As a company, we naturally meet the needs of customers, but we seek to do this without compromising the ability of future generations to meet their needs. That is what we mean by sustainable development. It is good business as well as good sense.

Our continuing financial success depends on the Group's ability to gain access to the land, people and capital we need. To do that, we put our economic, social, environmental and technical expertise to work to harness these resources. This process creates prosperity that is shared among shareholders, employees, communities, governments and business partners.

But there is more to it than that. Sustainable development also demands rigorous environmental stewardship. If we cannot always prevent harm, we can minimise and remediate any negative environmental effects of the Group's operations. To ensure this, we have developed high standards that we maintain by implementing a wide range of practical programmes. These apply to issues that include air quality, ecosystems, biodiversity, climate change, the use of energy, land and water, waste disposal and facility closures.

This focus on environmental stewardship also delivers financial benefits. For example by improving energy efficiency we not only reduce our environmental impact, we also reduce our operating costs.

Social wellbeing is another fundamental aspect of our approach to sustainable development. This involves providing a safe and healthy workplace in which people, treated with fairness and decency at all times, can develop their full potential.

And going beyond the workplace, our idea of social wellbeing extends to our neighbours. With them, we seek long term partnerships characterised by the mutual respect that leads to trust.

However, good intentions are never enough. So for us strong governance systems are a vital part of putting sustainable development into practice. These systems ensure that we continue to manage our business with openness and accountability.

#### **Values**

Our reputation stems from our four core values, which define the essence of who we are and who we will be: accountability, respect, teamwork and integrity.

The first of these values – accountability – is about taking ownership of our performance and decisions, and the impact that they have on the business. We also support the accountability that others have in their own areas of work.

We demonstrate respect through our approach to sustainable development, and by recognising our people’s contributions to the business. We care for each other’s health, safety and wellbeing.

By working as a team, we can focus our collective efforts on where they deliver the best outcome for the Group. We believe good team members trust in the commitment and capability of others.

And finally, we work with integrity, treating all our stakeholders with fairness, honesty and openness.

## **Table of Contents**

### Group strategy

Striving for global sector leadership

#### Our strategy

How Rio Tinto is achieving its vision, creating and preserving value, and exercising its strategic advantage.

#### Our vision and how we will achieve it

Our vision is to become the sector leading global mining and metals company.

As we work to achieve this vision, we will maximise shareholder return by sustainably finding, developing, mining and processing natural resources.

We will do this through a strategy of investing in and operating large, long term, cost competitive mines and businesses, driven not by choice of commodity but by the quality of each opportunity.

Rio Tinto's diverse portfolio includes some of the world's best assets. The high calibre of our people, our expertise in exploration, technology, innovation and marketing, and our commitment to sustainable development have given us a proven track record in successful project execution and operational excellence. We believe these qualities and achievements position us well for becoming the global leader in our sector.

As a highly capable organisation with global reach, we believe we are well placed to respond to rising demand for metals and minerals which is being driven strongly by emerging economies. The breadth and scale of our business means that we can supply key metals and minerals needed by worldwide markets at various stages of their economic development, from the raw materials needed for basic infrastructure to the products needed to manufacture hi-tech consumer goods.

Effective procurement and supply integration across our Group helps ensure we run an efficient supply chain, maximising production across our products to meet customer needs with reliability of supply.

*The way we work* is equally important to achieving our vision, as we integrate sustainable development practices into everything we do, wherever we operate: building on improvements to health and safety performance and extending leadership in areas such as community and government engagement, biodiversity and management of land, carbon, energy and water.

Success in these areas helps strengthen our licence to operate. We are recognised as a socially responsible developer, and one that builds strong relationships that bring lasting benefits to our neighbours and to the places where we work. Our approach gives us improved access to land, people and capital – all of which are essential to our future success.

Collectively, our strengths provide us with our strategic advantage. And this advantage is allowing us to meet responsibly the needs of a wide variety of customers while generating superior returns for our shareholders.

#### Strategic drivers

Five strategic drivers help us achieve the Group's strategy.

#### **Financial and operational excellence**

We have a Group wide focus on financial and operational excellence, which involves constantly improving safety, productivity, operational efficiency and cost control at every stage of our business.

Many of our assets already operate in the first or second quartile of their industry cost curves. And we continue to seek operating and cost efficiencies by identifying and implementing leading practices across the Group.

A few of our assets are higher cost. We aim to transform these businesses into more competitive performers, for instance by introducing new technologies, by gaining efficiencies through incremental volume enhancements, or through more effective procurement practices. We continually review our portfolio to ensure that all assets are a good strategic fit with our business.

Our focus on financial performance also includes the prudent management of our balance sheet to achieve and maintain a single A credit rating. A strong balance sheet provides greater resilience against volatility in the global economy and the effect this might have on short term commodity prices.

By operating our own mines, we are able to take advantage of performance improvement initiatives generated by our own employees – people who genuinely understand the facilities where they work.

In all of our operations we have a relentless focus on safety leadership. Our aim is to create an environment in which all employees and contractors have the knowledge, skills and desire to work safely, so that everyone goes home safe and healthy at the end of each day.

## **Table of Contents**

### **Licence to operate**

Rio Tinto aspires to be the industry partner of choice in working with governments, joint venture participants, communities, customers and other stakeholders.

Our Group wide values of accountability, respect, teamwork and integrity guide our approach. We are recognised for building mutually beneficial relationships with our stakeholders based on active partnership and long term commitment. We are also regarded as a company that brings long term benefits to our local communities and host countries. Our strong reputation in these areas is a source of significant strategic advantage.

More widely, we are continuing to improve relations with local, regional and national governments. Key to successful mineral development is a culture of trust, transparency and mutual benefit to all parties. This is established through honest engagement with all stakeholders, including governments and local communities.

Equally important is our determination to minimise the Group's environmental footprint, particularly when it comes to carbon, water and biodiversity.

We are refreshing our approach to sustainable development to ensure it remains focused on the social, environmental, economic and governance risks most relevant to delivering our business strategy. By building relationships with our stakeholders, and by applying risk analysis and management effectively throughout our business, we can create opportunities out of external challenges, and extend our licence to operate.

### **Growth**

We believe the first and best use of our strong balance sheet and cash flows is to invest in our strong pipeline of organic growth opportunities. Our strategy prioritises growth that adds value to our business, either through increased production capacity, or through extended mine life. The adherence to our strategy over the years has resulted in a succession of value-creating investment decisions, which in turn have led to superior long term performance.

We have a very strong pipeline of organic growth projects and a mineralisation position that allows sustainable long term growth. Our projects include brownfield expansions and new greenfield projects. In many cases, our opportunities to expand are the consequence of wise investment decisions made years ago.

Many of our greenfield opportunities are in regions where we do not have a long established presence, but our proven ability to develop operations in new countries in a responsible and sustainable manner allows us to gain stakeholder buy-in.

We also review opportunities to add shareholder value through small to medium sized acquisitions or other business combinations. We have a strict, value-focused approach to mergers and acquisitions, and seek opportunities that will give us entry to Tier 1 assets.

All growth opportunities are assessed using our rigorous investment approval process based on detailed modelling of discounted cash flows, and are subject to comprehensive internal but independent reviews. Only the best projects that are expected to deliver value over the long term are approved.

### **Globalising the business**

The global spread of our operations is one of the Group's greatest advantages and also gives us access to a wide range of markets.

As the Group expands in terms of both size and geography, we are working to build a more diverse, engaged, agile and flexible workforce – one that reflects our growth potential and one that is capable of reacting quickly to changing market opportunities and challenges.

Helping to develop the talent of our employees in emerging markets and providing them with continued growth opportunities will help ensure that we have future leaders that reflect the increasingly diverse regions and cultures in which we operate. Through our scholarship and bursary programmes, and by offering internships and summer placements, we reach out to, and encourage, our future leaders during their academic lives.





## **Table of Contents**

Group strategy continued

### **Technology and innovation**

Innovative technologies will lead to dramatic improvements in our operating business and the way we develop new mines. These technologies can also put us ahead of the competition.

An example of this is Rio Tinto's Mine of the Future programme, which we believe will deliver heightened efficiencies in terms of both production and costs, as well as a safer working environment with reduced impact on the environment.

Mine of the Future involves collaborative partnerships with leading universities and equipment producers to expand the potential of automation and remote operations.

Such advances have enabled the opening of the Perth Operations Centre from which Rio Tinto people can control iron ore mining and infrastructure at our Pilbara operations, more than 1,000km away.

Another key focus of Group innovation is underground tunnelling and shaft sinking. At our Northparkes copper and gold mine in Australia we will test a system designed to allow us to excavate at more than double the rate of conventional methods. Success there will enable us to apply the technology for the next generation of block cave mines. This will increasingly be a strategic differentiator, as future ore deposits, especially copper, are often located at deeper depths.

Delivering our strategy  
adding value across the cycle

We create and preserve value through investing in and operating large scale, long term, cost competitive mines and businesses. The nature of our business means that the lifecycle of an orebody may last for 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.

Explore and evaluate

Rio Tinto has an experienced in-house exploration team with a proven track record for the discovery of Tier 1 orebodies. In addition to exploration, we create value through expansions and extensions of existing assets. Rio Tinto's orebody knowledge process allows us to evaluate value enhancing approaches to developing, operating and growing our resources.

More information on page 62

Bunder, India

Analysing drill core samples at the diamond project in Madhya Pradesh.

Develop

Rio Tinto develops orebodies with long term value delivery in mind. Following the discovery of a resource, it must be thoroughly studied to identify the optimal configuration for development of the orebody and delivery of the product to the market. As studies are undertaken, economic modelling confirms value. Once we have obtained internal and external approvals, the project moves to implementation and construction.

Oyu Tolgoi, Mongolia

Mine shaft construction at the copper-gold mine.



## **Table of Contents**

The Group takes the threat of climate change seriously. Technological advances are enabling us to improve the efficiency of our aluminium smelting facilities while lowering their carbon output. We are also looking into the potential benefits of widespread carbon capture and sequestration.

In the long term our commitment to technology and innovation should have a positive impact in attracting new employees to the Group and should help us supply a wider range of customers and markets more sustainably than ever.

Key performance indicators

Rio Tinto uses a number of key performance indicators (KPIs) to monitor our financial and non financial performance.

These KPIs are a measure of how well we are achieving our strategy, and they link clearly to our strategic drivers. Our KPIs give senior management a means to evaluate the Group's overall performance in operations, growth and sustainable development. They provide managers and their teams with clarity and focus on areas critical to our success.

The KPIs also give guidance to the Remuneration committee in framing our remuneration policy. Some of the KPIs are directly linked to executive remuneration.

See p.22 for more information on our KPIs.

Operate

Rio Tinto creates value through operating its large, long term, cost competitive assets safely and efficiently. As a capable, global organisation, we employ standard operating and maintenance practices across the Group, and invest in our world class assets throughout their lifecycles. An efficient process reduces the use of consumables, increases equipment operating time and optimises the extraction of ore – all of which results in higher production levels, reduced costs and optimisation of value.

More information on page 42

### **World class assets**

Iron ore loading facility, Western Australia.

### **Leading technologies**

Operations centre in Perth, Western Australia.

### **Global presence**

Serving customers worldwide.

### **Infrastructure network**

Transporting products from mine to market.

### **Mine**

Rio Tinto moves millions of tonnes of material every day. We have world class technologies and processes to plan, operate and maintain our mining equipment and activities.

### **Process**

Our leading proprietary technologies, such as that for aluminium smelting, ensure that recoveries are maximised and our processes are as efficient as possible. We produce material that is of the right quality for our customers.

### **Market**

We sell our products directly to our customers, the end users. We seek out long term partnerships to maximise product value and constantly create new products that add further value.

### **Deliver**

In many cases, Rio Tinto is responsible for delivering finished product to our customers. We do this in a

variety of ways, efficiently, reliably and cost effectively.

Close down and restore

When a resource reaches the end of its life, we are committed to high standards of close down and restoration. Integrating closure planning in the early stages of project development and through an asset's lifecycle helps us to leave a positive legacy of sustainable development, minimise financial impacts and ensure stakeholder expectations are met. Our closure standard covers the design, development, operation and closure of all our operations.

More information on page 40

Barneys Canyon, US

Rehabilitating waste rock dumps into a wildlife habitat.

**Table of Contents**

Key performance indicators  
Measuring our performance

Our key performance indicators (KPIs) give us a means to measure our financial and sustainable development performance. Their relevance to our strategic drivers, and our performance against these measures in 2010, is explained on these pages.

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.  
KPIs used as a key measure in the remuneration of executives are identified with this symbol: ®  
See the Remuneration report on p.128

<p>Relevance to strategic drivers</p>	<p>Our commitment to zero harm means that the AIFR is one of the Group's most important non financial KPIs. Safety is a leading indicator of management performance. It is central to our focus on operational excellence and our licence to operate. A reputation for being a safe employer and neighbour helps us to gain access to the</p>	<p>Underlying earnings is a measure that provides insight into the underlying business performance of the Group's operations and is the key financial performance indicator used across the Group. This KPI provides insight to cost management, performance efficiency and production growth. It is therefore an indicator of financial</p>	<p>TSR measures the Group's performance in terms of shareholder wealth generation through dividends and changes in the share price. As a measure of how we maximise shareholder return, this KPI measures our performance against our strategy as a whole. Relative TSR is also monitored, which gives insight into our performance against our</p>
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people and resources we need. and operational excellence and growth. peers.

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 2010 financial statements.	TSR combines share price appreciation and dividends paid to show the total return to the shareholder.
Performance	Our AIFR has improved 39 per cent over the last five years, with an 18 per cent improvement from 2009.	Underlying earnings in 2010 of US\$13,987 million were US\$7,689 million above the comparable measure for 2009. This was largely due to the strong recovery in prices during the year.	The Group's average total shareholder return for the year ended 31 December 2010 was 32.6 per cent reflecting a combination of strong commodity markets and excellent operational performance. These translated into higher operating cashflows which, together with divestment proceeds, enabled the Group to pay down US\$14.6 billion of debt during the year and pay dividends totalling US\$1.8 billion.
	More information on p.31	More information on p.250	More information on p.137

*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 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 2010 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.

**Table of Contents**

A strong balance sheet gives us resilience in a volatile global economy. Net debt is a measure of how we are managing our balance sheet and capital structure, and is closely linked to our financial and operational excellence strategic driver.

Our capital expenditure KPI connects to our growth strategic driver. It measures our level of investment in protecting and maintaining our existing assets, as well as our investment in the growth projects that will be our future Tier 1 operating assets. The geographic distribution of our capital expenditure is also a measure of how we are globalising the business.

Operating cash flow is a complementary measure to underlying earnings. It is employed as a measure of business performance and links to two of our strategic drivers: growth, and financial and operational excellence.

We use greenhouse gas (GHG) emissions intensity as a KPI because of the urgent need for climate action, and because it is one of the most widely recognised environmental issues. The KPI links to our licence to operate and our technology and innovation work, which are key drivers of our strategy.

Net debt is calculated as: the net total of borrowings, cash and cash equivalents, other liquid resources and derivatives related to net debt.

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.

Operating cash flow represents the cash generated by the Group's operations, before payment of interest, taxes, capital expenditure, and cash flows relating to financing activities. The measure is equivalent to cash flows from operations in the Group cash flow statement.

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 minus electricity and steam exports and net carbon credits purchased from, or sold to, recognised sources.

During 2010, net debt decreased from US\$18.9 billion to US\$4.3 billion due to strong operating cash flows and proceeds from the divestment programme. Net debt to total capital was significantly reduced to

Capital expenditure was US\$4,553 million in 2010, a decrease of US\$803 million from 2009. Capital expenditure included the Brockman 4 iron ore mine development in Western Australia, the expansion of the Yarwun alumina

Operating cash flows, including dividends from equity accounted units, were US\$23,530 million, 70 per cent higher than 2009 primarily as a consequence of higher commodity prices.

Since 2008 our GHG emissions intensity has reduced by 3.7 per cent. This is largely a result of the Ningxia aluminium smelter divestment in 2009. The impact of closure or reduced production at older aluminium smelters that



6.2 per cent at 31 December 2010, compared with 29.1 per cent at 31 December 2009.

refinery, the commissioning of the Clermont coal mine and the extension and expansion of the Kestrel coking coal mine.

had low GHG emitting power sources offset some intensity reductions achieved during 2009.

More information on p.199

More information on p.252

More information on p.159

More information on p.34

*Notes*

(c) Amounts include 100 per cent of subsidiaries capital expenditures and Rio Tinto's share of the capital expenditure of equity accounted units.

## **Table of Contents**

Risk management  
Managing risk effectively

Rio Tinto recognises that risk is an integral component of its business, and that it is characterised by both threat and opportunity. The Group fosters a risk aware corporate culture in all decision making. Through skilled application of high quality, integrated risk analysis and management, we manage risk in order to enhance opportunities and reduce threats, and so sustain competitive advantage.

### **Risk management overview**

The Group is committed to the effective management of risk through proactive, competent risk management. Effective risk management requires quality risk analysis to inform the decisions taken throughout the organisation. The responsibility for identifying and managing risks lies with Rio Tinto's managers and business leaders. Risk analysis and management is applied to all facets of the business, by management at appropriate levels, following the principles set out in the Group's *Risk policy and standard*.

This standard sets out a uniform process that each area within the Group is required to follow in analysing and managing risk. The process reflects global leading practice and contains the minimum requirements to ensure consistency and quality across the Group. By providing an overall methodology and structure for

the handling of risk within the organisation, the Group seeks to provide the board and senior management with a consistent, Group wide perspective of the key risks. Reports are submitted to the board twice per year and include assessment of the likelihood, and impact should risks materialise along with risk management initiatives.

During the year, a review of the Group's approach to managing risk resulted in the introduction of a new risk management committee and the appointment of a new head of Group risk. The risk management committee is chaired by the chief executive and reports to the Executive committee.

The Group provides a central organisation to support the risk standard and wider process, see below.

**Table of Contents**

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 a predefined framework provided 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 of sufficient materiality to be considered significant at a Group level or where the risk triggers a succession of events that in total become material at a Group level. Once identified, each principal risk and uncertainty is reviewed by the relevant internal experts and 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. These risks, whether they materialise individually or simultaneously, could significantly affect the Group's business and financial results. The risks outlined below omit detail on how each is managed and mitigated, or how some risks could result in either a positive (upside) or negative (downside) impact. An explanation of the Group's process for managing these, and all other risks to which it is exposed, is given in the section entitled Risk management on page 24. 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

**Commodity prices and global demand for the Group's products are expected to remain uncertain, which could affect the Group's business.**

Commodity prices and demand for the Group's products are cyclical and strongly influenced by world economic conditions, particularly with respect to key customers, in the US and Asia (notably China). There is potential volatility in short to medium term commodity prices due to persistent economic imbalances. The Group's normal policy is to sell its products at prevailing market prices and not to enter into price hedging arrangements. The recent improvement in commodity prices and demand for the Group's products may not remain as strong, which would have an impact on Group revenues, earnings, cash flows, asset values and growth.

**Continued growth in demand for the Group's products in China could be affected by future developments in that country.**

The Group has signed agreements with almost 50 per cent of its iron ore customers in Asia for pricing on a quarterly basis. This is a shift away from the previous annual benchmark pricing. Sales are being made to other iron ore customers on the same basis.

If a major economic downturn were to occur in China impacting the demand and price for iron ore or the Group's other products, or if Chinese customers source such products from elsewhere, the Group's business, financial condition and prospects could be affected.

**Rio Tinto is exposed to fluctuations in exchange rates that could affect its overall business results.**

The US dollar is the currency in which the great majority of the Group's sales are determined. It is also the most appropriate currency for holding surplus cash, financing its operations, and presenting its external and internal results. Although many costs are incurred in US dollars, significant costs are influenced by the local currencies of the countries where the Group operates, principally the Australian dollar, Canadian dollar and Euro. The Group's normal policy is to avoid hedging arrangements relating to changes in foreign exchange rates. Appreciation in the value of these currencies against the US dollar or prolonged periods of exchange rate volatility may adversely affect the Group's business results.

**Political, legal and commercial changes in the places where the Group operates could affect the Group's reputation, future development opportunities, and/or the viability of its operations.**

The Group has operations in jurisdictions with varying degrees of political, legal and commercial stability. Commercial instability in some jurisdictions can be influenced by bribery and corruption in their various guises. Political and administrative change, policy reform, and changes in law or government regulation can result in expropriation, or nationalisation. Renegotiation or nullification of existing agreements, leases and permits; changes in fiscal policies (including increased taxes or royalty rates); changes in government ownership of operations; currency restrictions; increased regulation and significantly increased costs or impediments to operation are also possible consequences. Such consequences could have an adverse effect on the profitability, the ability to finance or, in extreme cases, the viability of an operation.

Political instability and uncertainty or government changes to the fiscal terms covering the Group's operations may discourage future investments in certain jurisdictions. This may have an adverse impact on the Group's ability to access new assets, potentially reducing future growth opportunities.

**Community disputes in the countries and territories in which the Group operates could affect the viability of its operations or its reputation.**

Some of the Group's current and potential operations are located in or near communities that may regard the operation as being detrimental to their environmental, economic or social circumstances. 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 impacted by external events beyond the Group's control, including events that may occur in related industries or similar operations outside of the Group and events relating to the local, regional or national affairs of the places where the Group operates. Furthermore our operations may be a focus for civil unrest or criminal activity. Community reaction could have an adverse impact on the cost, profitability, and ability to finance or even the viability of an operation. Such events could lead to disputes with national or local governments or with local communities and give rise to reputational damage. If the Group's operations are delayed or shut down as a result of political and community instability, its revenue growth may be constrained and the long term value of its business could be adversely impacted.



**Table of Contents**

Risk factors continued

**The Group's land and resource tenure could be disputed resulting in disruption to the operation or development of a resource.**

The Group operates in several countries where title to land and rights in respect of land and resources (including indigenous title) may be unclear and may lead to disputes over resource development. Such disputes can be protracted and costly to resolve, could disrupt or delay relevant mining projects, impede the Group's ability to develop new mining properties, and may have an adverse effect on the Group's results of operations or its prospects.

**Changes in the cost and/or interruptions in the supply of energy, water, fuel or other key inputs could adversely affect the economic viability of the Group's operations.**

The Group's operations are resource intensive and, as a result, its costs and net earnings may be adversely affected by the availability or cost of energy, water, fuel or other key inputs. If the prices of key inputs rise significantly more than expected, or if the Group experiences interruptions in, or constraints on, its supply of key inputs, the Group's costs could increase and its results could be adversely affected.

Strategic

**The Group's business and growth prospects may be negatively affected by reductions in its capital expenditure programme.**

The Group requires substantial capital to invest in greenfield and brownfield projects, and to extend the life and capacity of its existing operations. If significant variations in commodity prices or demand for its products occurs, the Group may reduce its capital expenditure, which may negatively impact the timing of its growth and future prospects.

With the volatility of the commodity markets, the Group's ability to benefit from improvements may be constrained by earlier capital expenditure restrictions and the long term value of its business could be adversely impacted.

**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.**

The Group develops new mining properties and expands its existing operations as a means of generating shareholder value. The Group seeks to identify new orebodies and mining properties through its exploration programme and has also undertaken the development or expansion of other major operations. Exploration is not always successful, moreover there is a high degree of competition for opportunities to develop such orebodies. Certain competitors, have access to significant resources and may be motivated by political or other non economic factors. The Group may be unable to find willing and suitable joint venture partners to share the cost of developing large projects. There is no assurance, therefore, that the Group's investment in exploration and project development will be recouped, or that depleted ore reserves will be replaced.

**Failure of the Group to make or successfully integrate acquisitions, or to complete divestment agreements, could have an adverse effect on the business and results of operations.**

Business combinations entail a number of risks including the effective integration of acquisitions (including the realisation of synergies), significant one time write-offs or restructuring charges, and unanticipated costs and liabilities. The Group may also be liable for the past acts, omissions or liabilities of companies, businesses or properties that it has acquired, which may be unforeseen or greater than anticipated. In addition, the Group may retain liabilities for divested entities if the buyer fails to honour all commitments.

#### Financial

**The Group's reported results could be adversely affected by the impairment of assets and goodwill.**

An asset impairment charge may result from the occurrence of unexpected adverse events that impact the Group's expected performances. In accordance with IFRS, the Group does not amortise goodwill but rather tests it annually for impairment: such impairments cannot be reversed. Other long lived assets are tested when impairment indicators exist.

The Group will continue to test goodwill and may, in the future, record additional impairment charges. This could result in the recognition of impairment provisions (which are non cash items) that could be significant and could have an adverse effect on the Group's reported results.

**Table of Contents**

Operational

**Estimates of ore reserves are based on many assumptions and changes in the assumptions could lead to reported ore reserves being restated.**

There are numerous uncertainties inherent in estimating ore reserves including subjective judgments and determinations based on available geological, technical, contract and economic information. Assumptions that are valid at the time of estimation may change significantly when new information becomes available. Changes in the forecast prices of commodities, exchange rates, production costs or recovery rates may result in some reserves ceasing to be economically viable or others in becoming viable. Ultimately this may result in the reserves needing to be restated. Such changes in reserves could also affect depreciation and amortisation rates, asset carrying values, deferred stripping calculations and provisions for close down, restoration and environmental clean up costs.

**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 tougher negotiations or higher wage demands. In addition, existing labour agreements may not prevent a strike or work stoppage, which could have an adverse effect on the Group's earnings, financial condition, and reputation.

**Some of the Group's technologies are unproven and failures could adversely impact costs and/or productivity.**

The Group has invested in and implemented information systems and operational initiatives including new technologies. Some aspects of these technologies are unproven and the eventual operational outcome or viability cannot be assessed with certainty. The costs, productivity, value in securing business opportunities and other benefits from these initiatives, and the consequent effects on the Group's future earnings and financial results, may vary from expectations. Failure of the Group's technology systems to realise the anticipated benefits could result in increased costs, interruptions to supply continuity, failure to realise production or growth plans, or some other adverse effect on operational performance.

**The Group's operations are vulnerable to natural disasters, operating difficulties, health, safety or environmental incidents**

Mining, smelting and refining operations are vulnerable to natural events, including earthquakes, drought, floods, fire, storms and the possible effects of climate change. Operating difficulties could be experienced such as unexpected geological variations that could result in significant ground or containment



**and infrastructure constraints, not all of which are covered by insurance, which could have an impact on its productivity and reputation.**

failure. The Group's operations involve chemicals and other substances 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. Any of these events could affect the Group's reputation, and the costs and viability of its operations for indeterminate periods.

The Group has extensive health, safety, environment and community policies and standards in place. Despite these, it remains possible that a health, safety, environment or community incident could occur that may adversely impact the Group's reputation, earnings or cash flows.

The Group requires reliable roads, rail networks, ports, power sources and power transmission facilities, water supplies and information technology systems to access and conduct its operations. The availability and cost of infrastructure affects capital and operating costs, and the maintenance of planned levels of production and sales. In particular, the Group transports a large proportion of its products by sea. Limitations, or interruptions in, rail or shipping capacity at any port, including as a result of third parties gaining access to the Group's integrated infrastructure, could impede the Group's ability to deliver its products on time. This could have an adverse effect on the Group's business and results of operations.

The Group uses an extensive information technology system and infrastructure. A significant failure of major parts of the system or malicious actions could result in significant interruption that could affect the Group's reputation and operating results.

The Group's insurance does not cover every potential risk associated with its operations. Adequate coverage at reasonable rates is not always obtainable. In addition, the Group's insurance may not fully cover its liability or the consequences of any business interruptions such as weather events, equipment failure or labour dispute. The occurrence of a significant event not fully covered by insurance could have an adverse effect on the Group's business, results of operations, financial condition and prospects.

**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 raw materials, services, equipment and infrastructure to ensure its mines and process plants can operate, and on providers of logistics to ensure products are delivered. Failure of significant components of this supply chain due to factors such as business failure, or serious operational factors, could have an adverse effect on the Group's business and results of operations.



**Table of Contents**

Risk factors continued

**Joint ventures and other strategic partnerships may not be successful and non managed projects and operations may not comply with the Group's standards, which may adversely affect its reputation and the value of such projects and operations.**

The Group participates in several joint venture arrangements and it may enter into further joint ventures. Although the Group has sought to protect its interests, existing and future joint ventures necessarily involve risks. 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;
- take action contrary to the Group's policies or objectives with respect to its investments; 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.

In addition, failure of a joint venture partner may result in unanticipated losses to the Group. Where projects and operations are controlled and managed by the Group's partners, the Group may provide expertise and advice but it has limited control with respect to compliance with its standards and objectives. Improper management or ineffective policies, procedures or controls could adversely affect the value of related non managed projects and operations and, by association, damage the Group's reputation thereby harming the Group's other operations and access to new assets.

Sustainable development

**Increased regulation of greenhouse gas emissions could adversely affect the Group's cost of operations.**

Rio Tinto's operations are energy intensive and depend heavily on fossil fuels. There is increasing regulation of greenhouse gas emissions, progressive introduction of carbon emissions trading mechanisms and tighter emission reduction targets, in numerous jurisdictions in which the Group operates. These are likely to raise energy and production costs to a material degree over the next few decades. Regulation of greenhouse gas emissions in the jurisdictions of the Group's major customers and suppliers as well as in relation to international shipping could also have an adverse effect on the demand for the Group's products.

**The Group depends on the continued services of key personnel.**

The Group's ability to maintain its competitive position and to implement its business strategy is dependent on the services of key engineering, managerial, financial, commercial, marketing and processing people. Loss or diminution in the services of key employees, particularly as a result of an inability to attract and retain staff, or the Group not maintaining a competitive remuneration structure, could have an adverse

effect on the Group's business, financial condition, results of operations and prospects.

Competition for experienced people with international engineering, mining, metallurgy and geological expertise is high, due to a small pool of individuals against medium to high demand. This may affect the Group's ability to retain its existing senior management, marketing and technical personnel and to attract qualified personnel on appropriate terms. Similar competition may be felt by the Group's key contractors and equipment suppliers that, in turn, could affect the Group's expansion plans.

**The Group's costs of close down, restoration, and rehabilitation could be higher than expected due to unforeseen changes in legislation, standards and techniques, or underestimated costs.**

Close down and restoration costs include the dismantling and demolition of infrastructure and the remediation of land disturbed during the life of mining and operations. Estimated costs are provided for over the life of each operation and updated annually but the provisions might prove to be inadequate due to changes in legislation, standards and the emergence of new restoration techniques. Furthermore the expected timing of expenditure could change significantly due to changes in commodity prices that might curtail or extend the life of an operation. Total provisions at 31 December 2010 amounted to US\$8,602 million as set out in note 27 to the financial statements. These provisions could prove insufficient compared to the actual cost of restoration, or the cost of remediating or compensating for damage beyond the site boundary. Any underestimated or unidentified close down, restoration and environmental rehabilitation costs could have an adverse effect on the Group's reputation as well as its asset values, earnings and cash flows.

**Health, safety, environment and other regulations, standards and stakeholder expectations evolve over time and unforeseen changes could have an adverse effect on the Group's earnings, cash flows and reputation.**

Rio Tinto operates in an industry that is subject to numerous health, safety and environmental laws, regulations and standards as well as community and stakeholder expectations. The Group is subject to extensive governmental regulations in all jurisdictions in which it operates. Operations are subject to general and specific regulations governing mining and processing, land tenure and use, environmental requirements (including site specific environmental licences, permits and statutory authorisations), workplace health and safety, social impacts, trade and export, corporations, competition, access to infrastructure, foreign investment and taxation. Some operations are conducted under specific agreements with respective governments and associated acts of parliament but unilateral variations could diminish or even remove such rights. Furthermore, community and stakeholder expectations change over time. Evolving regulatory standards and stakeholder expectations can result in litigation and/or increased costs, or in extreme cases threaten the viability of an operation. This may impact on the reputation of the Group (including in circumstances where the underlying issue is not material to the Group). All of these matters may have an adverse effect on earnings and cash flows.

## **Table of Contents**

### **Sustainable development**

#### Performance data

Our sustainable development performance data are reported for calendar years and, unless otherwise stated, represent 100 per cent of the parameter 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](http://www.icmm.com)).

#### Environmental stewardship

We continue to proactively manage issues related to climate change, water, land stewardship, biodiversity, mineral and non mineral waste, air quality and closure.

Our programmes include input from our local communities and subject matter experts, and are supported by our partnerships with BirdLife International, Conservation International, the Eden Project, Earthwatch, Fauna & Flora International and the Royal Botanic Gardens, Kew.

During 2010, the International Union for Conservation of Nature (IUCN) and Rio Tinto entered into a three year formal collaboration agreement to work together on sustainable development efforts, environmental management and delivery of conservation outcomes.

#### Greenhouse gas emissions

We accept the need for climate change action and recognise the issue as being one of our greatest challenges and opportunities. We support efficient, effective and equitable measures to tackle climate change, which promise a comprehensive, long term response to a globally complex problem. We accept the need for a price on carbon.

We believe that our businesses have a positive future in a world that is working to global carbon constraints and we aim to improve the energy intensity of our operations and new projects.

We are targeting to reduce our total GHG emissions intensity by six per cent between 2008 and 2013. A further four per cent reduction is targeted to give an overall ten per cent reduction by 2015.

Our GHG emissions intensity has reduced by 3.7 per cent between 2008 and 2010, largely as a result of the 2009 divestment of the Ningxia aluminium smelter in China. During 2010, the impact of closure or reduced production at older aluminium smelters that had low emitting power sources offset some of the intensity reductions achieved during 2009. These closures and production decreases are one step towards our longer term strategy of modernisation.

Our total GHG emissions were 43.4 million tonnes of carbon dioxide equivalent (CO<sub>2</sub> e) in 2010, 2.3 million tonnes higher than in 2009. This is the result of increased production of a number of commodities and production shifts to operations with higher greenhouse gas emission intensity. Rio Tinto's direct emissions were 27.6 million tonnes of CO<sub>2</sub>-e in 2010. A breakdown of our greenhouse gas emissions by product group and country is available on our website.

We operate in an energy intensive sector and we seek to lower the greenhouse gas emissions over the full lifecycle of our products. For example, Rio Tinto Alcan is a leader in the development of energy efficient aluminium smelting technology and a significant proportion of our aluminium smelters are powered with low carbon, hydro or nuclear power sources. The high strength to weight ratio of aluminium can reduce the weight of cars and decrease the amount of fuel used during their operation; it can also be efficiently recycled.

We continue to track greenhouse gas emissions associated with our products along the value chain. In 2010, the three most significant sources of indirect emissions associated with our products were:

Approximately 4.7 million tonnes of CO<sub>2</sub>-e associated with third party transport of our products and raw materials.

An estimated 122 million tonnes of CO<sub>2</sub>-e associated with customers using our coal in electricity generation and steel production.

Approximately 360 million tonnes of CO<sub>2</sub>-e associated with customers using our iron ore to produce steel. The emissions associated with the use of our coal and iron ore cannot be added, as some customers use both our iron ore and our coal to produce steel.

Due to global demand, coal will remain a significant source of energy for the foreseeable future. We are therefore investing in developing and commercialising carbon capture and storage (CCS) technology. We are a founding member of the Global CCS Institute and we support other collaborative efforts to deploy CCS technology, such as the CO<sub>2</sub>CRC's Otway Basin geosequestration project in Australia.

[www.riotinto.com](http://www.riotinto.com) 29

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**Table of Contents**

**Sustainable development continued**

During 2010, climate change legislation and regulation were debated in a number of jurisdictions where we operate. This has the potential to increase our operating costs significantly:

In Australia new climate change policy has been discussed but not yet enacted. Currently we have both direct and indirect cost exposure as a result of a requirement to purchase certificates as part of the Government's renewable energy target. All legislated reporting requirements were met in 2010.

In the US, the Environmental Protection Agency (EPA) is drafting regulations that may subject GHG emissions to permitting requirements.

In the EU some of our operations are subject to the second phase of the EU emissions trading scheme. This exposure will increase when the third phase starts in 2013.

We recognise the need to adapt to the physical impacts of climate change. In 2010 Rio Tinto Alcan entered into partnership with Ouranos to develop tools and strategies to further adapt to climate change ([www.ouranos.ca](http://www.ouranos.ca)).

**Energy use**

Rio Tinto both uses energy in its operations and produces it. Our smelting and mineral processing operations are energy intensive and depend on hydroelectricity, nuclear power, coal, oil, diesel and gas to keep them running. This year our energy use increased by 3.2 per cent to 512 petajoules following production increases for several commodities, including titanium dioxide feedstock and iron ore.

Through our coal and uranium sales, we supplied 4,735 petajoules of world energy demand in 2010. Our energy supply was more than eight times our energy use.

To drive improvements in energy efficiency our businesses have set a range of local energy targets that cover nearly three quarters of the Group's energy use.

We are also working to reduce the energy intensity of our new projects through energy efficient design, the use of alternative energy sources and development of step change technologies. This includes commercialisation of the AP60 cell and other components of AP technology which have the potential to significantly reduce the energy required to produce aluminium.

Our use of low greenhouse gas emitting hydro, nuclear and other renewable power sources represented 67 per cent of our electricity use in 2010. We have significant hydropower generation facilities in Canada, Scotland, and Norway and are currently developing a hydropower strategy to better manage the social and environmental threats and opportunities associated with our hydropower dams.

30 Rio Tinto 2010 Annual report

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**Table of Contents**

## Aluminium

Transformation, modernisation and expansion

Our high quality bauxite mines and alumina refineries, state of the art technologies, clean and renewable energy assets and low cost aluminium smelters make us a global leader in the aluminium industry.

Jacynthe Côté , *chief executive, Rio Tinto Alcan*

Aluminium overview

## Operating highlights

	<b>2010</b> <b>US\$</b> <b>million</b>	2009 US\$ million
Revenue	<b>15,206</b>	12,038
Operating cash flow	<b>1,334</b>	549
Underlying earnings <sup>(a)</sup>	<b>773</b>	(560)
Capital expenditure	<b>1,328</b>	1,690
Net operating assets	<b>38,326</b>	36,340

## Strategy

The second phase of transformation will target incremental EBITDA improvement of US\$1 billion by 2014.

Leverage the group's robust growth pipeline with a priority on modernising and expanding existing Tier 1 assets; lower costs of existing facilities; and progress the development of greenfield options at a pace aligned with market demand.

Be long in bauxite and alumina, providing strong growth potential, particularly in the Asian region.

## Key achievements

Increase of US\$1,333 million in underlying earnings from 2009.

Value added aluminium product sales volumes increased to 65 per cent of total sales.

Bauxite production up by nine per cent over 2009 mainly in response to increased production at Weipa in Australia to meet the demands of the growing Chinese market.

Alumina production up by three per cent on 2009 due to improved production at Yarwun in Australia, ramp up at Alumar in Brazil, and restarting idled capacity at Vaudreuil in Canada.

Construction at the Yarwun expansion project has been accelerated and the completed co-generation plant and ship unloader handed over to operations.

ISAL aluminium smelter won Rio Tinto's top safety award with 4.7 million work hours without a lost time injury as at December 2010.

## Key priorities



Proceed with cost efficiencies, capacity creep and step change improvement through strategic capital investment; includes phase one of the AP60 plant in Canada and the ISAL expansion in Iceland.

Continue steps towards optimising the group's asset portfolio; progress with Kitimat aluminium smelter modernisation in Canada and Yarwun refinery expansion.

Capitalise on our value added product capabilities and optimise our casting portfolio to serve customers in all key regions.

Prioritise power sources with the lowest carbon footprint and improving energy efficiency.

Create value from AP Technology via increased technology sales, faster operational improvements and lower full economic costs on new projects.

#### Outlook

Favourable position to leverage strong demand from emerging economies and seize opportunities across the aluminium value chain as the industry continues its recovery.

Alumina pricing mechanisms are developing and as liquidity builds, the group's strategy of remaining long in bauxite and alumina will allow it to use various pricing alternatives.

As aluminium markets continue to recover, the group is expected to benefit from stable energy sources, less linked to LME pricing than those of other large producers.

- (a) See note 2 and the Financial information by business unit section of the 2010 financial statements for a reconciliation of underlying earnings to net earnings.

**Table of Contents**

**Strategy**

Rio Tinto Alcan's financial performance will continue to be founded on transformational change and portfolio discipline as a means of reducing its costs and achieving stronger margins. With the integration of former Alcan operations completed and achieved synergies in excess of the stated US\$1.1 billion target, the second phase of transformation is targeting incremental EBITDA improvement of US\$1 billion by 2014 through cost efficiencies and capacity creep, as well as step change improvement through capital investment.

The group's portfolio began improving in 2009 with the sale of the Ningxia smelter in China as well as closures at two older facilities, the Beauharnois smelter in Canada and the Anglesey smelter in the UK when its power contract expired. In 2010, the group divested some of its smaller non core businesses, including the Awaso bauxite mine in Ghana and the Brockville specialty alumina plant in Canada.

Executing Tier 1 growth options with a priority on modernising and expanding existing assets will allow Rio Tinto Alcan to continue driving costs down and reduce its carbon footprint. Primary aluminium projects such as the AP60 plant and Kitimat modernisation in Canada and ISAL expansion in Iceland, as well as alumina projects such as the Yarwun expansion in Australia, are expected to further reduce average costs and progressively drive the group's portfolio down the industry cost curve.

The group uses clean power sources for 72 per cent of the electricity used to produce primary aluminium, including a strong base of renewable, self generated hydropower. This gives its aluminium products a relatively low carbon footprint not only from a production standpoint, but also due to their potential for application towards fuel efficiency improvements and downstream GHG reductions (eg in cars, trucks, trains and aircraft). In addition, aluminium's combination of excellent thermal, electrical and forming properties can offer more efficient electrical, heating and cooling solutions.

Rio Tinto Alcan's business strategy is also to be long in bauxite and alumina. The group produces enough bauxite and alumina to supply its own facilities as well as generate value through third party sales. This supports growth and reduces price risk. The group's alumina position should also allow it to benefit from opportunities, particularly in the Asian region, as pricing structures evolve.

Rio Tinto Alcan is the largest bauxite producer in the industry. It has an interest in three of the four largest bauxite mines in the world and is currently the world's largest bauxite producer. Rio Tinto Alcan also has projects under way to achieve a leading position in alumina refining, including expansion at the Yarwun facility and ramping up tonnage at both Gove in Australia and Alumar in Brazil.

**Performance**

Gross sales revenue for Rio Tinto Alcan increased by 26 per cent compared to 2009. This reflects the combination of a robust recovery in end use demand in developed economies and the continued roll-over of inventory financing positions amidst a prolonged period of low interest rates.

In 2010, Rio Tinto Alcan's contribution to the Group's underlying earnings was US\$773 million, an increase of US\$1,333 million from 2009. This was as a result of higher exchange traded aluminium prices with the overall impact of price increasing earnings by US\$1,569 million compared to 2009. This was partly offset by adverse currency movements of US\$391 million, mainly from the strengthening of the Canadian and Australian dollars against the US dollar.

The improvement in earnings was also attributable to higher sales of value added aluminium products, smelting capacity brought back on line following curtailments in 2009, cost savings from lower input prices for caustic, coke and pitch, and further operating efficiencies in group smelters and refineries worldwide. This was partly offset by inflation and higher energy costs.

The average aluminium market price in 2010 was US\$2,173 per tonne compared to US\$1,665 per tonne in 2009. The group's average realised price for ingot products in 2010 was US\$2,388 per tonne compared to US\$1,833 in 2009. Rio Tinto Alcan has entered into metal sales hedging transactions to protect the downside risk at some of its high cost smelters. This mandate covers a maximum of 317,000 tonnes (about eight per cent of global production) in 2011 and

is expected to cover approximately half this tonnage in 2012.

In 2010, Rio Tinto Alcan's annual bauxite production was 33.4 million tonnes, up from 30.7 million tonnes in 2009 mainly in response to rising third party demand. The group has a leading position in bauxite mining; strong performance in alumina refining; and whole ownership or participation in 21 smelters with a total annual capacity of four million tonnes of primary aluminium (Rio Tinto's share). Approximately 80 per cent of this aluminium production is located in the first half of the industry cost curve based on data from CRU, an industry analyst.

Aluminium production stayed relatively flat year over year as production at the Kitimat smelter was reduced due to the closures of potlines 7 and 8 in preparation for the modernisation project, and production at Laterrière in Canada was reduced due to a power outage in July. These were offset by NZAS in New Zealand's production increasing following a transformer failure in 2008, which impacted 2009, and a gradual return to full capacity at operational UK smelters. Aluminium production records were set at the smelters in Arvida and Grande-Baie in Canada, Sohar in Oman, ISAL in Iceland, Dunkerque in France and Boyne in Australia.

#### Key achievements

Bauxite production in 2010 was up by nine per cent compared to 2009 due to increased production at Weipa in Australia to meet demands of the growing Chinese market. Alumina production also increased, up by three per cent compared to 2009 due to improved production at Yarwun, restarting idled capacity at Vaudreuil in Canada, efficiencies in work management and process improvements. Production records were set at Yarwun and at Alumar. Rio Tinto Alcan is accelerating the construction schedule for the Yarwun alumina refinery expansion. This will increase the plant's capacity to 3.4 million tonnes per year and help move the group's alumina production further down the industry cost curve. The completed ship unloader and co-generation plant were handed over to operations in 2010, and the latter is already providing tangible environmental benefits. The project has an expected project completion date of August 2012, with first bauxite expected to be processed during the first half of 2012.

In 2010, the group finalised long term energy contracts for a number of its smelters including ISAL in Iceland, Bell Bay and Tomago in Australia, and Alucam in Cameroon. As aluminium

**Table of Contents**

## Aluminium continued

prices continue to recover, Rio Tinto Alcan is expected to benefit from stable energy sources that are less linked to pricing on the LME than those of other large producers. Ninety six per cent of the group's power is secured by self generating facilities or long term contracts, thus ensuring low and predictable costs.

The group is also expanding its hydroelectric capacity in the Saguenay-Lac-Saint-Jean region of Quebec through the Shipshaw turbine project. This initiative remains on budget and on schedule for completion in Q4 2012, and will improve this major component of total installed capacity by adding 225 megawatts to Rio Tinto Alcan's 2,919 megawatt network.

The ISAL operations won the Rio Tinto Chief Executive's Safety Award in 2010, which was the first year in which it was eligible to do so. Except for one incident in 2009, ISAL has had zero injuries since 2007, and has completed 4.7 million work hours without a lost time injury.

Rio Tinto Alcan also continued its global commitment to strong community partnerships throughout 2010. In Australia, the Gove mine and refinery received the prestigious Origin Gold Banksia award for their partnership with Dhimurru Aboriginal Corporation to eradicate the Yellow Crazy Ant, a significant threat to the regional biodiversity of North East Arnhem Land. In Canada, the group established *Ensemble pour la persévérance scolaire*, a five year investment programme to support definitive action to keep young people in school. In Cameroon, Rio Tinto Alcan has played an active role in community projects focused on health care (prevention of HIV, malaria, and oncocercosis) and access to potable water.

## Safety

Rio Tinto Alcan employees have integrated the Group safety strategy throughout the business and work diligently towards creating a workplace free of health, safety and environmental (HSE) incidents. Rio Tinto Alcan reduced its all injury frequency rate by over 30 per cent to 0.73, representing a near 50 per cent reduction from 2006 levels. The group experienced no fatalities at its managed sites, however, there were three fatalities at non managed operations. A key priority has been the reduction of major risks through the implementation of Rio Tinto HSE performance standards and risk management practices. This includes initiatives relating to manual handling, process safety, and improving safety leadership with the rollout of Leading for Improvement Training. By year end, a Caustic safety standard was developed and implemented within the Bauxite & Alumina business unit. At critical sites, process safety management has progressed significantly, with reporting, investigation and analysis of significant potential incidents and completion of corrective actions as a main focus.

## Greenhouse gas emissions

Rio Tinto Alcan contributed 62 per cent of Rio Tinto's total GHG emissions in 2010. Realised and planned reductions also contribute significantly to the Rio Tinto Group's overall intensity improvements. Rio Tinto Alcan has a strong commitment to climate change, which includes both short term operational objectives and long term adaptation strategies.

In 2010, as recovery from the global financial crisis took place, curtailed production was gradually restarted. This affected the group's GHG performance level, as did the restart of one potline at the Laterrière smelter in Canada. Energy efficiency improved throughout the operations.

Total greenhouse gas emission intensity at Rio Tinto Alcan improved by 6.3 per cent in 2010 from 2008 baseline performance. This represents 1.8 million tonnes of carbon dioxide equivalent and is attributable to the divestment of a high emissions intensity joint venture smelter in China, the closure of some older operations and increased operational efficiency. Furthermore, expansion and modernisation projects throughout the portfolio, such as those at the Arvida (AP60) and Kitimat sites, will considerably reduce the Group's carbon footprint and help deliver on greenhouse gas commitments.

## Review of operations

During 2010, most value added product (VAP) segment shipments improved considerably compared to 2009, largely due to recovery in the economies of Rio Tinto Alcan's principal markets. In North America, for example, most VAP segment shipments have been affected by the modest but steady improvement in the US economy. Overall, the group's

sales volumes of VAP products almost reached the same levels as seen in 2008, accounting for 65 per cent of total sales in 2010 as compared with 51 per cent in 2009.

The return in demand gives Rio Tinto Alcan an opportunity to optimise and invest in its VAP casting portfolio. While Kitimat will increase its slab production, it is transferring billet production to other group units in Australia and New Zealand, where the Boyne smelter recorded its highest ever volume VAP. The group is also investing in leading edge billet casting facilities at ISAL to support the European billet market.

## **Table of Contents**

Rio Tinto Alcan also made progress with its growth strategy, focusing on high return production capacity increases and Canadian modernisation projects that leverage low cost, self generated hydropower. The group completed value improvement initiatives at both the Kitimat and AP60 project sites to reduce costs.

The prefeasibility study for the modernisation of the Kitimat smelter is now complete with an improved business case, and the anode pallet storage facility has been built. In March, the group also reached a landmark agreement with the Haisla Nation of British Columbia to secure support and further the Kitimat project's commitment to strong communities. In December, the Group approved an additional US\$300 million investment to further construction and site preparations for the modernised smelter.

At the ISAL facility, a total investment of US\$487 million was approved for a modernisation project to boost production capacity by 20 per cent and install a leading edge casting facility to reinforce Rio Tinto Alcan's VAP position. The group also finalised a long term energy supply agreement with the state utility to allow for an amperage increase at the smelter. The smelter is expected to begin a gradual production increase in Q2 2012. Billet production is expected to begin in 2012 and the group will consolidate expertise and production for slab products from ISAL with existing operations in France and the UK.

Primary aluminium production was negatively impacted from July to September when two electrical transformers failed at Laterrière. The gradual restart of 216 affected pots was completed safely and ahead of schedule. Production losses are estimated at about 24,000 tonnes and the cost of this disruption has been mitigated by insurance coverage. The group also experienced a temporary hydropower reduction in Quebec due to exceptionally low precipitation levels in the Saguenay Lac-Saint-Jean region. This led to the signing of a one year power supply agreement with the provincial utility. The full year impact on EBITDA was approximately US\$117 million.

Rio Tinto Alcan's technological capabilities continue to create value from sales, faster operational improvements (eg production capacity creep), and lower full economic costs on new projects. Phase one of the AP60 smelter project received final approval to proceed in December 2010 with an additional investment commitment of US\$758 million. Construction of the electrical substation is complete and site preparations for potrooms and busbar corridors have begun. The facility will be equipped with 38 AP60 reduction cells with metal output per pot at the plant reaching levels 40 per cent higher than at existing smelters. Phase one of the plant will produce 60,000 tonnes of aluminium per year. First hot metal is expected in 2013 and the plant will be the platform for commercial development of AP60 technology.

Rio Tinto Alcan is also recognised as a world leader in bauxite residue management and is often called upon to share its expertise. Its goal is to store bauxite waste in its most solid form possible and, in many cases, recover the liquids used so that it can recycle them in our refining operations. The group works closely with regulatory authorities in host communities to ensure that it complies with the highest HSE standards, and invests regularly to maintain the integrity and security of these sites.

### **Outlook**

Rio Tinto Alcan is better positioned than ever to tackle the challenges of the future and the long term fundamentals of its industry remain intact, providing for a confident outlook. The per capita rate of aluminium consumption is above 20 kilograms per year in developed countries, and the rate gap between developed countries and emerging economies such as India (one kilogram), Brazil and Indonesia (five kilograms) as well as China (12 kilograms) is expected to close over the long term.

The group's financial performance will continue to be founded on transformational change, reducing its cost structure, and achieving stronger margins. Its next phase of transformation is targeting significant EBITDA margin improvements with the objective of achieving margins around 40 per cent.

Rio Tinto Alcan's comprehensive, proprietary AP Technology suite makes it a partner of choice for project development. The group possesses one of the strongest growth pipelines in the industry, with smelter projects in various stages of development. These include brownfield expansions at Kitimat and ISAL as well as the potential for expansions at Sohar in Oman, Alucam in Cameroon, Alma in Canada and two subsequent expansion phases of the

AP60 plant. Greenfield opportunities include an additional smelter in Cameroon, a joint venture smelter in Malaysia, and an aluminium smelter in Paraguay. In Guinea, the group has a basic agreement which sets forth a framework for a joint venture greenfield alumina refinery.

As a highly integrated producer, the group also aims to be long in bauxite and alumina. This provides Rio Tinto Alcan with a robust internal supply chain and additional value options. Alumina pricing mechanisms are expected to continue evolving. Rio Tinto Alcan believes that there is insufficient liquidity to support a spot index at present and a material proportion of alumina supply is locked up under medium to long term contracts.

As markets continue their recovery, the aluminium industry cost curve is expected to steepen further with cost pressures on the top end. This is expected to be driven by upward pressure on energy prices, appreciation of the Chinese currency, China's reliance on imported bauxite, potential gradual increased alumina price, and the eventual impact of carbon pricing mechanisms. Rio Tinto Alcan remains well positioned to face these expected pressures on input costs, as key drivers such as access to energy, raw materials and currency drive up costs for producers in China.

**Table of Contents****Copper**

Resource, optimise, grow

We believe Rio Tinto's Copper group is uniquely positioned to supply growing global demand for copper, with a diverse, balanced asset base and industry leading technology and innovation that allows the Copper group to optimise its resources and grow.

Andrew Harding, *chief executive, Copper*

Copper overview

**Operating highlights**

	<b>2010</b> <b>US\$ million</b>	2009 US\$ million
Revenue	<b>7,782</b>	6,206
Operating cash flow	<b>4,048</b>	2,223
Underlying earnings <sup>(a)</sup>	<b>2,534</b>	1,878
Capital expenditure	<b>958</b>	553
Net operating assets	<b>6,663</b>	5,187

**Strategy**

Deliver shareholder value with a material increase in production in the medium term.

Optimise our operating assets by delivering meaningful improvements in safety and productivity, championing various technologies and remaining a leader in sustainable development.

Partner with local governments and communities to contribute to sustainable development.

Develop strong leadership and diverse, high quality talent needed to deliver growth.

**Key achievements**

Completed Northparkes E48 block cave project.

Began process of updating environmental permits at Kennecott Utah Copper's Bingham Canyon copper mine and extending its life to 2028 while maintaining additional long term options.

Launched construction of US\$340 million Molybdenum Autoclave Process at Kennecott Utah Copper.

Progressed a number of underground projects at Grasberg, namely the Grasberg Block Cave and DMLZ (Deep Mill Level Zone) projects.



Continued to develop Oyu Tolgoi, one of the most promising undeveloped copper-gold deposits in the world.

Became the development and operating manager of Oyu Tolgoi and established a clear pathway to 49 per cent ownership in Ivanhoe Mines Limited.

Began construction of the Eagle nickel-copper project, which is expected to begin production in late 2013.

Obtained tenure over Sulawesi nickel mineralisation.

Secured land contracts to advance drilling at the La Granja project.

#### Key priorities

Continue to improve safety performance with an emphasis on process safety and underground safety.

Leverage industry leading technology and innovation to drive value-generating growth in every operation and shorten development for greenfield projects.

Proactively advance application of key technologies that will drive value in Rio Tinto's copper assets.

Manage and provide support to the Oyu Tolgoi copper-gold project, with a focus on safety, resourcing and sustainable development.

Keep the growth pipeline full of potential projects and opportunities.

Ensure high quality resources are in place to deliver growth.

#### Outlook

Solid fundamentals in the near to medium term.

Growth in emerging economies, led by China and India, will drive increasing demand.

Potential for supply side challenges linked to increased sovereign risk, higher operating costs, increasing depths, decreasing grades and project disruption.

The Copper group's asset base is resilient to volatile prices and has opportunities for development, while its growth pipeline is world class.

- (a) See note 2 and the Financial information by business unit section of the 2010 financial statements for a reconciliation of underlying earnings to net earnings.



## **Table of Contents**

### Strategy

The Copper group's strategy is to deliver shareholder value with a material increase in production in the medium term. The company believes the copper price will remain above historical averages, with some volatility, driven by continued strong demand in China and potential supply side challenges.

Using technological innovation, Rio Tinto's Copper group is optimising its large, long life, cost competitive assets to safely and efficiently gain access to deposits at lower depths.

The growth pipeline is full of promising potential projects, which the group will develop by leveraging Rio Tinto's project skills and in accordance with Rio Tinto's leading standards of collaboration with local governments and communities. The group is focused on developing the people resources needed to deliver its ambitious growth agenda. Rio Tinto is a leader in block cave mining, and many of our growth projects located at depth depend on this mining method. While block cave mining is capital intensive and requires lengthy development times, technologies being pioneered by the company have the potential to deliver meaningful competitive advantage.

### Performance

Sales revenue of the Copper group was US\$7,782 million in 2010, US\$1,576 higher than in 2009 reflecting higher prices as a result of increasing global demand.

Underlying earnings were US\$656 million higher than 2009, attributable to higher metal prices. Refined copper production was down five per cent. Refined gold production was up 24 per cent, and refined silver up 17 per cent reflecting the processing of high grade precious metals contained in concentrates produced in late 2009.

The improvement in prices was partially offset by lower sales volumes and higher unit cash costs in line with reduced production from lower grades.

The average price of copper in 2010 was US\$3.40 per pound compared to US\$2.32 per pound in 2009.

### Key achievements

During 2010, the Copper group made significant and important progress on a number of fronts.

The Kennecott Utah Copper operation is pursuing the Cornerstone project, which is expected to extend the life of its Bingham Canyon mine to 2028 while maintaining additional long term options. Kennecott Utah Copper is also moving forward with construction of a new Molybdenum Autoclave Process facility that can improve efficiency, metal recovery and greenhouse gas emissions.

Northparkes received approval to proceed with the Step Change pre-feasibility project, which has the potential to increase production three fold and further reduce costs.

A feasibility study for the Deep Mill Level Zone at Grasberg was completed.

The Oyu Tolgoi project, one of the most promising undeveloped copper-gold deposits in the world, continued to move forward.

Construction began at the Eagle project, which will produce an average of 17,300 tonnes of nickel and 13,200 tonnes of copper metal per year, beginning in 2013. In addition, tenure was granted over the southern mineralisation at our Sulawesi nickel project in Indonesia.

In 2010, Rio Tinto secured land access by signing 27 necessary land contracts essential to advancing the La Granja project in Peru.

### Safety

The Copper group had no fatalities at its managed operations in 2010. However, a fatality occurred at Escondida, a non managed site, in the process area.

The Copper group is committed to creating an injury free workplace. In 2010, the all injury frequency rate was 0.57, versus 0.67 in 2009.

During 2010, the Kennecott Utah Copper workforce worked more than 2.7 million hours without a lost time incident.

The operation has moved forward with successful initiatives to implement on-site Emergency Response teams and help employees manage their personal health. During 2010, Kennecott received a total of 13 awards from the Utah Safety Council for its safety performance.

Northparkes is working to improve safety by understanding and addressing fatigue in the workplace, with stage two of a trial currently under way. In addition, Northparkes is also working to manage low probability, high consequence risks. In 2011 Northparkes will be focusing safety efforts on further developing and setting underground safety standards and implementing the site process safety plan.

Rio Tinto Copper Projects has had zero fatalities for the past two consecutive years and worked without a lost time incident in 2010. The La Granja project worked without a medical treatment case for 18 consecutive months. For the second year in a row, Resolution Copper received the Sentinels of Safety Award from the US Department of Labor's Mine Safety and Health Administration and the National Mining Association, for excellence in safety. This award is the most recognised and longest standing award given for occupational safety.

In 2011, the Copper group will focus on process safety and underground safety, with the goal of reducing injuries to zero.

#### Greenhouse gas emissions

The Copper group is committed to ongoing improvements in energy management and efficiency. In 2010 the Copper group's total greenhouse gas emissions were 3.1 million tonnes of carbon dioxide equivalent, about seven per cent of the Rio Tinto total. Since 2008 the Copper group has reduced the GHG emissions intensity of its copper cathode production by 6.3 per cent.

Kennecott Utah Copper accounts for the majority (61 per cent) of the Copper group's greenhouse gas emissions. Key programmes to improve performance at Kennecott Utah Copper have included energy management and fuel programmes to improve efficiency and the commissioning of a six megawatt combined heat and power

**Table of Contents**

Copper continued

facility. The Copper group anticipates continued progress in 2011 as a result of planned implementation of additional efficiency and technology improvements.

Review of operations

**Kennecott Utah Copper (Rio Tinto: 100 per cent)**

Kennecott Utah Copper, based in Salt Lake City, supplies more than ten per cent of the US's refined copper. It also produces gold, silver, molybdenum and sulphuric acid as by-products. The planned maintenance shutdown at the smelter was completed safely, on time and on budget. In 2010 Kennecott Utah Copper produced 269 thousand tonnes of refined copper and 596 thousand ounces of refined gold. Kennecott Utah Copper is also commencing studies associated with the potential development of an underground copper skarn deposit to operate in parallel with the open pit.

**Escondida (Rio Tinto: 30 per cent)**

Operated by BHP Billiton, Escondida is the world's largest copper producer. Located in Chile's Atacama Desert, it represents eight per cent of global production. Escondida produced 1,011 thousand tonnes of mined copper in 2010. Approval of three capital projects for execution will extend the sulphide leach operation, provide access to higher grade material and add grinding capacity to increase mill throughput.

**Grasberg (the joint venture gives Rio Tinto a 40 per cent share of production above specified levels until 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. It is one of the world's largest copper mines and in the lowest cost quartile of copper producers. In 2010, Rio Tinto's share of production from Grasberg was 51 thousand tonnes of mined copper and 183 thousand ounces of mined gold.

**Palabora (Rio Tinto: 57.7 per cent)**

Palabora Mining Company is a listed South African company (JSE) based in Limpopo Province. Palabora produced 58 thousand tonnes of refined copper in 2010, supplying most of South Africa's copper needs and exporting the balance.

**Northparkes (Rio Tinto: 80 per cent)**

Based in New South Wales, Australia, Northparkes is a joint venture with the Sumitomo Group (20 per cent). Northparkes produced 39 thousand tonnes of mined copper and 65 thousand ounces of mined gold in 2010. Rio Tinto's large, long life orebodies produce significant amounts of copper, at among the lowest costs in the industry, with meaningful opportunities for development. The group is optimising its operations by focusing on safety and by using technological innovation to improve recoveries, extend the life of its mines, protect the environment, gain efficiencies and deliver valuable growth.

Kennecott Utah Copper has submitted permits to move forward with the Cornerstone project, which is expected to create access to a significant quantity of mineralised material and extend the life of its Bingham Canyon mine to 2028 while maintaining additional long term options. Kennecott Utah Copper is also developing the Molybdenum Autoclave Process (MAP), an alternative that will replace third party roasting. Commissioning of the facility is planned to begin in late 2012.

Northparkes' E48 block cave project has increased mineralised material tonnes and is expected to extend the mine's life to 2023. By the end of 2012, Northparkes will begin testing a continuous mechanical rock excavation system. This breakthrough technology improves the speed and development of underground operations and allows recovery of valuable resources from increasingly difficult deposits.

Palabora Mining Company is evaluating expansion alternatives to extend the copper mine beyond the current profile. These options include growth of Lift I through an area known as the western extension and a second lift below current mining activities.

In addition, the company continues to monitor security at Grasberg following several shooting incidents from mid 2009 to January 2010. The last reported incident was on 24 January 2010, which resulted in a number of injuries.

There were no fatalities in 2010. The Indonesian Government has responded with additional security forces and Grasberg has taken precautionary measures. Mining and milling activities have continued uninterrupted. In September, a third party train derailment destroyed the rail line linking Palabora operations to key ports. Fortunately, there were no injuries. The event did not have a material impact on the production, transportation and sale of copper and copper rod to customers; however it did affect magnetite sales. At each of its operations, the Copper group is committed to sustainable development and community partnerships. In 2010, Kennecott received the Utah Division of Oil Gas and Mining (DOG M) Earth Day Award for the restoration of its historic Magna Concentrator. This award recognises industry leaders that voluntarily exceed regulatory requirements to protect and improve the environment. In June 2010, Palabora Mining Company entered into a broad based agreement with its new partners. Under the agreement, the company will effectively sell 26 per cent of its operations and assets to a newly incorporated subsidiary owned by employees, the community and a consortium. The agreement is consistent with the country's Black Economic Empowerment Act, which requires mines in South Africa to be at least 15 per cent owned by historically disadvantaged South Africans. This requirement will increase to 26 per cent by 2014.

**Table of Contents**

Development projects

The Copper group is pursuing a strong pipeline of projects and has a first class growth profile. In developing new projects, the group works to proactively manage risk and create a solid, sustainable operating environment.

**Oyu Tolgoi (Rio Tinto: 42.1 per cent interest in Ivanhoe Mines Limited)**

When Oyu Tolgoi, in Mongolia's South Gobi Desert, reaches full production in 2018, it is expected to be a top ten copper producer and one of the world's biggest gold producers, with first quartile production costs.

In late 2010 Rio Tinto secured the right to increase its ownership in Ivanhoe Mines to 49 per cent by 18 January 2012. Ivanhoe holds a 66 per cent interest in Oyu Tolgoi LLC. Rio Tinto has become the development and operating manager of Oyu Tolgoi and has agreed to provide a comprehensive financial package to Ivanhoe to help secure the development of the project.

The transition of management of Oyu Tolgoi to Rio Tinto has officially started, with a vision to safely deliver on schedule and on budget, to be firmly aligned with Rio Tinto's strategy, values and standards for excellence, and fully deliver on its commitment to employ approximately 90 per cent of the project's workforce from Mongolia representing around 3,000 to 4,000 direct jobs, including contractors.

**Resolution Copper (Rio Tinto: 55 per cent)**

Resolution Copper, in Arizona, US hosts what is the world's third largest undeveloped copper resource. The first production is expected in 2020. The site is in the midst of a pre-feasibility study and indications of this work are that the operation would likely be capable of producing 600,000 tonnes of copper per year. In 2010, Resolution Copper advanced development of a new exploration shaft, and provided more than one billion gallons of treated water from historic mine workings to farmers to irrigate their crops.

**La Granja (Rio Tinto: 100 per cent)**

Based on exploration drilling, La Granja in Peru's Cajamarca Region is the world's ninth largest undeveloped copper resource. In 2010 evaluation work entered a divergent phase to assess the potential of new geological discoveries and to identify higher value, lower risk options for development. An optimal business case is still being developed. However, the project has a clear direction for development utilising conventional technologies which has yet to incorporate a recently discovered higher grade zone of mineralisation. Drilling will continue in 2011 to confirm the extent of the new mineralisation.

**Kennecott Eagle Minerals (Rio Tinto: 100 per cent)**

Construction of the US\$469 million Eagle nickel and copper mine in Michigan, US began in 2010, with first production expected in late 2013. The mine is expected to produce on average 17,300 and 13,200 tonnes per year of nickel and copper metal, respectively, over six years. High quality sulphide nickel concentrates will increasingly be in short supply, and Eagle is one of the most attractive greenfield projects in the nickel industry pipeline. Eagle is located in a prospective region where Rio Tinto has significant land holdings and mineral rights.

**Sulawesi (Rio Tinto: 80 per cent)**

Sulawesi in Indonesia is one of the world's largest undeveloped nickel opportunities with significant mineralised material. Having received the first licence under Indonesia's new mineral legislation, tenure for the project has been secured and Rio Tinto is reviewing development options. On 30 November 2010 Rio Tinto entered into an earn-in agreement with Sherritt International Corporation. Sherritt must complete two phases of work including a feasibility study and spend US\$110 million on the project to earn a controlling 57.5 per cent equity interest in the holding company that owns the Sulawesi project. Rio Tinto will retain the remaining 42.5 per cent for a net economic interest of 34 per cent.

**Pebble (Rio Tinto: 19.8 per cent interest in Northern Dynasty Minerals)**

The Pebble project in Alaska, US is one of the world's most significant undeveloped copper-gold-molybdenum deposits. Rio Tinto has a 19.8 per cent equity holding in Northern Dynasty Minerals, which owns a 50 per cent share in the Pebble joint venture.

**Bougainville Copper Limited (Rio Tinto: 53.8 per cent)**

Access to the site in Papua New Guinea remains restricted; however the company continues to progress plans for exploration and mining and is committed to working closely with the country's leaders and local landowners.

#### Outlook

Global electrification and growth in China and India, along with a greater focus on renewable sources of energy, should drive continued demand for copper, while there may also be increased supply side challenges.

The grade profile of the Copper group decreased in 2010 compared to 2009. While mine plans are continually optimised, ore grades are impacted by the inherent constraints that face deeper, more mature mines. An anticipated decline in grade in 2011 is expected to see a rebound in 2012.

Using industry leading technology and innovation, the Copper group is expanding and extending the life of its properties with brownfield development, and pursuing a strong pipeline of greenfield projects to create a growth profile.

Rio Tinto's focus on sustainable development allows it to create stable operating platforms that take into consideration the long term needs of the surrounding environment and the community. As a result, the company can manage risk effectively, reduce environmental impacts, operate efficiently, and attract and retain high calibre employees.

These factors, combined with strong technological capabilities, help differentiate Rio Tinto's Copper group from its competitors and contribute to the goal of being the undisputed sector leader in creating value for its shareholders.



**Table of Contents****Diamonds & Minerals**

## Differentiation in the marketplace

The Diamonds & Minerals group is well positioned to benefit from late cycle demand growth in mature and emerging markets. Our businesses occupy strong positions in their respective sectors, combining high quality assets with technical expertise and a robust understanding of our markets and customers.

Harry Kenyon-Slaney, *chief executive, Diamonds & Minerals*

## Diamonds &amp; Minerals overview

## Operating highlights

	<b>2010</b>	2009
	<b>US\$</b>	US\$
	<b>million</b>	million
Revenue	<b>3,035</b>	2,618
Operating cash flow	<b>510</b>	528
Underlying earnings <sup>(a)</sup>	<b>328</b>	800
Capital expenditure	<b>300</b>	519
Net operating assets	<b>4,580</b>	4,612

## Strategy

To maximise shareholder value by contributing material earnings to Rio Tinto and delivering better than comparable industry returns.

To benefit from increasing demand for Diamonds & Minerals products by improving the efficiency of the group's existing assets, building the growth projects in its pipeline and growing through value accretive acquisitions in existing and new sectors.

To share best practices in safety and community engagement in order to maintain employer and developer of choice status across the six continents that constitute our operations base.

## Key achievements

Lowest all injury frequency rate among Rio Tinto product groups.

Commenced underground ore production at the Diavik diamond mine.

Gained approval and funding to complete the Argyle diamond mine underground project in Australia.

Launched a pre-feasibility study for the Bunder diamond project, India.

Delivered flexibility and efficiency improvements through a new labour agreement at Rio Tinto Minerals (RTM) Boron Operations in California.

Received a binding offer in early 2011 from Imerys to acquire Rio Tinto's talc business for an enterprise value of US\$340 million.

Expanded deposit boundaries and identified additional sodium borate mineralisation at Jadar, a lithium and borates development project in Serbia.

Rio Tinto Iron & Titanium (RTIT) increased titanium dioxide production by 21 per cent compared to 2009 in response to improved market conditions.

Achieved the first full year of production of ilmenite ore at QIT Madagascar Minerals (QMM).

Progressed construction of the tailings treatment plant at Richards Bay Minerals (RBM) ahead of start up in early 2011.

#### Key priorities

Continue to strive for zero harm to people across all operations.

Deliver material earnings and cash flow to Rio Tinto, and generate better than comparable industry returns.

Differentiate Rio Tinto from other suppliers in Diamonds & Minerals markets by providing a reliable supply of high quality products, technical expertise and marketing support programmes.

Ramp up to full production at QMM.

Progress development projects to plan.

Achieve incremental expansions at Rio Tinto Fer et Titane (RTFT) and Boron through efficiency and technology improvements.

Identify and execute opportunities for inorganic growth.

#### Outlook

Following recovery in 2010, the outlook for the product groups markets is favourable, driven primarily by increased demand from emerging markets.

The medium to long term fundamentals for the diamond industry are positive.

Demand growth offers opportunities across titanium dioxide and borates.

- (a) See note 2 and the Financial information by business unit section of the 2010 financial statements for a reconciliation of underlying earnings to net earnings.



## **Table of Contents**

### Strategy

The Diamonds & Minerals group's core purpose is to maximise shareholder value by safely and efficiently mining, processing and marketing diamonds and minerals. The group seeks to differentiate Rio Tinto from other suppliers in its markets by providing a reliable supply of high quality products, technical expertise and marketing support programmes. Many of its businesses operate in remote and environmentally sensitive locations, where we have focused on developing leading community relations and sustainable development practices to become a development partner of choice.

Rio Tinto believes that similar industry dynamics to those that drove the growth in iron ore, copper and coal demand are forming in a number of mineral sectors. The group's strategy aims to position its businesses to make the most of these changing market fundamentals and will be delivered along three principal pathways:

Progressing underlying business performance through operational and commercial improvement.

Maintaining and expanding capacity through investment in the group's existing businesses, for example the Argyle Underground project and incremental capacity expansions at Boron and RTFT.

Further growing the business through value accretive acquisitions in existing and new sectors.

Rio Tinto Diamonds' strategy is to be the preferred global supplier of natural rough diamonds and to continue to operate, manage and develop world class diamond resources safely, efficiently and to the highest possible environmental standards.

RTM's strategy is to be the undisputed leader in value creation within the borate sector. RTM seeks to leverage superior product quality, reliability of supply and technical support to capture profitable growth in promising sectors and regions. At its operations, RTM will focus on increasing capacity while achieving world class safety performance and improving its position on the industry cost curve.

RTIT's strategy is focused on capturing profitable growth in titanium dioxide feedstock markets and maximising the value from its industry leading portfolio of resources, processing facilities and co-product capabilities. RTIT aims to grow titanium dioxide feedstock production to meet increasing demand, while maximising co-product contribution. RTIT will also dynamically drive cost efficiency to sustain or improve its position on the industry cost curve.

### Performance

In 2010 the Diamonds & Minerals group's markets substantially recovered from the financial turmoil of late 2008 and 2009. Sustained demand from emerging markets largely offset the slower recovery from the established markets of the US and Europe. This has been reflected in higher prices and increased sales volumes, leading to a 16 per cent increase in revenues.

The product group continued to focus on improved operational performance. Rio Tinto's share of diamond production reached 13.8 million carats, with underground production commencing at Diavik during the year. Strong demand growth in Asia for borates offset delayed recovery in mature markets, driving borate production increases of 18 per cent compared to 2009. Titanium dioxide feedstock production increased by 21 per cent in response to improved market conditions, while progress continues to be made at the QMM ilmenite mine in Madagascar.

Sales revenue of the Diamonds & Minerals group was US\$3,035 million in 2010, US\$417 million higher than in 2009, reflecting higher prices and sales volumes in response to improved economic conditions. Adjusting for the one-off US\$797 million gain on the sale of potash assets in 2009, 2010 underlying earnings of US\$328 million were US\$325 million higher than 2009, reflecting revenue growth and tax benefits largely associated with a one-off charitable donation of land.

Improved rough diamond prices and sales volumes were reflected in a 52 per cent improvement in Rio Tinto Diamonds' sales revenue in 2010 compared with 2009.

RTM's borates and talc businesses secured additional price increases as markets recovered and met an aggressive target to increase EBITDA by 12 per cent from a 2009 baseline.

In December 2009, a Broad Based Black Economic Empowerment (BBBEE) restructuring was completed at RBM which reduced Rio Tinto's equity share in the business from 50 per cent to 37 per cent. Despite this, RTIT's revenue increased by four per cent, reflecting stronger demand for titanium dioxide feedstock and increased prices for its metallic products.

An impairment charge of US\$115 million after tax was recognised on the diamonds portfolio assets to reduce their carrying value to an estimated recoverable amount. This is not included in underlying earnings.

Key achievements

#### **Diamonds**

The first ore was produced from the Diavik underground mine in Canada in March 2010. Underground operations will steadily increase and the remaining open pits are expected to be depleted by 2012.

In September 2010, Rio Tinto approved the investment of US\$803 million to complete the Argyle underground project in Australia. Following a transition from the current open pit operation, the mine is expected to be fully operational in 2013. The project is expected to extend the life of the mine until at least 2019.

A pre-feasibility study of the Bunder project in Madhya Pradesh, India commenced in July 2010 and in October 2010, the Government of Madhya Pradesh signed a State Support Agreement with Rio Tinto for the project. These are critical milestones in the ongoing development of the mine, which will be the first hard rock diamond mine in India.

#### **Minerals**

Demand recovery for borates across all market sectors – particularly in Asia – led to an 18 per cent increase in borate production compared with 2009. Talc demand recovery was driven primarily by the polymers sector and production levels increased by 13 per cent.

Boron forged a new labour agreement that lays the groundwork for improved work practices and productivity, enhancing the business's competitive position through the life of the operation.

RTM upgraded its distribution and packaging facility in Malaysia, commissioned a new talc beneficiation plant in Australia and announced plans to open an Asian Technology Center in 2011 to create competitive advantage in the business's most promising growth region.

In February 2011, Rio Tinto received a binding offer from Imerys to acquire its talc business for an enterprise value of US\$340 million. A period of exclusivity with Imerys has been agreed, and Rio Tinto will respond to this binding offer following consultation with the relevant European works councils.

**Table of Contents****Diamonds & Minerals continued**

Production of titanium dioxide feedstock increased by 21 per cent compared with 2009 in response to improved market conditions. RTIT reacted quickly to stronger demand by returning to full output following capacity reductions made in response to the global financial crisis.

QMM completed its first full year in operation following the first shipment of ilmenite ore in mid 2009, and the final product is being well received by the market. QMM has experienced difficult mining conditions since commissioning, but production is increasing as technical issues are addressed. The implementation of dry mining in 2011 is expected to double throughput by year end. Further options to increase throughput are being evaluated.

Construction of the tailings treatment plant at RBM progressed in 2010, under budget and on schedule. The project will extract zircon, rutile and ilmenite from tailings, from early 2011.

**Safety**

Safety improvement and awareness continued to be a major focus of all operations. Initiatives included the piloting of the Site Safety Acceleration Programme at RBM and the creation of the Diamonds & Minerals collaborative forum to drive benchmarking and share best practice. In 2010 the product group's all injury frequency rate (AIFR) was 0.51 compared to 0.71 in 2009.

All diamond sites achieved exceptional safety performances in 2010 with their AIFR improving to 0.36 from 0.65 in 2009. In 2010 the Diavik mine won the Canadian industry's most prestigious safety award – the national John T Ryan safety trophy for its safety performance.

RTM reduced AIFR by 24 per cent to 0.65 in 2010. RTM's Houston Operations were recognised for safety leadership through Rio Tinto's Chief Executive Safety Award, and Rio Tinto's US operations were recognised by the Mine Safety and Health Administration as among the safest in the country.

All RTIT operations improved their safety performance in 2010, with the total AIFR improving to 0.52. QMM achieved one of the group's lowest AIFRs, at 0.20, with a largely new workforce.

**Greenhouse gas emissions**

All diamond sites maintained or reduced their greenhouse gas emissions in 2010 compared to 2009 and are working on a number of initiatives to ensure continuous improvements are in place. A key focus is reducing fuel consumption and investigating alternative power options.

Across RTIT's operations, total greenhouse gas emission intensity decreased by nine per cent, reflecting increased operating efficiencies achieved as production levels increased. Engineering work on the electricity co-generation project at RBM is continuing and will contribute to future reductions in emissions by generating electricity from waste gas.

RTM's global operations continued efforts to reduce greenhouse gas emissions, and set new targets to lower them by two per cent per tonne of product from 2008 levels by 2013. Key initiatives include improving energy efficiency in processing plants, harvesting reclamation ponds and in-pit dumping of overburden.

**Review of operations****Rio Tinto Diamonds****Argyle (Rio Tinto: 100 per cent)**

The Diamonds group owns and operates the Argyle diamond mine in the east Kimberley region of Western Australia. Argyle continued to operate its surface mine while undertaking minimal construction of an underground block cave mine below the existing open pit in the first half of 2010.

Diamond production in 2010 was 9.8 million carats, seven per cent lower than 2009, reflecting the fact that the open pit mine is in the final stages of production with lower ore grades, prior to an underground mine accessing higher grade ore.

**Diavik (Rio Tinto: 60 per cent)**

The Diamonds group operates the Diavik diamond mine, located approximately 300km north east of Yellowknife in the Northwest Territories, Canada. It is an unincorporated joint venture between Rio Tinto and Harry Winston Diamond Corporation.

The Diavik mine currently comprises three diamond bearing kimberlite pipes that are being mined using open pit and underground mining methods. The first underground mine production occurred in March 2010 and will steadily increase. The remaining open pits are expected to be depleted by 2012. The underground operation will extend the life of the Diavik mine until 2022. A fourth pipe, the A21 pipe, is being reviewed to determine its viability.

Diamond production in 2010 was 3.9 million carats (Rio Tinto share) compared with 2009 production of 3.3 million carats, reflecting a significant increase in ore processed.

Murowa (Rio Tinto: 77.8 per cent)

The Murowa mine has been operating as a small open pit since 2004 and is owned by Rio Tinto (77.8 per cent) and Riozim

## **Table of Contents**

Limited (22.2 per cent), an independent Zimbabwean listed entity. Rio Tinto's share of production in 2010 of 139,000 carats was above the 97,000 carats in 2009 as a result of a modest capacity expansion in the process plant. Murowa is considering expanding the existing open pit to increase production and the previous feasibility study for this expansion is currently being reviewed.

In 2010 Murowa Diamonds received the Zimbabwe National Chamber of Commerce award for the Best Corporate Social Responsibility Programs.

### **Rio Tinto Minerals (Rio Tinto: 100 per cent)**

The business comprises borates and talc mines, refineries, and shipping and packing facilities on five continents that operate under the Rio Tinto Minerals banner. Approximately 815,000 product tonnes of refined borates are produced at Boron Operations, the principal borate mining and refining operation in California's Mojave Desert. RTM also operates talc mines including the world's largest, in southern France and processing facilities in Austria, Australia, Belgium, Canada, France, Italy, Japan, Mexico, Spain and the US.

In 2010 total borates production rose by 18 per cent to 500,000 tonnes of boric oxide, on the back of strong recovery in Asian demand. Total talc production increased by 13 per cent to one million tonnes in 2010, with stronger sales in the polymer sector and recovery in paint and paper markets.

### **Rio Tinto Iron & Titanium**

Rio Tinto Iron & Titanium (RTIT) comprises:

- the wholly owned Rio Tinto Fer et Titane (RTFT, formerly QIT) in Quebec, Canada;

- an 80 per cent share in the QIT Madagascar Minerals (QMM) ilmenite project in Madagascar; and

- a 37 per cent interest in and management of Richards Bay Minerals in KwaZulu-Natal, South Africa.

Both RTFT and RBM produce titanium dioxide feedstock used by customers to manufacture pigments for paints and surface coatings, plastics and paper and the production of titanium metal. They also produce iron, steel and zircon co-products. QMM produces ilmenite from beach sands which is shipped to Canada for processing into titanium dioxide slag.

In 2010, titanium dioxide production increased by 21 per cent compared with 2009. The market for titanium dioxide feedstock has recovered quickly from the global financial crisis, which led to a sharp decline in demand in 2009. In response, RTIT's operations have returned to full capacity, producing 1,392,000 tonnes of titanium dioxide feedstock (Rio Tinto share). This increase has been achieved despite the reduction in the Rio Tinto share of RBM production from 50 per cent to 37 per cent following the BBBEE restructuring in late 2009 and reflects increased output of ilmenite from QMM in Madagascar.

### **Development projects**

The Bunder project (Rio Tinto: 100 per cent) in Madhya Pradesh is Rio Tinto's most advanced diamond project and the most important diamond discovery in India for many decades. Located 500km south east of Delhi, the Bunder project's Order of Magnitude study identified significant mineralised material. Rio Tinto applied for a mining lease in 2008, has constructed an on site sample processing plant to evaluate drilling and surface samples, and is working on detailed studies for the mine's development.

In October 2010, the Government of Madhya Pradesh signed a State Support Agreement with Rio Tinto as further endorsement of the Bunder project.

In September 2010 the Rio Tinto board approved a further US\$803 million to complete the construction of the Argyle underground mine. Argyle will continue the transition to underground mining until 2013 by which time it is expected to be a wholly underground mine with a life through to at least 2019.

Exploration drilling in Serbia resulted in expanded deposit boundaries and the identification of a new sodium borate mineralisation at Jadar, a lithium and borate development project with considerable economic potential. The deposit is one of the largest undeveloped lithium deposits in the world. If developed, it is expected to be in production within five to six years.



## Outlook

The diverse markets being served by the group's operations are linked by a strong connection to end consumer markets, consumer sentiment and spending habits. Following recovery in 2010, the outlook for the group's markets is generally favourable, driven by increased demand from Asian countries.

### **Diamonds**

Following 2009 inventory depletions, the diamond supply chain was gradually replenished in 2010. Diamond demand from emerging markets accelerated, while production levels remained relatively low in comparison with 2008. As a result, rough diamond prices demonstrated a robust recovery throughout 2010. In the short run, the sustainability of this recovery will be in part dependent on US consumer confidence. The medium to long term fundamentals for the diamond industry are positive.

### **Minerals**

Socioeconomic trends driving energy efficiency in housing and transportation, urbanisation in emerging economies and more sustainable farming practices will drive increased intensity of demand for borates. Segmentation and pricing strategies are in place to support shifts between regions and end uses through different consumer and economic cycles. Supply chain flexibility will be enhanced by establishing bulk delivery stock points in promising growth regions. The borate business is positioned for strong growth and industry leading returns in the near and long term.

Demand for titanium dioxide feedstock is driven mainly by the pigment industry. The market recovered sharply in 2010, with high capacity utilisation rates, driven in part by a steady rise in demand in China and other developing countries. Rising demand is likely to drive prices to structurally higher levels in the coming years.

RTIT is well placed to benefit from improved market conditions as production increases following capital investment in QMM and its established operations in recent years.

**Table of Contents****Energy**

Portfolio positioned to meet growing demand

Rio Tinto's Energy group will meet strong future demand for energy and steel, and maximise shareholder return, through operating and growing its global coal and uranium portfolio.

Doug Ritchie, *chief executive, Energy*

Energy overview

Operating highlights

	<b>2010</b> <b>US\$</b> <b>million</b>	2009 US\$ million
Revenue	<b>5,652</b>	4,869
Operating cash flow	<b>2,463</b>	2,069
Underlying earnings <sup>(a)</sup>	<b>1,187</b>	1,167
Capital expenditure	<b>685</b>	510
Net operating assets	<b>3,694</b>	2,809

**Strategy**

The Energy group is focused on safely supplying the world's growing energy needs through the responsible and sustainable development and operation of large scale, long life, cost competitive assets.

The group aims to be a sector leader in the development and operation of the world's coal and uranium resources.

The group seeks to build strong customer relationships and provide superior customer outcomes while earning significant premiums to the market.

The group is pursuing opportunities for growth to meet expanding global energy demand, while continuing to focus on operational excellence, community engagement and environmental performance to ensure it is the developer of first choice.

**Key achievements**

Commissioning of the new Clermont mine in Queensland, an open cut thermal coal mine due to reach annual peak production of 12.2 million tonnes in 2013.

Feasibility study started into the open cut thermal coal Mount Pleasant project.

Australian hard coking coal production increased by 20 per cent in 2010 and set a new record of 2.4 million tonnes in the third quarter.

A successful heap leach processing trial at Rössing, and finalising work on a proposed exploration decline at Energy Resources of Australia's Ranger mine.

Completion of a detailed study of global energy demand to support strategic decision making and growth planning.

Announced a recommended cash offer for Riversdale Mining Limited. If successful, this acquisition would provide Rio Tinto with a coking coal development pipeline in the emerging Moatize Basin in Mozambique, in line with our established strategy.

Divestment of Rio Tinto's remaining 48 per cent equity holding in Cloud Peak Energy Inc. (gross proceeds of US\$573 million).

#### Key priorities

Continued focus on operational excellence; in particular safety performance to achieve the group's goal of zero harm.

Expanding and developing existing assets to meet the strong demand.

Focusing on exploration and strategic acquisition and/or joint venture arrangements.

#### Outlook

The world's demand for energy and steel production is expected to grow strongly in coming decades, driven by increasing populations and industrialisation in large developing countries.

The forecast growth in demand for coal over coming decades for both energy and steel production presents a significant opportunity to target expanding export markets, particularly in the Asia Pacific region.

Global demand for uranium is expected to remain strong due to a desire for base load electricity generation with reduced greenhouse gases, as well as the need for energy security, diversity of supply and strong growth plans in China.

- (a) See note 2 and the Financial information by business unit section of the 2010 financial statements for a reconciliation of underlying earnings to net earnings.

**Table of Contents**

Strategy

Rio Tinto expects strong growth in energy demand in all markets, including coal and uranium, from energy per capita growth and population growth dominated by China and India.

Electricity demand outpaces overall energy demand and this should translate into good opportunities for thermal coal and uranium.

While nuclear and renewable energy will grow strongly in coming years, coal is set to remain a significant part of the world's future energy mix as it is abundant, relatively cheap and there is significant recently installed capacity.

The Energy group's coal assets are well positioned to service the future demand growth in Asia, and include long life, cost competitive assets that are viable throughout the economic cycle. Existing operations have expansion opportunities, and steps are under way to progress these.

While Rio Tinto benefits from this growth in energy demand, it is concerned by the threat of climate change and has accepted the need for global reductions in greenhouse gas emissions. Rio Tinto invests heavily to reduce emissions from its own operations. Rio Tinto also contributes to global efforts to reduce emissions, by participating in the development of low emission technologies, running strong product stewardship programmes, and assisting governments with the development of sound policies.

Rio Tinto has continued to sell non-core coal assets in the Energy group, with the divestment in 2010 of Cloud Peak Energy Inc. and the completed sales of the coal projects Maules Creek and Vickery in the Gunnedah Basin in New South Wales. A process also began in 2010 to divest the Colowyo mine in the US.

Given uranium's low greenhouse gas emissions and strong demand, the Energy group is pursuing growth opportunities and in 2010 progressed work to further define available mineralisation at both Rössing and ERA. Rössing began a statutory approval process ahead of a proposed expansion, while ERA completed detailed planning of its Ranger 3 Deeps mineralisation.

The Energy group's long term strategy is centred firmly on expanding existing capacity and securing opportunities for growth while maintaining superior margins as a reliable long term supplier with consistently high standards of operation.

Performance

The Energy group's 2010 sales revenue was US\$5,652 million and its underlying earnings were US\$1,187 million, compared with sales revenue of US\$4,869 million and underlying earnings of US\$1,167 million in 2009.

Rio Tinto Coal Australia's (RTCA) 2010 contribution to underlying earnings was US\$940 million, US\$77 million lower than in 2009 due mainly to a stronger Australian dollar, especially in the second half of the year, outweighing the impact of stronger coal prices throughout 2010. RTCA's total coal production was 47.6 million tonnes (Rio Tinto share 30.5 million tonnes), slightly higher than 2009 production.

RTCA's hard coking coal production increase was assisted by equipment investment and operational improvements. RTCA's thermal and semi-soft coking coal production was seven per cent lower, mainly due to wet weather impacts in the Hunter Valley, and the scheduled ramp down of Blair Athol mine (which was partly offset by the ramp up of Clermont mine which became operational in April). Monsoonal rain and flood impacts on mining operations, road and rail access at RTCA's four Queensland mines in December 2010 led to a force majeure declaration on sales contracts at those mines.

Energy Resources of Australia (ERA) contributed US\$22 million in 2010 to underlying earnings, compared with US\$138 million in 2009. Total production for 2010 was 8.6 million pounds uranium oxide on a 100 per cent basis (2009: 11.5 million pounds). The reduced production was primarily due to lower than expected milled ore grade of 0.19 per cent, compared with 0.26 per cent in 2009. Earnings were impacted by the strengthening of the Australian dollar and higher cash costs. Sales of uranium oxide decreased in 2010 to 11.1 million pounds, compared with 12.1 million pounds in 2009. Unseasonal late rains in April 2010 and an early start to the 2010/2011 wet season also restricted pit access and delayed mine schedules. In January 2011, ERA announced a 12 week suspension of processing operations as a precautionary measure due to a higher than average wet season.

Rössing Uranium recorded a loss of US\$3 million, US\$27 million below 2009, predominantly attributable to an adverse exchange rate impacting production costs. Earnings recovered in the second half of the year when some sales occurred from volumes deferred from the first half. Rio Tinto's share of uranium oxide production in 2010 was 5.5 million pounds, a 13 per cent decrease on 2009 levels due to lower average feed grade.

#### Key achievements

Australian hard coking coal production increased by 20 per cent in 2010.

Clermont mine became operational in April and produced 3.8 million tonnes of coal in 2010.

ERA completed detailed planning for a proposed underground exploration decline to conduct close spaced exploration drilling to further define the extent of the Ranger 3 Deeps mineralisation identified in late 2008.

#### Safety

All operations across the Energy group continued the focus on reducing injuries through leadership, simple and effective systems, and personal commitment to safety. This includes increasing the focus on significant potential incidents, which are defined as incidents that may not have caused actual harm, but had the potential to cause significant harm.

The Energy group's AIFR increased slightly to 0.71 during 2010, mainly due to an increase in incidents at Rössing and the divestment of Cloud Peak Energy.

RTCA's AIFR of 0.58 was an improvement from 0.60 in 2009, and its injury severity rate decreased significantly.

In 2010 ERA recorded a four per cent increase on its AIFR compared with 2009. However, ERA achieved

1.35 million hours and equalled a record number of consecutive days without a lost time injury.

Rössing's safety performance of 0.95 AIFR in 2010 increased compared with 2009, however a safety acceleration programme implemented at mid year is expected to help deliver improved safety performance in 2011.

Colowyo reduced its rate of injuries by more than a third, achieving an AIFR of 0.65 in 2010 compared with 1.02 in 2009.

**Table of Contents**

## Energy continued

## Greenhouse gas emissions

The Energy group is committed to a future where energy is about sustainable practices that will lead to a low carbon future. Initiatives at each operation are helping to reduce greenhouse gases, while the group is continuing to dedicate resources to the development of low emissions coal technology.

Greenhouse gas emissions intensity increased across the Australian coal business in 2010, however a coal seam methane pilot project was completed by Coal & Allied at the Mount Thorley Warkworth operation. The purpose of the three year project was to test the feasibility of pre-mining drainage and use of methane from shallow coal seams that will be mined using open cut methods. Other trials will be considered after further drilling to measure the gas content in coal that is yet to be mined. The drilling and gas measurement programme, which is being rolled out across all Rio Tinto Coal sites in New South Wales including Mount Pleasant, is expected to be completed in 2011.

In 2010, total production of uranium oxide from Rio Tinto's uranium mines in Australia and Namibia was 16.6 million pounds, and total production of thermal coal from Rio Tinto's Australian coal mines was 31.8 million tonnes. The electricity that will be generated from these energy products is estimated to be 390TWh (terawatt hours). This is equivalent to the combined amount of electricity that was consumed in Australia, Indonesia, and Iceland in 2008. (Source: IEA, World Energy Statistics 2010.)

ERA improved energy efficiency and reduced carbon dioxide equivalent emissions through the rebuild of power station generators.

Rössing did not meet the set energy efficiency and emissions target due to mining and processing constraints, as expected, because of less ore mined, lower grade ore and a high calcium carbonate index. The operation is also aggressively stripping waste and widening the open pit to expose higher grades of ore.

Colowyo's continuing haul road optimisation work aims to maintain greenhouse gas reductions achieved in prior years. Review of operations

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

RTCA manages the group's Australian coal interests. These include the Blair Athol (Rio Tinto: 71.2 per cent), Kestrel (Rio Tinto: 80 per cent), Hail Creek (Rio Tinto: 82 per cent) and Clermont (Rio Tinto: 50.1 per cent) coal mines in Queensland.

RTCA also provides management services to Coal & Allied Industries (Coal & Allied) for operation of its four mines located in the Hunter Valley in New South Wales. Coal & Allied (Rio Tinto: 75.7 per cent) is publicly listed on the Australian Securities Exchange and had a market capitalisation of A\$10.4 billion (US\$10.6 billion) at 31 December 2010. Coal & Allied wholly owns Hunter Valley Operations, has an 80 per cent interest in Mount Thorley Operations, a 55.6 per cent interest in the contiguous Warkworth mine, and a 40 per cent interest in the Bengalla mine adjacent to its wholly owned Mount Pleasant project. Coal & Allied also has a 36.5 per cent interest in Port Waratah Coal Services (PWCS) which operates the Kooragang and Carrington coal port terminals in Newcastle.

2010 saw continuing strength in the seaborne market for Australian coal, with growth in demand for thermal coal continuing from South Korea, India, Taiwan and China. Global steel demand improved in all markets in 2010 and led to strong demand for semi-soft coking coal. The market for premium quality hard coking coal remained solid in 2010.

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

ERA is a publicly listed company and had a market capitalisation of A\$2.1 billion (US\$2.2 billion) at 31 December 2010. Since 1980 ERA has mined ore and produced uranium oxide at its Ranger open pit mine, 250km east of Darwin in Australia's Northern Territory. ERA also holds title to the adjacent Jabiluka mineral lease. 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.

In 2010, ERA maintained its 30 year history of protection of the surrounding environment, with the Australian Government's Supervising Scientist Division reporting in its 2009/2010 annual report that extensive monitoring and research programmes confirm that the Kakadu environment has remained protected.

ERA has invested A\$11.2 million towards water management improvements across its entire operation, and additional real time water quality sensor points in local waterways have improved ERA's ability to monitor releases and protect the environment.

A programme of infill drilling within Ranger pit commenced in October 2010 to confirm confidence in the mineralisation. As a result of this work and pit redesign due to a localised area of instability on the south wall, the Ranger in situ reserves were reduced by approximately 2,400 tonnes.

**Table of Contents**

**Rössing Uranium (Rio Tinto: 68.58 per cent)**

Rössing Uranium produces and exports uranium oxide from Namibia to power utilities globally. Its core purpose is to maximise the value delivered to shareholders by being a safe, significant and growing long term supplier of uranium. Rössing plays a major role in the Namibian economy, both in terms of GDP contribution of around 3.8 per cent as well as employment, education and training opportunities. The Rössing Foundation, set up 30 years ago, continued to provide various education and training programmes and is recognised as a major contributor to sustainable development in Namibia.

A Social and Environmental Impact Assessment was commissioned in 2010 ahead of the mine's proposed expansion activities, and following drilling work in existing and new areas surrounding the current open pit to investigate the extent of the uranium ore available within the Rössing mining licence area.

The latest Life of Mine plan sees the operation continuing to 2023; however it requires a large increase in stripping for the next three years to open up new areas of the pit. A combination of additional equipment and operational performance improvements were implemented in 2010 to deal with the extra mining requirements as efficiently as possible. A similar focus in the plant increased plant throughput and improved recovery rates by three per cent. Heap leach is a key initiative to increase production and reduce operating costs, and trials were successfully undertaken in 2010. Rössing also continued to progress other potential value enhancing projects including a new tailings facility and an on-site acid plant.

**Colowyo Coal Company (Rio Tinto: 100 per cent)**

Colowyo Coal Company produces thermal coal in northwest Colorado. The company intends to fulfil a long term contract with its sole remaining customer, a power generator located in northwest Colorado. This contract expires at the end of 2017. In the absence of divestment or the development of additional customers, the expiration of the contract will be followed by closure and completion of reclamation of the mine site.

**Development projects**

The Energy group's main coal development project in Australia is the extension of the Kestrel mine with first production expected in early 2013.

A feasibility study commenced in November 2010 for the Mount Pleasant project, an already consented, open cut thermal coal mine proposal in the Upper Hunter Valley. Consent modifications are being sought to provide options that may reduce capital costs and allow more efficient operations.

In New South Wales, the start of a long term commercial framework relating to port capacity to facilitate industry growth is showing results. To date the framework has seen coal producer nominations and the allocation process trigger the requirement for PWCS to take its terminal capacity to 145 million tonnes a year (mtpa), expected by 2013. The process has also triggered the requirement for PWCS to develop a fourth terminal. Meanwhile, the externally owned and operated Newcastle Coal Infrastructure Group commissioned its stage one 30mtpa terminal in April 2010 and has announced financial close on an expansion to take its port capacity to 53mtpa. Negotiations on below-rail arrangements in the Hunter Valley region are continuing.

RTCA has secured additional port capacity in the first stage of the Abbot Point expansion to meet its production requirements for growth in Queensland.

ERA completed detailed planning for a proposed underground exploration decline, to conduct close spaced exploration drilling to further define the extent of the Ranger 3 Deeps mineral mineralisation identified in late 2008. This proposal is in the final stages of ERA's approval process with a final decision expected in the second quarter of 2011.

ERA is progressing work on a feasibility study into a proposed heap leach facility at Ranger, targeting the recovery of 33 million to 44 million pounds of uranium oxide from low grade ores.

**Outlook**

The Energy group's increased capital expenditure in 2010 will continue in 2011, to expand operations to meet forecast demand growth in coming years.



Rio Tinto's Energy group expects 2010's strong thermal coal demand will continue through 2011, with continued pressure on prices due to wet weather constraints to coal production in Australia, Indonesia and Colombia in late 2010/early 2011.

The group expects that coking coal prices will remain high relative to historical levels, given the lack of substitutes, growing demand and lingering supply constraints due to the impact of recent weather.

Uranium spot markets strengthened in the second half of 2010, mainly driven by strong demand from China, and long term prices saw some small increases in late 2010. Market demand is expected to remain strong in the coming years as new nuclear power capacity comes online.

**Table of Contents****Iron Ore**

Record performance, operational efficiency and robust outlook

Following a decade of dramatic expansion, we are well positioned to supply rising global iron ore demand through further capacity increases. We will continue to drive performance through leadership in project delivery and operational excellence.

Sam Walsh, *chief executive, Iron Ore and Australia*

Iron Ore overview

Operating highlights

	<b>2010</b> <b>US\$</b> <b>million</b>	2009 US\$ million
Revenue	<b>24,024</b>	12,598
Operating cash flow	<b>15,915</b>	7,389
Underlying earnings <sup>(a)</sup>	<b>10,189</b>	4,126
Capital expenditure	<b>1,716</b>	2,148
Net operating assets	<b>11,628</b>	11,263

**Strategy**

Continue to build the Pilbara operations as the leading iron ore supplier close to the world's largest, fastest growing markets.

Focus on implementing a major expansion programme while maintaining maximum production.

Continue to develop and benefit from technology innovation to deliver supply chain efficiencies, maximising margins per tonne.

**Key achievements**

Record global iron ore production of 239 million tonnes

(Rio Tinto share 184.6 million tonnes), a ten per cent increase on 2009 global production.

Full ramp up of the Operations Centre in Perth, including transition of ports and new mines.

Opening of Brockman 4, Mesa A and Western Turner Syncline mines. Subsequent decision to expand Brockman 4 to 40 Mt/a capacity and Western Turner Syncline to 15 Mt/a.

Approval to develop the US\$1.6 billion Hope Downs 4 mine and linking rail spur (Rio Tinto share US\$1.2 billion).

Improving on an already sector leading safety record, in the context of high production levels and the complexities of expansion.

The employment of more than 900 Aboriginal people in Western Australia through targeted recruitment and retention strategies.

Resuming expansion programme at Iron Ore Company of Canada (IOC).

Opening the US\$503 million Yurralyi Maya power station (Rio Tinto share US\$397 million), providing more environmentally efficient power to support Pilbara operations and communities.

#### Key priorities

Maintaining production and sales at nameplate capacity.

Advancing technological integration into the group's operations through Mine of the Future initiatives.

Further improving the product group's safety record towards zero harm.

Emphasis on operational efficiency, removal of bottlenecks and cost control measures.

Progress studies of total system capacity to 333 million tonnes per year in 2015.

Continued emphasis on brownfield developments, to leverage an unrivalled network of assets close to existing infrastructure.

Advance new project development options outside of the Pilbara.

#### Outlook

Market to remain tight for the short to medium term, with delays to new supply and strong demand driving prices.

The Iron Ore group's strategy and performance will continue to be driven by the rapid urbanisation and industrialisation in China, and the steady recovery in other major Asian markets.

India is expected to continue emerging as a major market as it follows China's lead in urbanisation. The group also remains confident in the longer term potential for other markets of South East Asia, Central Asia, the Middle East and Africa.

- (a) See note 2 and the Financial information by business unit section of the 2010 financial statements for a reconciliation of underlying earnings to net earnings.

## **Table of Contents**

### Strategy

The Iron Ore group seeks to maximise shareholder return from its global assets, through establishing a global supply chain able to deliver high grade iron ore to established and emerging markets worldwide.

We will continue our focus on operational and financial efficiency, but our growth phase adds a new perspective. Of critical importance will be executing our capacity expansions in the Pilbara and Canada, and progressing major development opportunities at Simandou, Guinea and Orissa, India.

Following the joint decision to end plans for an iron ore production joint venture with BHP Billiton, Rio Tinto is well positioned to maximise its leading role in the Pilbara, with superior expansion options and a strong record of project execution. Strategy will focus on increasing Pilbara capacity by over 50 per cent in five years without compromising current operational efficiency.

A number of studies are well advanced to support the major increases in port and rail infrastructure. A continued emphasis on brownfield developments where possible, exploiting the group's unrivalled network of assets close to existing infrastructure, will improve time-to-market delivery and manage risk.

Although a number of projects are under study in other regions, a high priority has been attached to the early development of the Simandou project in Guinea. Key aspects of the legal status of the project are still to be clarified, and management worked closely with the Government of Guinea throughout the year to progress this aim. A historic binding agreement was signed with Chalco in July, paving the way for joint development of the Simandou deposit. Following the Guinean elections in late 2010, chief executive Tom Albanese visited Conakry for further talks with the new administration. To date more than US\$700 million has been spent in Guinea on exploration, environmental, community development and evaluation work.

Rio Tinto, as the second largest provider of seaborne iron ore, seeks to deliver its products across world markets. As a reliable source of large volumes to agreed specification, Rio Tinto can capitalise on superior supply chain logistics to deliver a consistent product such as the Pilbara Blend drawn from 11 of our 14 mines in the Pilbara.

Rio Tinto is not committed to a specific pricing structure, instead seeking to obtain the best price across its suite of products, one recognising high value in use while respecting longstanding customer relationships.

### Performance

Rio Tinto's global iron ore business achieved record performance in 2010, demonstrating not only the recovery of all major markets from the impact of the global financial crisis, but also the capacity of the group to benefit from its position as a leading supplier in the seaborne iron ore market. Production was maintained at above nameplate capacity levels through most of the year, leading to record production volumes.

As in 2009, the group implemented and refined measures to reduce expenditure as markets slowly recovered.

Sales revenue of the Iron Ore group was US\$24,024 million in 2010, US\$11,426 million higher than in 2009 mainly due to improved prices and higher volumes of ore sales.

Underlying earnings were US\$6,063 higher than 2009 as the result of strong revenue growth and a continued focus on cost control. Cash flow optimisation, increased equipment productivity, reduction in process variability through standardisation and improvement in people intensity have all contributed to effective cost control strategies.

Sales volumes from the Pilbara region of Western Australia set a new record in 2010 at 223 million tonnes (100 per cent basis), an increase of nine per cent compared to 2009. Shipments to all major markets, other than China, increased as financial conditions improved earlier than expected.

2010 was also notable for the end of the traditional annually priced iron ore supply contracts in favour of shorter term pricing. Rio Tinto maintained its position of providing a range of options to customers, being able to supply ore under whichever pricing regime best fits within appropriate market dynamics.

At IOC (Rio Tinto 58.7 per cent), all pellet lines resumed full production and returned to normal concentrate and pellet proportions as markets improved. Total sales were 15.6 million tonnes, up 9.6 per cent on 2009, and achieved despite significant weather related challenges.

In December the HIs melt<sup>®</sup> joint venture partners agreed to permanently close the Kwinana site and terminate the joint venture, following two years of care and maintenance. The closure work is expected to be substantially completed by

2014. The technology business (Rio Tinto share 100 per cent) continues and a number of licensing opportunities are progressing.

#### Key achievements

The ramp up of production levels was the standout achievement of the year, with nameplate capacity met and in many cases exceeded from month to month. This was particularly commendable given the widespread surge in industrial and economic activity throughout Western Australia's resources sector, which might have otherwise imposed delays and cost pressures.

As a result, operating margins remained robust. Value was preserved through close focus on elimination of unnecessary cost and tight control over manageable overheads.

Another achievement was the maintenance of business discipline throughout a year in which the proposed production joint venture with BHP Billiton remained a high priority. This discipline positioned the group well once the proposed joint venture was abandoned.

As in previous years, technology and innovation was further embedded in enhanced operations. A number of key initiatives were implemented during the year, many under the pioneering Mine of the Future vision.

2010 saw the full ramp up of the Operations Centre in Perth. More than 400 employees are now remotely managing most key Pilbara operations, or planning future initiatives, up to 1,500km away. A number of other innovation projects continued, such as the commencement of tele-remote shiploading in Dampier and the continued successful trialling and deployment of driverless trucks and automated drilling and blasting at West Angelas mine.

Coinciding with the ramp up has been the greater deployment of Aboriginal workers in the group. The number of Aboriginal workers and class-A contractors exceeded 900, and a number of apprenticeship and training programmes have been targeted directly at attracting and retaining these employees.

Embedding Aboriginal businesses within the organisation's

**Table of Contents**

Iron Ore continued

operations and projects is a priority. More than A\$200 million in contracts were awarded to Aboriginal businesses during 2010.

Safety

There has again been a significant improvement in safety performance for the Iron Ore group in 2010, with the all injury frequency rate (AIFR) dropping to 0.71, an 11 per cent improvement on 2009.

Two operations were recognised in the Chief Executive Safety Awards: Marandoo mine (a Most Improved Site award) and the Coastal Operation Division (a commendation for its strong safety culture). The Safety Leadership Development Programme continued to be implemented across iron ore sites in Western Australia.

Highlighting a greater focus on general health within the safety strategy, a Fatigue Management Programme, a pilot Wellness Programme, and programmes focusing on mental health and medical surveillance began.

Further improving the safety record, while undertaking Australia's largest ever mining project, will be a key challenge. With this in mind, the Contractor Forum initiative continued throughout 2010 and a Contractor Safety Leadership Development Programme was initiated in Western Australia.

IOC's performance was marred by a tragic accident in March. Two maintenance workers at the Labrador City site fell from height, resulting in fatal injuries to one of the men, while the other eventually recovered fully and was able to return to work. Comprehensive studies resulted in a change action plan, which has been fully implemented.

Greenhouse gas emissions

The Iron Ore group's total greenhouse gas (GHG) emissions intensity has improved 4.7 per cent from 2008.

Progress continued on the replacement of ageing power infrastructure in the Pilbara, with a new generation plant, Yurralyi Maya, near Dampier progressively commissioned in the second half of 2010. The implementation of the cleaner technology is expected to produce 25 per cent less GHG emissions at the same production level compared with the existing steam power generation. The option of retrofitting combined cycle equipment has been kept open to further reduce GHG emissions and improve efficiency.

Another technological improvement occurred with the integration of 51 Evolution Series diesel electric locomotives into the Pilbara railway fleet, replacing less efficient locomotives.

A number of localised innovative projects to reduce GHG emissions

continued across the group. Rio Tinto was a key participant in a landmark commercial biodiesel venture by the Ashburton Aboriginal Corporation, under which up to 7,000 litres of waste cooking oil is provided for biofuel, to be used for blasting at the Tom Price mine. Energy efficient devices continue to be introduced to housing and buildings on sites and in towns. Research into electricity generation, hybrid engines and alternative fuels continue through the Mine of the Future programme. In addition to the reduction in air travel implied, the Operations Centre incorporates a range of innovative energy saving designs purpose built to reduce its environmental footprint.

At IOC's Labrador City plant, projects to reduce fuel and steam production costs resulted in a number of efficiencies which are estimated to produce GHG savings of 2,200 to 3,600 tonnes annually. The second stage of a project to reduce fuel oil required to fire pellets was completed on three machines, producing estimated GHG savings of approximately 5,000 tonnes annually.

Review of operations

Production performance throughout 2010 was the group's key achievement, emphasising the quality of Rio Tinto's suite of assets and its array of efficient logistics systems.

Ian Bauert, previously managing director, Sales and Marketing, was appointed Rio Tinto's managing director, China, as part of the rebuilding of close relations with that country. The improvement of ties was highlighted by the hosting of a number of high profile events at the Shanghai World Expo, where the Australian pavillion was sponsored by Rio Tinto.

A number of new mines were completed in 2010. In February the US\$1 billion Mesa A mine (Rio Tinto share 53 per cent) was opened, ramping up through the year to reach its 25 million tonne annual capacity in late 2010. The Western Turner Syncline mine was constructed through 2010. In September, the US\$1.5 billion Brockman 4 mine (Rio Tinto

share 100 per cent) was opened, supplying 22 million tonnes a year into the Pilbara's production and slated to expand to at least 40 million tonnes a year.

In August Rio Tinto approved a US\$1.6 billion investment (Rio Tinto share US\$1.2 billion) in Hope Downs 4 mine. The mine is expected to have a 15 million tonnes a year capacity, to sustain current Pilbara capacity, with first ore expected in 2013.

Two incremental expansions increasing capacity at our two Dampier Port terminals by five million tonnes each were approved, for a total investment of US\$321 million (Rio Tinto 100 per cent). Both are now well into implementation, with completion scheduled for early 2011 and early 2012.

In April Rio Tinto confirmed it was discussing pricing of annual

**Table of Contents**

supply contracts on a quarterly basis, following a significant shift in market expectations towards shorter term pricing. Rio Tinto has pursued a flexible portfolio approach providing a range of options to customers. Rio Tinto recognises that the market dynamics will remain fluid given underlying cyclical, structural and domestic industry regulatory policy changes.

The taxation debate in Australia prompted a delay in the roll out of Rio Tinto's ambitious expansion programme, as greater clarity and assurances were sought and ultimately received from the Commonwealth Government as to the regime under which major expansions would occur.

In June the Australian Competition Tribunal decided not to declare Rio Tinto's principal railway line in the Pilbara (the Hamersley line) mandated open for third party access. The Tribunal also decided that the Robe River line should be declared open for access, but only until 2018, rather than for 20 years as the applicants wished. Both decisions are subject to appeal.

A landmark agreement was reached with the Western Australian Government during the year to revise state agreements and royalty arrangements. The agreement will allow greater flexibility in the use of infrastructure and assets. Rio Tinto agreed to pay royalties of 5.625 per cent on fine product from all mines (formerly 3.75 per cent on several mines) and to continue paying 7.5 per cent on lump product. Rio Tinto also agreed to fund 50 per cent of a one-off, combined payment of A\$350 million, to the State Government's Consolidated Revenue Fund.

Agreements with five Pilbara native title groups were signed in November. This is a major achievement in securing current and future access, as well as active Traditional Owners' support.

**Minerals**

Good weather for salt growth in a number of countries and a sluggish recovery in relevant global markets in 2010 led to a weakening of salt prices and reduced underlying earnings of US\$29 million, down from US\$88 million in 2009. Salt production continued at less than capacity and similar to 2009 at 7.6 million tonnes (Rio Tinto share 5.2 million tonnes). Shipping increased by 0.6 million tonnes to 8.3 million tonnes, as stock built up during the global financial crisis was sold. As part of diversifying risk, customers and new contracts were established outside of the traditional Asian markets, in Europe, Africa and North America.

Continuation of the Sustainable Health and Safety programme within the business contributed to the Group's improved focus on general health and safety performance. Work commenced on replacement of the main seawall and seawater intake structure at Dampier, as part of the continuing structural integrity programme.

**Marine**

Rio Tinto Marine provides Rio Tinto with comprehensive capabilities in all aspects of marine transportation, global freight markets and the international regulatory environment. The Marine group consists of approximately 75 shipping professionals, located principally in Melbourne, Singapore, London and Montreal. Identifying and executing seaborne freight solutions allows Rio Tinto to participate in all aspects of the supply chain, while exerting greater influence on vessel selection, operational safety, scheduling, port efficiency and cost management.

Rio Tinto Marine sets and maintains the group's HSE and vessel assurance standards for freight, with continuous improvement efforts undertaken to instil a high standard of health, safety and environmental performance aboard vessels under management and throughout the organisation. As one of three equal shareholders in RightShip, a ship vetting specialist, Rio Tinto helps to promote maritime industry safety and efficiency.

During 2010 Rio Tinto Marine managed 155 million tonnes of seaborne cargo. Freight participation is largely within the dry bulk market, managing seaborne transportation of iron ore, coal, salt, bauxite, alumina and other minor bulk products. Rio Tinto Marine owns a fleet of five post-panamax vessels, used principally for the transportation of bauxite sourced from Rio Tinto Alcan's mine at Weipa, Queensland. These purpose built ships deliver volume and efficiency advantages on niche trade routes, guaranteeing supply and eliminating freight cost variability.

Rio Tinto Marine secures the majority of its freight coverage through period charter commitments. It leverages the Group's substantial cargo base to obtain a low cost mix of short, medium and long term freight cover. It seeks to create value by improving the competitive position of the Group's products through freight optimisation.

Development projects



Rio Tinto has outlined the largest expansion programme in Australia's mining history, to achieve production and shipping annual capacity of 333 million tonnes in 2015. The expansion will more than double capacity at the Cape Lambert port facility (Rio Tinto share 53 per cent) to 183 million tonnes.

There were a series of major announcements in 2010 related to the expansion of the Pilbara rail and port infrastructure to 283 million tonnes a year. Feasibility studies into further expansion to 333 million tonnes per year are well under way. The scale of the expansion programme in the Pilbara is vast, with a total capital expenditure estimate of US\$14.8 billion (Rio Tinto share US\$12 billion) to increase annual capacity to 333 million tonnes.

In July and August Rio Tinto announced a US\$990 million investment (Rio Tinto share US\$649 million), for the letting of dredging contracts and the procurement of long lead items associated with the group's growth programme. Dredging was approved and began in December. A further investment of US\$3.1 billion (Rio Tinto share US\$2.1 billion) was approved to increase infrastructure annual capacity to 283 million tonnes in 2013. Approval was also given for a final feasibility study for the second 50 million tonne tranche taking Pilbara capacity to 333 million tonnes a year, scheduled for completion in late 2015.

Demonstrating the fundamental change in global markets, Rio Tinto announced the resumption of IOC's expansion to 22 million tonnes a year capacity, the first stage of a programme to boost capacity to 26 million tonnes a year.

#### Outlook

We believe market conditions will remain tight as delays to new supply and strong demand continue to drive prices. Urbanisation and industrialisation have supported a phenomenal growth in China's steel demand over the past decade. We believe this will continue. The fundamentals underlying China's growing demand will remain robust, driving this demand into the next decade. India is expected to follow China's lead, and increased controls on its export capacity and early signs of increased steel intensity suggest its emergence as a major market will continue. The group remains confident in the longer term potential for other markets of South East Asia, Central Asia, the Middle East and Africa where urbanisation is relatively low but increasing.

Just as the earliest indications of demand were met with Rio Tinto's counter-cyclical investment in capacity a decade ago, the group will accordingly seek to expand its production capacity by almost 50 per cent in the next five years.

**Table of Contents****Exploration**

## Investing for the future

The Group has had a sustained commitment to exploration since 1946 and considers exploration to be one of its core competencies. Mature Group operations, such as Weipa, the Pilbara and Rössing, were Tier 1 greenfield discoveries by Rio Tinto. The value of these discoveries is still being realised after more than 40 years by both mine production and successful brownfield exploration.

Continuing this legacy, the Exploration group has since 2000 identified two of the largest copper opportunities in the world at Resolution in Arizona, US and La Granja in Peru. Exploration has also delivered one of the world's largest known high grade iron ore deposits, at Simandou in Guinea, as well as the Caliwingina channel iron deposits in the Pilbara, Australia. Exploration identified the potash deposits at Potasio Rio Colorado, which Rio Tinto sold to Vale in 2009; the Sulawesi nickel laterite deposit in Indonesia; the Mutamba titanium deposit in Mozambique; and the lithium borate deposits at Jadar in Serbia.

A significant proportion of the Exploration group's expenditure is returned to Rio Tinto through the sale of Tier 2 discoveries. Over the period 2000 to 2010, divestment of Exploration group projects has returned US\$1,291 million for a net pre tax spend of approximately US\$128 million. Over the period this translates to an average Tier 1 discovery cost of less than US\$16 million per deposit.

The following table shows the Exploration group's Tier 1 discoveries since 2000:

Year	Discovery	Commodity	Location
2000	Potasio Rio Colorado	Potash	Argentina
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

At the end of 2010, the Exploration group was actively exploring in 16 countries, and assessing opportunities in a further seven, for a broad range of commodities including bauxite, copper, coking coal, iron ore, diamonds, nickel, uranium and potash.

**Strategy**

The purpose of Exploration is to add value to the Group by discovering or acquiring resources that can increase future cash flows. A fundamental element of the Group's business strategy is a clear focus on finding and mining only the largest, most cost competitive resources that are profitable at all parts of the natural price cycle and that deliver sustainable competitive advantage. These are described as Tier 1 resources.

The Exploration group is accountable for greenfield exploration programmes and it provides technical assistance to the business units on brownfield exploration. Greenfield exploration, which aims to establish completely new operating business units, involves geographic or commodity diversification away from existing Group operations. Brownfield exploration is directed at sustaining or growing existing Group businesses. Exploration further supports the product groups in the assessment of merger and acquisition opportunities.

The Exploration group is organised geographically into regional multi-commodity teams, with head offices in London, Salt Lake City and Brisbane. This structure provides a balance between global reach and local presence.

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

Exploration teams frequently present the first face of Rio Tinto in a community and lay the groundwork for what could become a multi-decade relationship. Exploration places a high priority on effective community engagement and considers its commitment to sustainable development as fundamental to securing its social licence to operate.

#### Safety

The Exploration group all injury frequency rate has increased from 0.62 at the end of 2009 to 1.18 at the end of 2010. The deterioration in performance is correlated with the expansion of field activities following the global financial crisis and increased engagement of contractors. The Exploration group continues to work closely with contractors to implement critical controls around high risk activities such as drilling.

#### Performance

A bauxite Order of Magnitude project was initiated at Amargosa in Brazil and is on target for delivery of the resource to the product group at the end of 2011. Resource evaluation continued at the Tamarack nickel-copper prospect in the US and the project will be advanced to a decision point in early 2011. The Altai Nuurs coking coal deposit in Mongolia was identified as a non core asset and has been prepared for divestment.

Target testing at Sanxai in Laos, in joint venture with Mitsui, identified ore grade bauxite mineralisation.

Target generation activities were progressed across a range of commodities and jurisdictions. In Kazakhstan, a memorandum of understanding was signed with state mining company Tau-Ken Samruk to conduct joint venture exploration for copper and other minerals. A similar agreement was signed with Chinalco to jointly explore for copper and other minerals within mainland China.

**Table of Contents**

In the brownfield environment, Exploration handed over a number of iron ore deposits in the Pilbara, Australia, to the Iron Ore product group. In Utah, US, exploration continues within a three kilometre orbit of the Bingham Canyon Mine. Recent drilling to the east of the mine identified a new but sub-economic copper-molybdenum-gold porphyry system. Drilling at other targets within the Bingham mine orbit is under review. On the Rössing mine lease in Namibia, ore grade uranium intersections were returned at the Z20 prospect.

A research and development milestone was reached with the first test flights of the VK1 airborne gravity gradiometer over a test range in Western Australia. System optimisation is under way in preparation for production flying towards the end of 2011 and commercialisation of the technology.

Gross cash expenditure on exploration and evaluation in 2010 was US\$594 million. The increase of US\$80 million over 2009 gross expenditure reflects the ramp up of activities in response to the improved market outlook, while remaining below 2008 expenditure of US\$1,134 million. Gross expenditures are offset by US\$522 million (pre-tax) proceeds from the divestment of exploration properties.

**Outlook**

The Exploration group expects to explore for a range of commodities across at least 17 countries in 2011 and plans to deliver the Amargosa bauxite Order of Magnitude project to the Rio Tinto Alcan product group at the end of the year. Reinvigorating early stage target generation will continue to be a priority to drive sustained exploration success.

Divestment of Tier 2 assets will continue where real value can be realised, with a target of 50 per cent of the annual greenfield exploration budget being returned to the Group.

The next crop of potential discoveries:

Project	Commodity	Country	Stage
Amargosa	Bauxite	Brazil	Order of Magnitude
Sanxai	Bauxite	Laos	Project of Merit

**Progress of a project**

The evolution of a project from target generation to investment approval, implementation and commissioning involves a series of study stages that can take ten to 20 years. Sustainable development criteria are applied throughout the project development cycle.

Early stages of work are broadly termed exploration and are the responsibility of the Exploration group. These stages deliver a progressive increase in confidence in the technical and economic parameters used to determine

through drilling to be of a grade and quantity sufficient to be of economic interest by analogy with peer deposits currently in production.

Projects which attract the support of the relevant Rio Tinto product group are progressed to Order of Magnitude Study. This involves an assessment of a range of options to establish economic viability of the project, and determine whether its potential value is sufficient to justify committing significant resources to a detailed study programme. Any potential showstoppers are identified during

work on these projects is broadly defined as evaluation.

The two main evaluation study phases are Pre-feasibility and Feasibility Studies. Pre-feasibility involves an evaluation of project options, yielding a far clearer understanding of the preferred project concept and key value drivers. The Feasibility Study sees the focus switch to optimisation and engineering of a single scenario identified through the Pre-feasibility Study. This finally freezes the scope of the project to be constructed.

whether a project satisfies Rio Tinto's investment criteria at this stage.

Target generation and testing involves the progression from concept to demonstration of mineralisation at a prospect. A Project of Merit is defined where mineralisation has been identified

A successful Order of Magnitude Study results in the declaration of a discovery and the transfer of project management from the Exploration group to the relevant Rio Tinto product group. Further

Opportunities are tested and screened by several different stages of work

## **Table of Contents**

### Technology & Innovation

A strategic commitment driving competitive advantage

Technology & Innovation (T&I) consists of a central team of technology professionals and a number of technology centres that develop leading practice and promote improvements in mining, processing, asset management, strategic production planning, energy use, and project development, execution and evaluation. Emphasis is given to shared and visible measures of operational effectiveness, the improvement of analytical tools and development of staff capabilities.

Most work is focused on improving current technologies and operations. In addition, the Innovation Centre focuses on technology step changes that will confer competitive advantage in development of orebodies likely to be available to the Group in the future. The Energy & Climate Strategy Centre focuses on improving the Group's use of energy, reducing greenhouse gas emissions and understanding the effects of climate change on the Group's operations and prospects.

The total number of employees in T&I increased from 267 at 31 December 2009 to 538 at 31 December 2010 primarily due to an increase of demand for the design and build of major projects on behalf of the Group business units.

#### Strategy

T&I's strategy is to:

Maintain and promote a safe working environment.

Continue to embed operational excellence in business units.

Maximise the contribution of technology to the Group's vision of industry leadership.

Deploy technology solutions that increase earnings.

Design and build valuable new investment projects.

Position the Group to unlock orebodies that require innovative mining solutions.

Lead the Group's response to climate change.

#### Safety

T&I is committed to the safe operation of its facilities and to the safe deployment of its personnel. Starting in 2009, the safety results reflect the inclusion of development projects managed by T&I. The all injury frequency rate for T&I and projects in 2010 is 0.72 compared to 0.87 in 2009.

#### Performance

##### **Key achievements**

The Improving Performance Together (IPT) engagements continue to work with operating sites on operating improvements. In 2010 this collaborative effort delivered in excess of US\$1 billion pre-tax cash flow. This was achieved by, for example, assisting in the debottlenecking of the iron ore operations in the Pilbara, through improved equipment availability and concentrator throughput at Kennecott and maintenance cost reduction at Rio Tinto Alcan operations.

The Innovation group achieved several milestones during 2010 including the following:

Successful movement of 31 million tonnes of iron ore with the Autonomous Haul System fleet demonstrating higher than planned productivity.

First flight of the VK1 airborne gravity instrument.

Deployment of the remote command vehicle, which is capable of managing up to three blast hole drills with one operator in non line of sight mode.

Accelerated progression of the first tunnel boring machine which will be commissioned at Northparkes mine in early 2012.

Successful trial of an innovative flotation control system at Kennecott Utah Copper demonstrating improved recovery.

The T&I gross cost in 2010 was US\$214 million, compared with US\$134 million in 2009 and US\$158 million in 2008.

### **Innovation**

The Innovation group identifies, evaluates and implements value accretive step change mining technologies with Group wide application.

Some of the Innovation initiatives and programmes included:

The strategic Mine of the Future programme, interlinking projects delivering improvements in productivity, cost, product quality and mining technology.

The Rio Tinto Centre for Underground Mine Construction, which will focus on rapid mine construction, rock mass behaviour controls, and innovative ground support for future Rio Tinto underground mines.

The development of step change technologies to support the safe rapid development of large underground block cave mines.

The development and deployment of autonomous blast hole drilling technologies, currently operating in the Pilbara with potential for Group wide implementation.

The surface Mine of the Future programme which focuses on operating the first significantly autonomous iron ore mine by combining autonomous drilling, semi-autonomous blast loading with autonomous trucks, and a wide range of advanced sensing and telecommunications technologies.

### **Energy & Climate Strategy**

The Energy & Climate Strategy team (E&CS) leads the Group's response to the challenges of climate change and the inter-related topic of energy management. The team engages with the operating businesses, governments and other stakeholders on the design of climate and energy policy, manages the Group's carbon capture and storage (CCS) and develops internal strategies to evaluate energy supply options, secure energy supply, and to reduce energy usage and greenhouse gas (GHG) emissions.

In addition, E&CS actively supports the development of legislation and regulation through direct engagement with governments and involvement in advocacy groups such as the US Climate Action Partnership.

### **Mineral Technology Services**

The Mineral Technology Services Centre comprises a team of technology professionals deployed from five regional offices in North America, Australia and the UK. The team works with operating sites to deliver substantial increases in value; with project teams to determine the optimum value adding project plan; and with the broader Group to understand and manage major technical risks. The team provides support in the areas of geology, geotechnics, mining, mineral processing, hydrometallurgy, process control, asset management, environment and business analysis.

The Centre is also responsible for implementing IPT processing, a structured methodology designed to increase the value delivered by Rio Tinto's processing operations. IPT processing includes focused data analysis to understand and address the constraints and variability which inhibit process performance. IPT processing

## **Table of Contents**

continues to generate value across the Group, delivering over US\$350 million in pre-tax cash flow benefits in 2010.

### **Asset Management**

The Asset Management Centre concentrates on the effective selection and use of equipment for the Group's mining and processing operations. Work included the implementation of asset management standards and guidelines, as well as standard business processes and fit for purpose technical operating systems, work practices and global metrics to monitor the performance of fixed plant and heavy mobile equipment.

The Asset Management IPT programme continued to deliver robust results in 2010, supporting business units to realise over US\$400 million in pre-tax cash flow benefits.

### **Mining Technology**

The focus of the Mining Technology Centre is to establish leading practice and develop, share and implement Group wide solutions in the core mining production processes of surface mining, underground mining, strategic resource development, resource and reserve estimation, orebody knowledge and mine planning. The Centre also oversees the Group's resource and reserves estimation and reporting process, reserves and resources audit process and core technical systems. IPT mining initiatives in 2010 included payload management, drill and blast and off road tyre demand reduction. The IPT programme for mining technology continued to deliver strong results in 2010 and assisted business units in realising over US\$180 million in pre-tax cash flow benefits.

The Mining Technology Centre also includes a Strategic Production Planning (SPP) team, which focuses on developing and establishing leading practice. SPP teams co-operate with business units to develop comprehensive plans and valuations of strategic resource development options. Results from SPP provide a logical resource development framework for more detailed studies and investment decision making. SPP engagements completed during the year increased the life of mine valuation of a number of existing mining businesses and supported expansion based investment proposals.

### **Project Development & Implementation**

The Project Development & Implementation Centre (PDI) provides guidance, support and training for all aspects of capital projects, performs a governance function by conducting project reviews, manages feasibility studies, and executes capital projects on behalf of the business units. During 2010 PDI commenced resourcing for, and implementation of, a global operating model in preparation for implementation of projects in nearly all continents and on behalf of all product groups. The model provides for a Project Management support function as well as Implementation Hubs focused on supporting the product groups. In 2010 it was responsible for the progression of the Argyle Diamonds underground project, Kestrel mine extension, Yarwun 2 project, the feasibility study for the Energy Resources of Australia heap leach project and the Eagle nickel project in Michigan. PDI also provided support and advice to most other major projects in a year when the Group recommenced or accelerated projects that were suspended during 2008 and 2009. Additionally, the operation of the Clermont coal mine project was successfully handed over to Rio Tinto Coal Australia. During 2010, the Centre continued to make improvements in overall safety performance at these projects.

### **Technical Evaluation Group**

The Technical Evaluation Group (TEG) ensures that Rio Tinto's investment decisions are based on independent, technical review and evaluation. TEG also provides advice on the adequacy of risk identification and management at key points in the project approvals process.

### **Outlook**

In 2011 T&I will continue to maintain a culture that places a high priority on safety and safety improvements. T&I will continue to work with Group businesses to deliver measurable increases in earnings and will continue to assist from a technology viewpoint in the selection of the most attractive investment opportunities. It will continue to focus on the safe and efficient implementation of projects and will build systems to support management of projects across the Group. The pursuit of the Mine of the Future programme and the development of innovative alliances and relationships that will create competitive advantage for the Group remain a significant focus. T&I will also focus on delivering improvements in the Group's energy efficiency, long term business decarbonisation options, compliance



processes and performance, and carbon markets participation. T&I will look to significantly increase staff levels as the business environment continues to improve and the need for highly skilled technical employees increases.

**Table of Contents**

## Financial review

## 2010 financial performance compared with 2009

In order to provide additional insight into the performance of its business, Rio Tinto presents underlying earnings. 2010 underlying earnings of US\$13,987 million and net earnings of US\$14,324 million were US\$7,689 million above and US\$9,452 million above the comparable measures for 2009. The principal factors explaining the movements are set out in the table below.

		Underlying earnings US\$m	Net earnings US\$m
Changes from 2009 to 2010			
<b>2009</b>		<b>6,298</b>	<b>4,872</b>
Prices	9,505		
Exchange rates	(1,171)		
Volumes	782		
General inflation	(253)		
Energy	(232)		
Other cash costs	(445)		
Exploration and evaluation costs (including disposals of undeveloped properties)	(690)		
Interest, tax, other	193		
		7,689	7,689
Gain on consolidation of Oyu Tolgoi LLC			531
Profits less losses on disposal of interests in business			(325)
Net impairment charges			716
Exchange differences and derivatives			401
Chinalco break fee			182
Restructuring costs from global headcount reduction			231
Other			27
<b>2010</b>		<b>13,987</b>	<b>14,324</b>

(a) See note 2 on page 182 of the 2010 financial statements for a reconciliation of underlying earnings to net earnings.

**Prices**

The effect of price movements on all major commodities in 2010 was to increase underlying earnings by US\$9,505 million compared with 2009. Average annual prices improved for nearly all of Rio Tinto's major commodities: copper prices were up 47 per cent, molybdenum prices were up 45 per cent, gold prices were up 26 per cent and aluminium prices were 31 per cent higher than 2009. Demand and prices for diamonds and minerals improved significantly as the worldwide economy emerged from the global financial recession.

Commodity prices and other drivers of sales revenue of individual product groups are discussed further in this section on pages 69 to 71.

#### **Exchange rates**

There was significant movement in the US dollar in 2010 relative to the currencies in which Rio Tinto incurs the majority of its costs. Compared with 2009, on average, the US dollar weakened by 16 per cent against the Australian dollar and by ten per cent against the Canadian dollar. The effect of all currency movements was to decrease underlying earnings relative to 2009 by US\$1,171 million.

#### **Volumes**

Higher sales volumes were primarily generated from the expanded iron ore operations in the Pilbara region of Western Australia running at above nameplate capacity and an increased proportion of higher margin pellet sales at IOC. The Aluminium group benefited from higher sales of value added aluminium products. Increased volumes of hard coking coal following new investment in heavy mobile equipment at the Queensland mines, higher refined gold and molybdenum at Kennecott Utah Copper and a significant recovery in diamonds and minerals market demand also contributed to the positive variance. These increases offset lower copper and gold volumes at Grasberg which were impacted by lower ore grades and lower mill throughput. The overall impact of volume movements was an increase in underlying earnings of US\$782 million relative to 2009.

#### **Energy, other cash costs and exploration**

Higher energy costs across the Group, in particular for Aluminium, reduced underlying earnings by US\$232 million. This primarily reflected low snow and rain levels in the Saguenay region of Quebec during the first half of 2010 which led to reduced power generation, resulting in the need to purchase additional power under a specially negotiated power block from the provincial utility over a 12 month period.

Higher other cash costs during 2010 decreased underlying earnings by US\$445 million compared with 2009. Higher unit cash costs in the Copper group were the result of the planned smelter shutdown and lower copper production following lower grades at most of the operations. Adverse weather conditions and higher stripping rates impacted costs at the Energy group. These were partly offset by lower costs in the Aluminium group, which benefited from lower prices for caustic, pitch and coke.

In 2010, evaluation work accelerated 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, compared with a gain of US\$797 million in 2009 from the disposal of two undeveloped potash properties. The impact from higher exploration and evaluation expenditure combined with lower gains realised from divestments was to lower underlying earnings by US\$690 million compared with 2009.

#### **Interest, tax, other**

The effective corporate income tax rate on underlying earnings, excluding equity accounted units, was 27.9 per cent compared with 24.8 per cent in 2009. A significant proportion of the increase related to the one-off non-taxable profit on disposal of the potash assets which was recognised in 2009. The Group interest charge was US\$110 million lower than in 2009, mainly reflecting lower debt in 2010 following completion of the rights issues and divestments.

**Table of Contents**

2009 financial performance compared with 2008

2009 underlying earnings of US\$6,298 million and net earnings of US\$4,872 million were US\$4,005 million below and US\$1,196 million above the comparable measures for 2008. The principal factors explaining the movements are set out in the table below.

		Underlying earnings US\$m	Net earnings US\$m
Changes from 2008 to 2009			
<b>2008</b>		<b>10,303</b>	<b>3,676</b>
Prices	(6,879)		
Exchange rates	484		
Volumes	652		
General inflation	(172)		
Energy	318		
Other cash costs	742		
Exploration and evaluation costs (including disposals of undeveloped properties)	890		
Interest, tax, other	(40)		
Total changes in underlying earnings		(4,005)	(4,005)
Profits on disposal of interests in businesses			(971)
Net impairment charges			6,854
Exchange differences and derivatives			(815)
Chinalco break fee			(182)
Restructuring/severance costs from global headcount reduction			(174)
Other			489
<b>2009</b>		<b>6,298</b>	<b>4,872</b>

(a) See note 2 on page 182 of the 2010 financial statements for a reconciliation of underlying earnings to net earnings.

**Prices**

The effect of price movements on all major commodities in 2009 was to decrease earnings by US\$6,879 million compared with 2008. Prices declined for nearly all of Rio Tinto's major commodities: average copper and aluminium prices were 28 per cent and 35 per cent lower, respectively, while average molybdenum prices were 65 per cent lower than 2008. Gold prices in 2009 were 11 per cent higher than 2008. Diamond prices were severely impacted by the global economic downturn.

**Exchange rates**

There was significant movement in the US dollar in 2009 relative to the currencies in which Rio Tinto incurs the majority of its costs. Compared with 2008, on average, the US dollar strengthened by eight per cent against the Australian dollar and by six per cent against the Canadian dollar. The effect of all currency movements was to increase underlying earnings relative to 2008 by US\$484 million.

**Volumes**

Higher sales volumes from the expansion of iron ore capacity in the Pilbara region of Western Australia and higher copper and gold grades at Kennecott Utah Copper and Grasberg were partly offset by production cutbacks at Rio Tinto Alcan, Alcan Engineered Products, Rio Tinto Diamonds, Rio Tinto Iron &

Titanium and Rio Tinto Minerals in response to the economic downturn. The overall impact of volume movements was an increase in underlying earnings of US\$652 million relative to 2008.

**Energy, other cash costs and exploration**

A reduction in cash costs during 2009 increased underlying earnings by US\$742 million compared with 2008.

Controllable operating cost savings of US\$2.6 billion were achieved in 2009, exceeding the target set in December 2008 and delivered one year in advance. Lower unit costs in the Copper group, notably at Kennecott Utah Copper, were driven by higher production and a bottom up cost reduction programme. The Iron Ore group benefited from lower unit cash costs in line with higher sales volumes and a reduction in contractor and maintenance costs. Decreased costs at Rio Tinto Alcan were driven by the major cost cutting initiatives undertaken in response to the global financial crisis including reduction of all non critical, discretionary spend along with programmes to reduce operating costs across the production sites.

Lower energy costs across the Group boosted underlying earnings by a further US\$318 million, reflecting the impact of a lower oil price. Evaluation work at many of the Group's advanced projects was scaled back in 2009 and the central exploration budget was reduced by 60 per cent, which, together with the divestment of some exploration and evaluation properties, resulted in a favourable impact to underlying earnings of US\$890 million compared with 2008.

In line with Rio Tinto's exploration policy, a US\$797 million gain on disposal of the undeveloped potash properties in Argentina and Canada was recognised within underlying earnings. This forms part of the exploration variance in the table above net of the US\$483 million gain on disposal of the undeveloped Kintyre uranium project in 2008.

**Interest, tax, other**

The effective tax rate on underlying earnings, excluding equity accounted units, was 24.8 per cent compared with 31.6 per cent in 2008. The decrease largely related to the one-off non taxable profit on disposal of the potash assets which was recognised in 2009, and by an increase in foreign currency exchange losses arising from revaluation of tax bases for Canadian companies with US\$ functional currencies. The Group interest charge was US\$446 million lower than in 2008, mainly reflecting a decline in interest rates, and lower debt in 2009 following completion of the rights issues.

**Table of Contents**

## Financial review continued

## Exclusions from underlying earnings 2008-2010

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.

	<b>2010</b> US\$m	2009 US\$m	2008 US\$m
Gain on consolidation of Oyu Tolgoi LLC	<b>531</b>		
Profit less losses on disposal of interest in business	<b>174</b>	499	1,470
Net impairment charges <sup>(a)</sup>	<b>(836)</b>	(1,552)	(8,406)
Exchange differences and gains/ (losses) on derivatives	<b>429</b>	28	843
Chinalco break fee <sup>(b)</sup>		(182)	
Restructuring/severance costs from global headcount reduction		(231)	(57)
Other exclusions	<b>39</b>	12	(477)
Total excluded in arriving at underlying earnings	<b>337</b>	(1,426)	(6,627)

(a) Net impairment charges include impairment charges of US\$739 million (2009: US\$1,103 million; 2008: US\$7,579 million) and loss after tax of discontinued operations of US\$97 million (2009: US\$449 million; 2008: US\$827 million).

(b) The Chinalco break fee was US\$195 million pre-tax.

**2010**

Rio Tinto consolidated Oyu Tolgoi LLC on 15 December 2010 following the signing of a new agreement with Ivanhoe Mines. The US\$531 million gain arising on consolidation represents the excess of the provisional 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.

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.

The 2010 impairment charge of US\$739 million related mainly to the Alcan Engineered Products businesses. On 5 August 2010 the Group received a binding offer for the sale of 61 per cent of Alcan Engineered Products, excluding the Cable division, to certain investment funds affiliated with Apollo Global Management, LLC (Apollo) and the Fonds Stratégique d'Investissement. The divestment was completed on 4 January 2011. The terms of the transaction are confidential. Following completion, Rio Tinto holds a 39 per cent stake and will treat its interest as an equity accounted unit.

Loss after tax from discontinued operations of US\$97 million (inclusive of divestment costs) relates 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.

## **2009**

In 2009, the Group completed the divestments of its interests in the Ningxia aluminium smelter, the Corumba iron ore operation, the Jacobs Ranch coal mine, Alcan Composites and the sale of 52 per cent of the Group's interest in Cloud Peak Energy Resources LLC. Net gains on these transactions totalling US\$0.5 billion were excluded from underlying earnings as divestments of interests in businesses are considered to be outside the underlying activities of the Group. Of the Group's total post-tax impairment charge of US\$1,103 million, US\$500 million related to Alcan Engineered Products, US\$212 million related to the Group's aluminium businesses and US\$348 million related to the Group's diamond businesses.

An impairment of US\$318 million relating to the Alcan Packaging businesses was recognised during the year, and was included within loss after tax of discontinued operations.

All impairments were measured based upon an assessment of fair value less costs to sell. These impairments were caused by continued weakness in the economic environment.

In 2009, Rio Tinto paid a break fee of US\$195 million (US\$182 million post-tax) to Chinalco which was excluded from underlying earnings.

During 2009, the Group incurred restructuring and severance costs of US\$231 million associated with its global headcount reduction programme.

## **2008**

Profit on disposal related to the disposal of the interests in the Cortez gold mine and the Greens Creek silver/zinc/lead mine. During 2008 the Group incurred advisory and other costs related to the rejection by the board of the pre-conditional takeover proposal from BHP Billiton which was withdrawn in November. These costs totalled US\$270 million (net of tax) in 2008 and were excluded from underlying earnings. Other charges excluded from underlying earnings comprised costs relating to non recurring acquisitions, disposals and similar corporate projects. The Group's total post-tax impairment charge of US\$7,579 million related mainly to the Group's aluminium businesses: US\$6,127 million, and Engineered Products: US\$980 million. The acquisition price of Alcan anticipated significant growth in smelter and refinery capacity, but following the significant weakening in economic and market circumstances during 2008, many of these growth projects were deferred. These deferrals, together with the weak economic environment and increases in input costs, resulted in the impairment charge.

In measuring the amount of the impairment, the Group compared the carrying value of the upstream aluminium business with its value in use, assessed using discounted cash flow techniques. This followed the requirements of accounting standards as, in the Group's view, the upstream aluminium business' fair value less cost to sell was lower than its value in use. For the purposes of the annual goodwill impairment test, goodwill was allocated to a group of cash generating units that included both Alcan and the aluminium activities previously owned by Rio Tinto which were managed as a single business following the acquisition.

The impairment charge did not trigger the covenant under the Alcan acquisition facilities, which required that the ratio of net debt to underlying EBITDA be no greater than 4.5 times.

An impairment of discontinued operations of US\$827 million relating to Packaging was recognised outside of underlying earnings. As required by IFRS 5 Non-current Assets Held-for-Sale and Discontinued Operations, the amount of this impairment was determined by reference to the Group's best estimate of expected proceeds to be realised on the sale of Packaging, less an estimate of remaining costs to sell. The Packaging business was valued based upon an assessment of its fair value, required because this business was presented as an Asset Held for Sale in the Group balance sheet. Engineered Products was also valued based upon an assessment of its fair value, as the Group's intention was to sell this group of businesses.



**Table of Contents**

Exchange differences and gains/(losses) on derivatives of US\$843 million related to a gain of US\$1.9 billion on Australian dollar intragroup liabilities, held by Group entities with a US dollar functional currency offset by a loss of US\$1.7 billion on external US dollar debt held by an entity with an Australian dollar functional currency. The weakening of the Australian dollar against the US dollar, particularly towards the end of 2008, led to these significant movements. The tax on exchange gains and losses included a benefit of US\$254 million through recovery of tax relating to the prior years. It also included tax relief for losses on US dollar denominated debt. The pre-tax loss was offset by gains on intragroup balances which were largely not subject to tax.

## 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:

	<b>2010</b>	2009	2008
	<b>US\$m</b>	US\$m	US\$m
Profit from continuing operations	<b>15,281</b>	5,784	5,436
Loss after tax from discontinued operations	<b>(97)</b>	(449)	(827)
Profit for the year	<b>15,184</b>	5,335	4,609
Less: attributable to non-controlling interest	<b>(860)</b>	(463)	(933)
Attributable to owners of Rio Tinto (net earnings)	<b>14,324</b>	4,872	3,676
Exclusions from underlying earnings	<b>(337)</b>	1,426	6,627
Underlying earnings attributable to owners of Rio Tinto	<b>13,987</b>	6,298	10,303

## Group financial results by product group 2008-2010

	<b>2010</b>	2009	2008
	<b>US\$m</b>	US\$m	US\$m
Iron Ore	<b>10,189</b>	4,126	6,017
Aluminium	<b>773</b>	(560)	1,281
Copper	<b>2,534</b>	1,878	1,615
Energy	<b>1,187</b>	1,167	2,432
Diamonds & Minerals	<b>328</b>	800	474
Other operations	<b>71</b>	71	13
Inter-segment transactions	<b>(15)</b>	(28)	25
Other items	<b>(554)</b>	(577)	(391)
Exploration and evaluation	<b>(52)</b>	5	(133)
Net interest	<b>(474)</b>	(584)	(1,030)
Group underlying earnings	<b>13,987</b>	6,298	10,303

Exclusions from underlying earnings	<b>337</b>	(1,426)	(6,627)
Net earnings	<b>14,324</b>	4,872	3,676

**Sales revenue***Prices*

Commodity	Source	Unit	<b>2010 US\$</b>	2009 US\$	2008 US\$
<i>Average prices</i>					
Aluminium	LME <sup>(a)</sup>	Tonne	<b>2,173</b>	1,665	2,572
Copper	LME	Pound	<b>3.40</b>	2.32	3.20
Gold	LBMA	Ounce	<b>1,222</b>	970	872
Iron ore	Australian fines	dmtu <sup>(b)</sup>	<b>1.84</b>	1.09	1.29
Molybdenum	Metals Week: quote for dealer oxide price	Pound	<b>16</b>	11	31

*Closing prices (quoted commodities only)*

Aluminium		Tonne	<b>2,459</b>	2,207	1,454
Copper		Pound	<b>4.44</b>	3.33	1.32
Gold		Ounce	<b>1,410</b>	1,104	865
Molybdenum		Pound	<b>16</b>	11	10

(a) LME cash price

(b) Dry metric tonne  
unit

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, 2008, 2009 and 2010.

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***2010 sales revenue compared with 2009*

Gross sales revenue for the Iron Ore group increased by 91 per cent in 2010 compared to 2009 driven by strong prices and a nine per cent increase in production. During 2010, iron ore pricing moved to quarterly contracts, reflecting the structural shift away from annual benchmark pricing. First quarter iron ore prices (from 1 January 2011) are based on the average indexed price from 1 September to 30 November 2010. Sales volumes increased in response to growing demand in major markets stimulated by improving economic conditions and delays in capacity from other suppliers.

*2009 sales revenue compared with 2008*

The sales revenues of the Iron Ore group decreased by 24 per cent in 2009 compared with 2008. During 2009, Rio Tinto settled iron ore supply contracts with customers in Japan, Korea and Taiwan, with prices for fines declining 33 per cent and prices for lump declining 44 per cent on the prior year. Approximately half of the iron ore that Rio Tinto produced in the first six months of 2009 was sold on a spot market basis. In the second half of the year, sales were primarily priced on a benchmark or its equivalent provisional basis.



**Table of Contents**

## Financial review continued

**Aluminium***2010 sales revenue compared with 2009*

The Aluminium group's sales revenues are from aluminium and related products such as alumina and bauxite. Gross sales revenue in 2010 for the Aluminium group increased by 26 per cent compared to 2009. The 2010 spot aluminium price averaged US\$2,173 per tonne, an increase of 31 per cent on 2009. This increase reflects the combination of a robust recovery in end use demand in developed economies and the continued roll over of inventory financing positions amidst a prolonged period of low interest rates.

*2009 sales revenue compared with 2008*

The 2009 sales revenues of the Aluminium group decreased by 34 per cent against 2008. The average aluminium market price in 2009 was US\$1,665 per tonne compared with US\$2,572 per tonne in 2008. The decline in LME prices that commenced in mid 2008 continued into 2009, with some improvement in the second half of 2009, resulting in a year-end price of US\$2,207 per tonne.

**Energy***2010 sales revenue compared with 2009*

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; but prices are fixed at different times of the year and on a variety of bases. 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.

Gross sales revenue for the Energy group increased by 16 per cent in 2010. Overall average coal prices were lower than in 2009 due to the absence of higher carry over prices from 2008. 2010 saw continuing strength in the seaborne market for Australian coal. Demand for thermal coal continued to be robust from South Korea, India, Taiwan and China. Global steel demand improved in all markets in the first half of the year and led to strong demand for semi-soft coking coal. The market for premium quality hard coking coal remained steady in 2010.

Uranium spot markets were relatively weak early in 2010 but strengthened in the second half of the year, mainly driven by strong demand from China. Long term prices have remained consistent with some small increases in the latter part of the year.

*2009 sales revenue compared with 2008*

Sales revenues for the Energy group decreased by 16 per cent in 2009 compared with 2008 due to lower realised Australian coal prices, partially offset by an increase in the US thermal coal price. China's demand for imported coal in 2009 was particularly strong and this supported improved prices by year end, however prices were lower than the records achieved in 2008. Global steel demand was also weak in the first half of 2009 for most markets other than China, but improved in the second half of the year and led to strong demand for coking and semi-soft coking coal. Hard

coking coal production from the Group's Australian operations was comparable with 2008. Thermal coal contracts for the 2009 fiscal year (12 months commencing 1 April 2009) were settled in the US\$70-72 per tonne range, a decrease of approximately 44 per cent on the record levels of the previous year. Coking coal contracts for the 2009 fiscal year were settled in the US\$115-130 per tonne range, a decline of approximately 60 per cent on the record levels of the 2008 fiscal year.

**Copper***2010 sales revenue compared with 2009*

The Copper group also produces gold and molybdenum as significant by-products. Gross sales revenue for the Copper group increased by 25 per cent in 2010 compared to 2009. The Copper group benefited from higher average prices for its major products in 2010. Copper increased 47 per cent to 340 cents per pound, gold increased 26 per cent to US\$1,222 per ounce and molybdenum increased 45 per cent to US\$16 per pound. The benefit from higher prices in

2010 was partly offset by lower volumes, notably from Grasberg and higher unit cash costs in line with reduced production from lower grades.

At the end of 2010, the group had an estimated 270 million pounds of copper sales that were provisionally priced at US 428 cents per pound. The final price of these sales will be determined during the first half of 2011.

*2009 sales revenue compared with 2008*

The 2009 average copper price of 232 US cents per pound was 28 per cent below the 2008 average price. The 2009 gold price averaged US\$970 per ounce, an increase of 11 per cent on the prior year, whilst the average molybdenum price was US\$11 per pound, a decrease of 65 per cent compared with 2008.

Sales revenues for the Copper group in 2009 increased by eight per cent compared with 2008. The effect of provisional pricing of copper sales resulted in a benefit to underlying earnings of US\$213 million in 2009, compared to a charge of US\$207 million in 2008. At the end of 2009 the Group had 267 million pounds of copper sales that were provisionally priced at 335 US cents per pound. This compared with 183 million pounds of open shipments at 31 December 2008 provisionally priced at 133 US cents per pound.

**Diamonds & Minerals**

*2010 sales revenue compared with 2009*

Diamond prices realised by Rio Tinto depend on the size and quality of diamonds in the product mix. Gross sales revenue increased by 16 per cent in 2010 compared to 2009. Sustained demand from emerging markets, which largely offset the slower recovery from the established markets of the US and Europe was reflected in higher prices and increased sales volumes for the Diamonds & Minerals group.

Rough diamond prices demonstrated a robust recovery throughout 2010 as demand from emerging markets, notably India and China, accelerated. Demand for titanium dioxide feedstocks, talc and borates in 2010 continued to demonstrate a healthy recovery in line with improving global economic conditions.

**Table of Contents***2009 sales revenue compared with 2008*

Revenue from Diamond sales in 2009 decreased by 46 per cent compared with 2008, primarily due to the global economic slowdown, as demand for luxury items decreased. However, there was an improvement in prices for rough diamonds in the latter half of 2009.

Sales revenue for Minerals in 2009 decreased by 27 per cent compared with 2008, due to a decline in demand resulting from the global economic crisis. Prices applying to industrial minerals are generally negotiated with individual customers, based on a variety of factors such as product specification, volumes, etc. Therefore, average realised prices will not necessarily reflect the movements in any publicly quoted prices.

## Cash flow

**2010 compared with 2009**

A full consolidated cash flow statement is contained in the 2010 financial statements. Cash flows from operations, including dividends from equity accounted units, were US\$23.5 billion, 70 per cent higher than 2009, primarily as a consequence of higher prices.

Tax paid for 2010 increased to US\$4,100 million, US\$1,024 million higher than 2009 largely due to the increase in taxable profits. Net interest paid of US\$696 million for 2010 was US\$440 million lower than 2009, largely due to lower amounts of debt, following a US\$8.5 billion repayment of Alcan acquisition facility D at the beginning of the year.

Purchase of property, plant and equipment and intangible assets was US\$4.6 billion in 2010, a decrease of US\$0.8 billion from 2009. This included the Brockman 4 iron ore mine development in Western Australia, the expansion of the Yarwun alumina refinery, the commissioning of the Clermont thermal coal mine and the extension and expansion of the Kestrel coking coal mine.

Net cash proceeds from disposals and acquisitions in 2010 were US\$2,893 million, and related to the disposal of Alcan Packaging businesses and the remainder of Cloud Peak Energy Inc.; partly offset by the payments to acquire an additional 20.62 per cent in Ivanhoe Mines.

Dividends paid in 2010 of US\$1.8 billion compared with US\$0.9 billion in 2009 reflected the suspension of the 2009 interim dividend.

**2009 compared with 2008**

Cash flow from operations, including dividends from equity accounted units, was US\$13,834 million, 33 per cent lower than 2008, primarily as a consequence of lower prices.

Tax paid in 2009 decreased to US\$3,076 million, US\$823 million lower than for 2008 largely due to the decrease in taxable profits. Net interest paid of US\$1,136 million for 2009 was US\$402 million lower than 2008, largely due to lower amounts of debt, following the repayment of part of the US\$40 billion Alcan acquisition facility, using the US\$14.8 billion net proceeds from the rights issues in July 2009.

Capital expenditure on property, plant and equipment and intangible assets was US\$5,388 million in 2009, a decrease of US\$3,186 million over 2008. This included the Brockman 4 and Mesa A iron ore mine developments in Western Australia, expansion of the Yarwun alumina refinery, construction of the Clermont thermal coal mine, expansion of the Kestrel coking coal mine, development of the underground diamond mines at Diavik and Argyle, and completion of the Madagascar ilmenite mine.

Net cash proceeds from disposals and acquisitions in 2009 were US\$2,028 million, and related to the disposal of Corumba, Jacob's Ranch mine and Alcan Composites, together with proceeds from the initial public offering of Cloud Peak Energy Inc. and related transactions, partly offset by payments to acquire an additional 9.8 per cent in Ivanhoe Mines. Net disposals were US\$2,563 million in 2008 and related to Cortez, Greens Creek and Alcan's aerospace service centres business.

Dividends paid in 2009 of US\$876 million were US\$1,057 million lower than dividends paid in 2008, following the suspension of the interim dividend. Other financing cash flows in 2009 included the net proceeds from rights issues of US\$14.8 billion, and net repayments of borrowings of US\$16.4 billion compared with US\$8.0 billion in 2008.

## Statement of financial position

Net debt decreased to US\$4.3 billion from US\$18.9 billion at 31 December 2009 following the receipt of proceeds from the divestment programme and strong operating cash flows. Net debt to total capital was six per cent at 31 December 2010 and interest cover was 27 times.

Rio Tinto consolidated Oyu Tolgoi LLC on 15 December 2010 following the signing of a new agreement with Ivanhoe Mines. 100 per cent of Oyu Tolgoi LLC's identifiable assets and liabilities have been recognised in the statement of financial position at fair values estimated with the assistance of an independent third party valuer, together with goodwill. The historic cost of acquiring the Group's indirect share of Oyu Tolgoi LLC through its investment in Ivanhoe Mines was deducted from Investments in equity accounted units. The Group's remaining interest in the assets of Ivanhoe that does not relate to Oyu Tolgoi LLC continues to be equity accounted. The transaction generated a non cash gain of US\$531 million.

Due to the complexity of the valuation process, and the proximity of the date on which the agreement was signed to the reporting date, fair values on consolidation are provisional and will be subject to further review during the 12 months from the date on which the agreement was effective.

#### Financial risk management

The Group's policies with regard to financial 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 risk management are disclosed in note 33 Financial risk management, to the 2010 financial statements.

The Group's *2010 Annual report* and financial statements shows the full extent of its financial commitments, including debt. The principal risks and uncertainties, to which the Group is subject, that are thought to be of particular importance are summarised on pages 25 to 28. 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 on page 125.

#### Capital management and dividends

The Group's total capital is defined as equity attributable to owners of Rio Tinto, equity attributable to non-controlling interests and net debt, as shown on the next page:

**Table of Contents**

Financial review continued

**Total capital**

	<b>2010</b>	2009
	<b>US\$m</b>	US\$m
Equity attributable to owners of Rio Tinto	<b>58,333</b>	43,831
Equity attributable to non-controlling interests	<b>6,941</b>	2,094
Net debt (note 24)	<b>4,284</b>	18,861
Total capital	<b>69,558</b>	64,786

The Group's overriding objectives when managing capital are to safeguard the business as a going concern; to maximise returns for shareholders and benefits for other stakeholders; and to maintain an optimal capital structure in order to provide a high degree of financial flexibility at the lowest cost of capital. A key objective of the Group is to achieve and maintain a single A credit rating. The board and senior management regularly review the capital structure of the Group taking account of strategic priorities and conditions within which the Group operates.

The Group's capital management objectives allow it to selectively invest at all points of the commodities cycle, both in the Group's own existing growth projects, and other opportunities that may arise, whilst providing a shareholder return. Net debt reduced from US\$18.9 billion to US\$4.3 billion at 31 December 2010 following strong cash flows from operations, and the debt maturity profile was improved in October 2010 by raising US\$2 billion in bonds with five, ten and 30 year maturities. The proceeds were used in a successful tender for US\$1.9 billion of bonds due in 2013. Net debt at 31 December 2010 was made up principally from borrowings of US\$14.3 billion, offset by US\$9.9 billion in cash and cash equivalents. The proportion of net debt to total capital stood at 6.2 per cent at 31 December 2010 compared with 29.1 per cent at 31 December 2009. In February 2011, as part of the Group's capital management programme, a share buy-back of US\$5 billion was announced which, subject to market conditions, is planned to be completed by the end of 2012.

Rio Tinto has a progressive dividend policy which aims to increase the US dollar value of ordinary dividends over time, taking into account the results for the past year and the outlook. Under the dividend policy, the interim dividend is set at one half of the total ordinary dividend for the previous year and the final ordinary dividend is expected to be at least equal to the previous interim dividend.

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. Details relating to the 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 on page 262.

The Group's major capital projects are listed on pages 76 to 77.

**Liquidity and capital resources**

Details of our Liquidity and Capital risk management are contained within note 33 Financial risk management, part (v), to the 2010 financial statements.

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 33

Financial risk management, part (v), to the 2010 financial statements.

**Treasury management and financial instruments**

Details of our Treasury management and financial instruments are contained within the introductory paragraphs of note 33 Financial risk management, to the 2010 financial statements.

**Foreign exchange**



The following sensitivities give the estimated effect on 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 2010 US cents	Effect on net and underlying earnings of 10% change in full year average +/- US\$m
Australian dollar	92	604
Canadian dollar	97	194
Euro	133	29
Chilean peso	US\$1 = 510 pesos	23
New Zealand dollar	72	19
South African rand	14	54
UK sterling	155	18

The exchange rate sensitivities quoted above include the effect on 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 care.

Further details of our exposure to foreign currency fluctuations and currency derivatives, and our approach to currency hedging, are contained within note 33 Financial risk management , part (i), to the 2010 financial statements.

#### Interest rates

Details of our exposure to interest rate fluctuations are contained within note 33 Financial risk management , part (ii), to the 2010 financial statements.

**Table of Contents**

## 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 2010 for the following products would be:

**Earnings sensitivities – commodity prices**

	Unit	Average market price for 2010 US\$	Effect on underlying and net earnings of 10% change in full year average +/- US\$m
Copper	Pound	3.40	349
Aluminium	Tonne	2,173	650
Gold	Ounce	1,222	73
Molybdenum	Pound	16	31
Iron ore	dm tu		1,343
Thermal and coking coal	Tonne		207

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 care. 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 33 – Financial risk management, part (iii), to the 2010 financial statements.

## Credit risks

Details of our exposure to credit risks relating to receivables, financial instruments and cash deposits, are contained within note 33 – Financial risk management, part (iv), to the 2010 financial statements.

## Disposals and acquisitions

Information regarding disposals and acquisitions is provided in note 41 – Purchases and sales of subsidiaries, joint ventures, associates and other interests in businesses, to the 2010 financial statements and on page 226.

## Critical accounting policies and estimates

Many of the amounts included in the financial statements involve the use of judgment and/or estimation. 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 estimation is contained in note 1 – Principal accounting policies to the 2010 financial statements, and/or the other notes to the 2010 financial statements. The key areas are listed below.

Dual listed company reporting

Asset carrying values

Asset lives

Ore reserve estimates

Close down, restoration and clean up obligations

Overburden removal costs

Deferred tax on fair value adjustments

Exploration

Functional currency

Underlying earnings

Post retirement benefits

Deferred tax potentially recoverable on Group tax losses

Contingencies

Acquisition accounting

Off balance sheet arrangements and contractual commitments

The table below 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 2010. Information regarding the Group's pension commitments and funding arrangements is provided in note 50 to the 2010 financial statements. Information regarding the Group's closedown and restoration obligations is provided in note 27 to the 2010 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.

<b>At 31 December 2010</b>	< 1 yr US\$m	1 - 3 yrs US\$m	3 - 5 yrs US\$m	> 5 yrs US\$m	<b>Total US\$m</b>
Expenditure commitments in relation to:					
Operating leases	507	854	561	1,107	<b>3,029</b>
Other (capital commitments)	5,219	2,264	90		<b>7,573</b>
	5,726	3,118	651	1,107	<b>10,602</b>
Long-term debt and other financial obligations:					
Debt	1,066	1,789	3,570	7,783	<b>14,208</b>
Interest payments	705	1,472	1,136	4,166	<b>7,479</b>
Unconditional purchase obligations	2,295	2,934	2,515	10,156	<b>17,900</b>
Other	297	400	35	48	<b>780</b>
	4,363	6,595	7,256	22,153	<b>40,367</b>
<b>Total</b>	10,089	9,713	7,907	23,260	<b>50,969</b>



**Table of Contents**

## Five year review

## Selected financial data

The selected consolidated financial data 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 2010 financial statements and notes thereto. The financial statements as included on pages 157 to 256 have been prepared in accordance with International Financial Reporting Standards both as adopted by the EU ( EU IFRS ) and as issued by the International Accounting Standards Board ( IFRS ).

## Rio Tinto Group

**Income statement data**

For the years ending 31 December Amounts in accordance with IFRS	<b>2010</b> <b>US\$m</b>	2009 US\$m	2008 US\$m	2007 US\$m	2006 US\$m
Consolidated sales revenue	<b>56,576</b>	41,825	54,264	29,700	22,465
Group operating profit <sup>(a)</sup>	<b>19,694</b>	7,506	10,194	8,571	8,974
Profit for the year from continuing operations	<b>15,281</b>	5,784	5,436	7,746	7,867
Loss after tax from discontinued operations	<b>(97)</b>	(449)	(827)		
Profit for the year	<b>15,184</b>	5,335	4,609	7,746	7,867
Basic earnings per share <sup>(b)</sup>					
Profit from continuing operations (US cents)	<b>735.4</b>	301.7	286.8	464.9	456.2
Loss after tax from discontinued operations (US cents)	<b>(4.9)</b>	(25.5)	(52.7)		
Profit for the year per share (US cents)	<b>730.5</b>	276.2	234.1	464.9	456.2
Diluted earnings per share <sup>(b)</sup>					
Profit from continuing operations (US cents)	<b>731.1</b>	300.7	285.5	462.9	454.3
Loss after tax from discontinued operations (US cents)	<b>(4.9)</b>	(25.4)	(52.4)		
Profit for the year per share (US cents)	<b>726.2</b>	275.3	233.1	462.9	454.3
<b>Dividends per share</b>	<b>2010</b>	2009	2008	2007	2006
Dividends declared during the year <sup>(b)</sup>					
US cents					
interim	<b>45.0</b>		55.6	42.5	32.7
final	<b>63.0</b>	45.0	55.6	68.7	52.3
UK pence					
interim	<b>28.2</b>		29.6	20.9	17.5
final	<b>39.1</b>	28.8	37.9	35.3	26.7
Australian cents					

interim	<b>49.3</b>		63.3	49.6	42.9
final	<b>61.9</b>	51.6	83.0	76.1	67.8
Dividends paid during the year (US cents) <sup>(b)</sup> ordinary and special	<b>90.0</b>	55.6	124.3	94.8	156.7
Weighted average number of shares basic (millions) <sup>(b)</sup>	<b>1,961.0</b>	1,763.6	1,570.1	1,572.9	1,630.5
Weighted average number of shares diluted (millions) <sup>(b)</sup>	<b>1,972.6</b>	1,769.6	1,577.3	1,579.6	1,637.1

**Statement of financial position**

As at 31 December	<b>2010</b>	2009	2008	Restated <sup>(c)</sup> 2007	2006
Amounts in accordance with IFRS	<b>US\$m</b>	US\$m	US\$m	US\$m	US\$m
Total assets	<b>112,402</b>	97,236	89,616	101,091	34,494
Share capital/premium	<b>10,105</b>	9,344	5,826	3,323	3,190
Total equity/net assets	<b>65,274</b>	45,925	22,461	26,293	19,385
Equity attributable to owners of Rio Tinto	<b>58,333</b>	43,831	20,638	24,772	18,232

- (a) Group operating profit under IFRS includes the effects of charges and reversals resulting from impairments and profit and loss on disposals of interests in businesses. Group operating 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.
- (c) The 31 December 2007 balance sheet has been restated for the revisions to Alcan's fair value accounting which were finalised in 2008.

**Table of Contents****Acquisitions and divestments**

During 2010 Rio Tinto acquired an additional interest in Ivanhoe Mines and completed asset sales totalling US\$4.2 billion. Since 2008, Rio Tinto has completed divestments in excess of US\$11 billion.

**Acquisitions**

Asset		Cost US\$m	Status
<b>Acquired in 2011</b>			
<b>Copper</b>	Ivanhoe Mines	751	Participation in the strategic rights offering and purchase of additional shares increasing the Group's holding to 42.1%

**Acquired in 2010**

<b>Copper</b>	Ivanhoe Mines	1,588	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% 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.
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**Acquired in 2009**

<b>Copper</b>	Ivanhoe Mines	388	The purchase of an additional 9.8% interest increasing the Group's total holding to 19.7%
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**Acquired in 2008**

None

**Divestments**

Asset		Proceeds US\$m	Status
<b>Divested in 2011</b>			
<b>Alcan Engineered Products</b>	Undisclosed		Sold 61 per cent to investment funds affiliated with Apollo Global Management, LLC (Apollo) and the Fonds Stratégique d'Investissement (FSI)

**Divested in 2010**

<b>Energy</b>	Cloud Peak	573	Secondary public offering
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<b>Alcan Packaging</b>	Beauty	undisclosed	Sold to Sun European Partners LLP
<b>Alcan Packaging</b>	Medical Flexibles	66	Sold to Amcor
<b>Alcan Packaging</b>	Food Americas	1,200	Sold to Bemis Company Inc.
<b>Energy</b>	Maules Creek (Rio Tinto: 75.7%)	427	Sold to Aston Resources
<b>Energy</b>	Vickery (Rio Tinto: 75.7%)	28	Sold to Whitehaven Coal
<b>Alcan Packaging</b>	global Pharmaceuticals, global Tobacco, Food Europe and Food Asia	1,948	Sold to Amcor
<b>Sundry asset sales</b>		57	Sale of assets including Ghana Bauxite Company, Brockville Specialty Alumina Plant and Rawhide Mine

**Divested in 2009**

<b>Energy</b>	Jacobs Ranch	764	Sold to Arch Coal, Inc
<b>Iron Ore</b>	Corumbá mine	814	Sold to Vale
<b>Diamonds &amp; Minerals</b>	Exploration projects in Argentina and Canada	850	Sold to Vale
<b>Aluminium</b>	Ningxia smelter (Rio Tinto: 50%)	125	Sold to Qingtongxia Aluminium Group
<b>Exploration</b>	sundry assets	68	Sold to multiple parties
<b>Energy</b>	Cloud Peak	741	IPO and connected debt offering
<b>Alcan Engineered Products</b>	composites	349	Sold to Schweiter Technologies

**Divested in 2008**

<b>Energy</b>	Kintyre project	495	Sold to a joint venture
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<b>Copper</b> Greens Creek mine (Rio Tinto: 70%)	750	Sale completed to Hecla Mining, the Group's minority partner
<b>Copper</b> Cortez Joint Venture (Rio Tinto: 40%)	1,695	Sold to Barrick Gold, the Group's majority partner, for cash plus a deferred bonus payment and contingent royalty interest
<b>Exploration</b> sundry assets	134	Sold to multiple parties

**Table of Contents**

## Capital projects

## Capital and major evaluation projects

Project	Approved capital cost (100%) US\$	Status/milestones
<b>Ongoing</b>		
<b>Alumina</b> expansion of Yarwun alumina refinery from 1.4 million tonnes per year (mtpa) to 3.4mtpa.	1.9bn	Approved in July 2007, the co-generation plant was commissioned in September 2010 and the ship unloader was commissioned in November 2010. Completion is expected in August 2012.
<b>Aluminium</b> construction of a new 225MW turbine at Shipshaw power station, Saguenay, Quebec, Canada.	228m	Approved in 2008, the project remains on budget and on track to be completed by December 2012.
<b>Coking coal</b> extension and expansion of Kestrel mine (Rio Tinto share 80%).	1.1bn	The investment will extend the life of the mine to 2031 and increase production to an average of 5.7mtpa (million tonnes per annum). Extension expected to come on stream in late 2012/early 2013.
<b>Copper</b> construction of phase one of Oyu Tolgoi copper and gold mine in Mongolia <sup>(a)</sup> .	5.9bn	Rio Tinto consolidated Oyu Tolgoi LLC on 15 December 2010 following the signing of a new agreement with Ivanhoe Mines. First ore production is forecast to commence in late 2012 with an initial throughput of 100,000 tonnes of ore per day.
<b>Approved/restarted in 2010/2011</b>		
<b>Molybdenum</b> investment in phases one and two of Molybdenum Autoclave Process (MAP) project to enable lower grade concentrate to be processed more efficiently than conventional roasters and allow improved recoveries.	340m	First approved in June 2008, the project was put on hold. Approval was given in April 2010 to restart the project. First production from phase 1 is anticipated in the fourth quarter of 2012 and full capacity of 30 million pounds per annum is scheduled for fourth quarter 2013. The phase 2 expansion to 60 million pounds per annum is anticipated to be completed in the first quarter of 2015.
<b>Iron ore</b> expansion of Iron Ore Company of Canada's concentrate capacity (Rio Tinto: 58.7%).	401m	Initially approved in March 2008, the project recommenced in May 2010 (Rio

			Tinto share US\$235m). It is projected to expand concentrate capacity by 4mtpa to 22mtpa by 2012 with options to expand further to 26mtpa.
<b>Nickel</b>	construction of the Eagle nickel and copper mine in Michigan (US).	469m	Approved in June 2010, first production is expected in late 2013. The mine is projected to produce an average of 17.3kt (thousand tonnes) and 13.2kt per year of nickel and copper metal respectively over six years.
<b>Iron ore</b>	preparation for the expansion of the Pilbara to 330mtpa and beyond	990m	Approved in July and August 2010, the funding (Rio Tinto share US\$649m) will allow dredging contracts to be issued and long lead items to be ordered as part of early works on the expansion of the Cape Lambert port to 180mtpa capacity.
<b>Iron ore</b>	development of Hope Downs 4 mine in the Pilbara (Rio Tinto: 50%).	1.6bn	Approved in August 2010, first production is expected in 2013. The new mine is projected to have a capacity of 15mtpa and a capital cost of US\$1.2 billion (Rio Tinto share US\$0.6bn). Rio Tinto will fully fund the US\$425 million for the rail, rolling stock and power infrastructure.
<b>Diamonds</b>	Argyle diamond mine underground project.	1.6bn	Originally approved in 2005, the project was slowed in 2009. The remaining US\$803 million to complete was approved in September 2010. The underground is projected to be fully operational in 2013 with targeted production of 20 million carats a year. It should extend the mine life to at least 2019.
<b>Iron ore</b>	debottlenecking of Dampier port to expand the Pilbara capacity to 230mtpa.	321m	Approved in September 2010, the project is projected to add 10mtpa capacity at the Dampier port by Q1 2012. No additional capital expenditure is required at the mines.
<b>Aluminium</b>	ISAL modernisation.	487m	Approved in September 2010, the project is projected to increase annual production from 190kt to 230kt between April 2012 and July 2014. Includes US\$140m in a leading edge casting facility to produce value added billet, approved in October.

<b>Iron ore</b> expansion of Pilbara infrastructure to 283mtpa.	3.1bn	Approved in October 2010, the investment (Rio Tinto share US\$2.1bn) is projected to increase infrastructure capacity by 53mtpa to 283mtpa by the end of 2013. Further investments in mine expansions will likely be required.
<b>Iron ore</b> expansion of Brockman 4 mine (from 22mtpa to 40mtpa) and Western Turner Syncline mine (from 6mtpa to 15mtpa) in the Pilbara.	1.2bn	Approved in December 2010, the two projects represent the first two of three mine developments to expand mine capacity to 283mtpa by the fourth quarter of 2013.

**Table of Contents****Approved/restarted in 2010/2011 continued**

<b>Aluminium</b> phase 1 of 60kt per annum AP60 plant in Quebec.	1.1bn	Approved in December 2010, US\$758m will be spent on completing the first phase of the AP60 plant, in addition to the US\$376m spent to date. First hot metal is expected in February 2013.
<b>Aluminium</b> modernisation and expansion of Kitimat smelter.	640m	A further US\$300m was approved in December 2010 for further construction in preparation for the US\$2.5bn modernisation of the Kitimat smelter. This is in addition to US\$340m spent to date. Final approval is expected in 2011.
<b>Iron ore</b> phase two expansion of IOC's concentrate capacity to 23.3mtpa (Rio Tinto 58.7%).	277m	Approved in February 2011, phase two is expected to be complete by 2013 (Rio Tinto share US\$163 million) with options to expand further to 26mtpa.
<b>Iron ore</b> phase two of the Marandoo mine expansion to sustain production at 230mtpa.	933m	Approved in February 2011, the mine is projected to extend Marandoo at 15mtpa by 16 years to 2030.

**Completed in 2010**

<b>Iron ore</b> construction of new Mesa A/Warramboe mine (Rio Tinto: 53%).	901m	First ore was produced in February 2010. Initial production of 20mtpa is projected to increase to 25mtpa by the end of 2011.
<b>Diamonds</b> Diavik (Rio Tinto: 60%) underground development.	787m	First production at end of March 2010.
<b>Thermal coal</b> Clermont (Rio Tinto: 50.1%) will produce 12mtpa, largely replacing Blair Athol as it ramps down to 3mtpa.	1,290m	First production in second quarter of 2010. Full capacity expected to be reached in 2013.
<b>Iron ore</b> construction of new 22mtpa Brockman 4 mine and Western Turner Syncline extension of Tom Price mine.	1,521m	Both mines commenced production in July 2010 and full capacity is expected to be reached by the end of 2011. Further expansion options are being assessed.
<b>Iron ore</b> investment in cleaner, more sustainable power generation to support expansion of mining capacity in Western Australia.	503m	Four new gas turbines at the 240MW Yurralyi Maya site near Dampier were commissioned and came on line progressively in the second half of 2010.

<b>Copper</b>	Northparkes (Rio Tinto 80%) E48 block cave project extending mine life to 2024.	221m	The project restarted in September 2009 with a scope change including an expanded extraction level and increased reserves, secondary crushing and loader automation. Production from E48 commenced in late 2009 with full production occurring in late 2010.
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**Completed in 2009**

<b>Iron ore</b>	expansion of Hope Downs mine from 22mtpa to 30mtpa (Rio Tinto: 50%).	350m	Approved in August 2007, the expansion work was completed during the first half of 2009.
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**Completed in 2008**

<b>Aluminium</b>	Development of the 360,000 tonne per annum greenfield Sohar smelter in Oman (Rio Tinto: 20%).	1,700m	Approved in February 2005, first hot metal was produced in June 2008.
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<b>Aluminium</b>	Aluminium spent potlining treatment plant in Quebec (Rio Tinto: 100%).	225m	Approved in September 2006, the plant commenced operations in June 2008.
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<b>Titanium dioxide</b>	Construction by QMM (Rio Tinto: 80%) of a greenfield ilmenite operation in Madagascar and associated upgrade of processing facilities at RTFT in Canada.	1,000m	First production of ilmenite took place at the end of 2008.
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<b>Iron ore</b>	Cape Lambert port expansion (Rio Tinto: 53%) from 55 to 80mtpa and additional rolling stock and infrastructure.	952m	Approved in January 2007, the project was completed at the end of 2008.
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Following the consolidation of Oyu Tolgoi LLC, capital expenditure for 2011 is expected to be approximately US\$13 billion. This includes US\$2.3 billion for the Oyu Tolgoi project (approved and funded by Ivanhoe). It also includes US\$4.5 billion for sustaining capital expenditure (Rio Tinto funded).

Evaluation expenditure in 2011, including the Simandou iron ore project and the Resolution and La Granja copper projects, is expected to be around US\$900 million

- (a) On 3 February 2011, Rio Tinto increased its ownership in Ivanhoe Mines to 42.1 per cent. Ivanhoe Mines owns 66 per cent of the Oyu Tolgoi copper-gold project.

**Table of Contents**

Summary

Aluminium

Diamonds & Minerals

Energy

78 Rio Tinto 2010 Annual report

---

**Table of Contents**

Copper

Iron Ore

[www.riotinto.com](http://www.riotinto.com) 79

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**Table of Contents**

## Metals and minerals production

	Rio Tinto % share (a)	2010 Production Rio Tinto		2009 Production Rio Tinto		2008 Production Rio Tinto	
		Total	share	Total	share	Total	share
<b>ALUMINA ( 000 tonnes)</b>							
Gardanne (France) (b)	100.0					38	38
Gove (Australia)	100.0	2,473	2,473	2,519	2,519	2,325	2,325
Jonquière (Vaudreuil) (Canada) (c)	100.0	1,301	1,301	1,125	1,125	1,370	1,370
Queensland Alumina (Australia)	80.0	3,821	3,057	3,959	3,167	3,842	3,074
São Luis (Alumar) (Brazil)	10.0	2,507	251	1,657	166	1,504	150
Yarwun (Australia)	100.0	1,377	1,377	1,347	1,347	1,293	1,293
Specialty Plants (Canada/France/Germany) (b) (d)	100.0	631	631	492	492	758	758
<b>Rio Tinto total</b>			<b>9,089</b>		<b>8,815</b>		<b>9,008</b>
<b>ALUMINIUM ( 000 tonnes)</b>							
Alma (Canada)	100.0	434	434	435	435	424	424
Alouette (Sept-Îles) (Canada)	40.0	569	228	573	229	572	229
Alucam (Edéa) (Cameroon)	46.7	76	35	73	34	91	43
Anglesey (UK) (e)	51.0			106	54	118	60
Arvida (Canada)	100.0	174	174	171	171	172	172
Beauharnois (Canada) (f)	100.0			11	11	50	50
Bécancour (Canada)	25.1	417	104	420	105	415	104
Bell Bay (Australia)	100.0	177	177	177	177	178	178
Boyne Island (Australia)	59.4	558	332	556	331	556	330
Dunkerque (France)	100.0	260	260	244	244	254	254
Grande-Baie (Canada)	100.0	218	218	215	215	212	212
ISAL (Reykjavik) (Iceland)	100.0	190	190	190	190	187	187
Kitimat (Canada)	100.0	184	184	224	224	247	247
Lannemezan (France) (g)	100.0					5	5
Laterrière (Canada)	100.0	212	212	235	235	234	234
Lochaber (UK)	100.0	41	41	38	38	43	43
Lynemouth (UK)	100.0	145	145	109	109	165	165
Ningxia (Qingtongxia) (China) (h)				10	5	163	81
Saint-Jean-de-Maurienne (France)	100.0	96	96	101	101	130	130
Sebree (US)	100.0	196	196	193	193	197	197
Shawinigan (Canada)	100.0	100	100	99	99	100	100
Sohar (Oman) (i)	20.0	367	73	351	70	49	10
SØRAL (Husnes) (Norway)	50.0	88	44	98	49	171	86
Tiwai Point (New Zealand)	79.4	344	273	271	215	316	250
Tomago (Australia)	51.6	528	272	528	272	523	270
<b>Rio Tinto total</b>			<b>3,790</b>		<b>3,808</b>		<b>4,062</b>

**BAUXITE ( 000 tonnes)**

Awaso (Ghana) (j)		<b>42</b>	<b>34</b>	440	352	796	637
Gove (Australia)	100.0	<b>7,190</b>	<b>7,190</b>	7,185	7,185	6,245	6,245
Porto Trombetas (MRN) (Brazil)	12.0	<b>17,022</b>	<b>2,043</b>	15,645	1,877	18,063	2,168
Sangaredi (Guinea)	(k)	<b>12,413</b>	<b>5,586</b>	11,216	5,047	13,181	5,931
Weipa (Australia)	100.0	<b>18,591</b>	<b>18,591</b>	16,235	16,235	20,006	20,006

**Rio Tinto total**

		<b>33,443</b>		30,696		34,987
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**BORATES ( 000 tonnes) (l)**

Rio Tinto Minerals Boron (US)	100.0	<b>483</b>	<b>483</b>	411	411	591	591
Rio Tinto Minerals Tincalayu (Argentina)	100.0	<b>18</b>	<b>18</b>	13	13	19	19

**Rio Tinto total**

		<b>500</b>		424		610
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**COAL hard coking ( 000 tonnes)****Rio Tinto Coal Australia**

Hail Creek Coal (Australia)	82.0	<b>7,183</b>	<b>5,890</b>	6,308	5,173	6,049	4,960
Kestrel Coal (Australia)	80.0	<b>3,846</b>	<b>3,076</b>	2,868	2,294	3,089	2,471

**Rio Tinto total hard coking coal**

		<b>8,967</b>		7,467		7,431
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See notes on page 83

**Table of Contents**

		<b>2010 Production</b>		2009 Production		2008 Production	
	Rio Tinto % share (a)	<b>Total</b>	<b>Rio Tinto share</b>	Total	Rio Tinto share	Total	Rio Tinto share
<b>COAL semi-soft coking ( 000 tonnes) (m)</b>							
<b>Rio Tinto Coal Australia</b>							
Hunter Valley (Australia)	75.7	<b>2,469</b>	<b>1,869</b>	2,626	1,988	2,865	2,169
Mount Thorley (Australia)	60.6	<b>1,460</b>	<b>884</b>	1,112	674	1,168	708
Warkworth (Australia)	42.1	<b>764</b>	<b>321</b>	530	223	386	162
<b>Rio Tinto total semi-soft coking coal</b>			<b>3,075</b>		2,885		3,039
<b>COAL thermal ( 000 tonnes) (m)</b>							
<b>Rio Tinto Coal Australia</b>							
Bengalla (Australia)	30.3	<b>5,477</b>	<b>1,659</b>	5,466	1,655	5,357	1,622
Blair Athol (Australia)	71.2	<b>6,803</b>	<b>4,846</b>	11,325	8,068	10,194	7,262
Clermont (Australia) (n)	50.1	<b>3,770</b>	<b>1,889</b>				
Hunter Valley (Australia)	75.7	<b>8,442</b>	<b>6,391</b>	8,606	6,515	7,886	5,970
Kestrel Coal (Australia)	80.0	<b>713</b>	<b>571</b>	849	679	929	744
Mount Thorley (Australia)	60.6	<b>1,518</b>	<b>920</b>	2,230	1,351	1,780	1,078
Tarong Coal (Australia) (o)						262	262
Warkworth (Australia)	42.1	<b>5,120</b>	<b>2,154</b>	4,632	1,949	5,652	2,378
Total Australian thermal coal			<b>18,430</b>		20,217		19,317
<b>US Coal</b>							
Antelope (US) (p)		<b>31,156</b>	<b>15,043</b>	30,865	29,031	32,474	32,474
Colowyo (US) (q)	100.0	<b>2,371</b>	<b>2,371</b>	3,214	3,214	4,446	4,446
Cordero Rojo (US) (p)		<b>33,518</b>	<b>16,184</b>	35,687	33,361	36,318	36,318
Decker (US) (p)		<b>2,521</b>	<b>609</b>	4,161	2,017	5,939	2,970
Jacobs Ranch (US) (r)				26,537	26,537	38,206	38,206
Spring Creek (US) (p)		<b>16,726</b>	<b>8,076</b>	16,035	15,360	16,341	16,341
Total US thermal coal			<b>42,283</b>		109,520		130,755
<b>Rio Tinto total thermal coal</b>			<b>60,713</b>		129,738		150,072
<b>COPPER (mined) ( 000 tonnes)</b>							
Bingham Canyon (US)	100.0	<b>249.8</b>	<b>249.8</b>	303.5	303.5	238.0	238.0
Escondida (Chile)	30.0	<b>1,011.0</b>	<b>303.3</b>	1,061.2	318.3	1,281.7	384.5
Grasberg Joint Venture (Indonesia) (s)	40.0	<b>126.8</b>	<b>50.7</b>	269.3	107.7	17.8	7.1
Northparkes (Australia)	80.0	<b>39.0</b>	<b>31.2</b>	34.3	27.4	24.8	19.8
Palabora (South Africa)	57.7	<b>74.6</b>	<b>43.0</b>	82.6	47.6	85.1	49.1

<b>Rio Tinto total</b>		<b>678.1</b>		804.7		698.5	
<b>COPPER (refined) ( 000 tonnes)</b>							
Escondida (Chile)	30.0	<b>300.1</b>	<b>90.0</b>	327.2	98.2	257.5	77.3
Kennecott Utah Copper (US)	100.0	<b>269.3</b>	<b>269.3</b>	274.2	274.2	200.6	200.6
Palabora (South Africa)	57.7	<b>58.0</b>	<b>33.4</b>	69.4	40.0	75.9	43.8
<b>Rio Tinto total</b>		<b>392.8</b>		412.4		321.6	
<b>DIAMONDS ( 000 carats)</b>							
Argyle (Australia)	100.0	<b>9,804</b>	<b>9,804</b>	10,591	10,591	15,076	15,076
Diavik (Canada)	60.0	<b>6,500</b>	<b>3,900</b>	5,565	3,339	9,225	5,535
Murowa (Zimbabwe)	77.8	<b>178</b>	<b>139</b>	124	97	264	205
<b>Rio Tinto total</b>		<b>13,843</b>		14,026		20,816	

See notes on page 83

**Table of Contents**

## Metals and minerals production continued

	Rio Tinto % share (a)	<b>2010 Production</b>		2009 Production		2008 Production	
		<b>Total</b>	<b>Rio Tinto share</b>	Total	Rio Tinto share	Total	Rio Tinto share
<b>GOLD (mined) ( 000 ounces)</b>							
Barneys Canyon (US)	100.0	<b>2</b>	<b>2</b>	2	2	5	5
Bingham Canyon (US)	100.0	<b>466</b>	<b>466</b>	582	582	368	368
Cortez/Pipeline (US) (t)						72	29
Escondida (Chile)	30.0	<b>174</b>	<b>52</b>	144	43	144	43
Grasberg Joint Venture (Indonesia) (s)	40.0	<b>458</b>	<b>183</b>	1,072	429		
Greens Creek (US) (u)						18	12
Northparkes (Australia)	80.0	<b>65</b>	<b>52</b>	34	27	32	26
Rawhide (US) (v)		<b>9</b>	<b>9</b>	19	19	18	9
Others		<b>13</b>	<b>7</b>	13	8	14	8
<b>Rio Tinto total</b>			<b>772</b>		1,111		501
<b>GOLD (refined) ( 000 ounces)</b>							
Kennecott Utah Copper (US)	100.0	<b>596</b>	<b>596</b>	479	479	303	303
<b>IRON ORE ( 000 tonnes)</b>							
Corumbá (Brazil) (w)				1,509	1,509	2,032	2,032
Hamersley Iron eight wholly owned mines (Australia)	100.0	<b>112,706</b>	<b>112,706</b>	106,808	106,808	95,553	95,553
Hamersley Channar (Australia)	60.0	<b>11,016</b>	<b>6,610</b>	11,041	6,625	10,382	6,229
Hamersley Eastern Range (Australia) (x)		<b>9,206</b>	<b>9,206</b>	9,318	9,318	8,186	8,186
Hope Downs (Australia)	50.0	<b>31,720</b>	<b>15,860</b>	20,634	10,317	10,936	5,468
Iron Ore Company of Canada (Canada)	58.7	<b>14,710</b>	<b>8,638</b>	13,844	8,129	15,830	9,295
Robe River (Australia) (y)	53.0	<b>59,641</b>	<b>31,610</b>	54,417	28,841	50,246	26,631
<b>Rio Tinto total</b>			<b>184,629</b>		171,547		153,394
<b>LEAD ( 000 tonnes)</b>							
Greens Creek (US) (u)						4.6	3.2
<b>MOLYBDENUM ( 000 tonnes)</b>							
Bingham Canyon (US)	100.0	<b>12.9</b>	<b>12.9</b>	11.3	11.3	10.6	10.6

**PIG IRON ( 000 tonnes)**

Hismelt® (Australia) (z)	60.0					144	87
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**SALT ( 000 tonnes)**

Dampier Salt (Australia)	68.4	<b>7,589</b>	<b>5,188</b>	8,555	5,848	8,974	6,135
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**SILVER (mined) ( 000 ounces)**

Bingham Canyon (US)	100.0	<b>3,754</b>	<b>3,754</b>	4,871	4,871	3,414	3,414
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Escondida (Chile)	30.0	<b>6,140</b>	<b>1,842</b>	5,424	1,627	6,167	1,850
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Grasberg Joint Venture (Indonesia) (s)	40.0	<b>1,721</b>	<b>688</b>	3,685	1,474	549	220
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Greens Creek (US) (u)						1,815	1,275
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Others		<b>752</b>	<b>577</b>	757	596	655	417
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**Rio Tinto total**

		<b>6,862</b>			8,569		7,176
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**SILVER (refined) ( 000 ounces)**

Kennecott Utah Copper (US)	100.0	<b>4,732</b>	<b>4,732</b>	4,050	4,050	3,252	3,252
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**TALC ( 000 tonnes)**

Rio Tinto Minerals talc (Australia/Europe/North America) (aa)	100.0	<b>1,000</b>	<b>1,000</b>	888	888	1,163	1,163
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See notes on page 83

82 Rio Tinto 2010 Annual report

**Table of Contents**

	Rio Tinto % share (a)	2010 Production Rio Tinto		2009 Production Rio Tinto			2008 Production Rio Tinto
		Total	share	Total	share	Total	share
<b>TITANIUM DIOXIDE FEEDSTOCK ( 000 tonnes)</b>							
Rio Tinto Iron & Titanium (Canada/South Africa) (bb) (cc)	100.0	1,392	1,392	1,147	1,147	1,524	1,524
<b>URANIUM ( 000 lbs U<sub>3</sub>O<sub>8</sub>)</b>							
Energy Resources of Australia (Australia)	68.4	8,614	5,891	11,500	7,865	11,773	8,052
Rössing (Namibia)	68.6	7,999	5,485	9,150	6,275	8,966	6,149
<b>Rio Tinto total</b>			<b>11,377</b>		<b>14,140</b>		<b>14,200</b>
<b>ZINC ( 000 tonnes)</b>							
Greens Creek (US) (u)						13.9	9.8

**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 on site, 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 2010 and has applied over the period 2008 – 2010 except for those operations where the Rio Tinto ownership has varied during the year; the weighted average ownership for each year is shown below. The Rio Tinto share varies at individual mines and refineries in the others category and thus no value is shown.

**Rio Tinto Share %**

Operation	See note	2010	2009	2008
Antelope	(p)	46.2	94.0	100.0
Cordero Rojo	(p)	46.2	94.0	100.0
Decker	(p)	23.1	47.0	50.0
Spring Creek	(p)	46.2	94.0	100.0

(b) Production of smelter grade alumina at Gardanne ceased at the end of 2008. Production continues from the Gardanne specialty alumina plant.

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

(d)

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.

- (e) The Anglesey smelter ceased smelting operations at the end of the third quarter of 2009. Casting operations continue.
- (f) The Beauharnois smelter ceased smelting operations in the second quarter of 2009. Casting operations continue.
- (g) The Lannemezan smelter closed in the first quarter of 2008.
- (h) Rio Tinto sold its 50 per cent interest in the Ningxia aluminium smelter with an effective date of 26 January 2009. Production data are shown up to that date.
- (i) Production at the Sohar smelter commenced in the third quarter of 2008.
- (j) 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.
- (k) Rio Tinto has a 22.95 per cent shareholding in the Sangaredi mine but receives 45.0 per cent of production under the partnership agreement.
- (l) Borate quantities are expressed as B<sub>2</sub>O<sub>3</sub>.
- (m) Thermal coal and semi-soft coking coal were previously reported under Other Coal .
- (n) Production commenced at Clermont in the second quarter of 2010.
- (o) Rio Tinto sold its 100 per cent interest in Tarong Coal with an effective date of 31 January 2008; production data are shown up to that date.
- (p) 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.
- (q) During 2008, Rio Tinto acquired a 100 per cent interest in the Colowyo mine, having previously held a partnership interest. All of Colowyo's production was already included in Rio Tinto's share of production.
- (r) Rio Tinto completed the sale of its 100 per cent interest in the Jacobs Ranch mine on 1 October 2009. Production data are shown up to that date.
- (s) 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 total quantities attributable to the joint venture.
- (t) Rio Tinto sold its 40 per cent interest in the Cortez/Pipeline joint venture on 5 March 2008, with an effective date end of February 2008. Production data are shown up to that date.



- (u) Rio Tinto sold its 70.3 per cent share in the Greens Creek joint venture with an effective date of 16 April 2008. Production data are shown up to that date.
- (v) On 28 October 2008, Rio Tinto increased its shareholding in the Rawhide Joint Venture from 51 per cent to 100 per cent. The previous joint venture shareholder continued to be entitled to 49 per cent of production until 31 December 2008; thereafter Rio Tinto has been entitled to 100 per cent. 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.
- (w) Rio Tinto completed the sale of its 100 per cent interest in the Corumbá mine, effective 18 September 2009.
- (x) 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.
- (y) Production at the Mesa A mine commenced in the first quarter of 2010.
- (z) In March 2009, Rio Tinto announced that HIs melt<sup>®</sup> would be placed on an extended care and maintenance programme. In December 2010, the HIs melt<sup>®</sup> joint venture partners agreed to close the Kwinana site permanently and terminate the joint venture.
- (aa) In February 2011, Rio Tinto announced that it had received a binding offer for the purchase of 100 per cent of its talc business. Talc production includes some products derived from purchased ores.
- (bb) Quantities comprise 100 per cent of Rio Tinto Fer et Titane and 50 per cent of Richards Bay Minerals (RBM) production until late 2009 when RBM concluded a Broad Based Black Economic Empowerment transaction. Rio Tinto Iron & Titanium's share of RBM production reflects a decrease from 50 to 37 per cent with effect from 9 December 2009.
- (cc) Ilmenite mined in Madagascar is being processed in Canada with effect from June 2009. 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.

**Table of Contents**

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 2010, 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 2010. 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.

**Table of Contents**

	Type of mine (b)	Total ore reserves at end 2010		Interest %	Rio Tinto share Recoverable mineral millions of tonnes
		Tonnage	Grade		
		millions of tonnes	% Al <sub>2</sub> O <sub>3</sub>		
<b>BAUXITE (c)</b>					
<b>Reserves at operating mines</b>					
Gove (Australia)	O/P	136	49.6	100.0	136
Porto Trombetas (Brazil) (d)	O/P	21	50.1	12.0	3
Sangaredi (Guinea) (e)	O/P	117	52.4	23.0	27
Weipa (Australia)	O/P	1,602	53.0	100.0	1,602
<b>Rio Tinto total</b>					1,767
					<b>Marketable product</b>
					<b>millions of tonnes</b>
<b>BORATES (f)</b>					
<b>Reserves at operating mines</b>					
Rio Tinto Minerals - Boron (US)					
- mine	O/P	21.7		100.0	21.7
- stockpiles (g)	S/P	2.3		100.0	2.3
<b>Rio Tinto total</b>					24.0
					<b>Marketable reserves millions of tonnes</b>
					<b>millions of tonnes</b>
					<b>Marketable coal quality (j)</b>
					<b>Sulphur content</b>
					<b>%</b>
<b>COAL (h)</b>					

**Reserves at operating mines****Rio Tinto Coal Australia**

Bengalla (Australia)	O/C	SC	137	27.84	0.48	30.3	41
Blair Athol (Australia) (k)	O/C	SC	9	25.63	0.31	71.2	7
Clermont (Australia)	O/C	SC	182	27.90	0.33	50.1	91
Hail Creek (Australia) (l)	O/C	MC	126	32.20	0.35	82.0	104
Hunter Valley Operations (Australia)	O/C	SC + MC	263	28.99	0.58	75.7	199
Kestrel (Australia)	U/G	MC	126	31.60	0.59	80.0	101
Mount Thorley Operations (Australia)	O/C	SC + MC	24	29.41	0.43	60.6	14
Warkworth (Australia)	O/C	SC + MC	261	30.68	0.44	42.1	110

**Total Australian coal**

667

**US Coal**

Colowyo (US) (m)	O/C	SC	15	23.95	0.45	100.0	15
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**Rio Tinto total reserves at operating mines**

682

**Undeveloped reserves (n)****Rio Tinto Coal Australia**

Mount Pleasant (Australia)	O/C	SC	324	26.77	0.47	75.7	245
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**Table of Contents**

Ore Reserves (under Industry Guide 7) continued

	Type of mine (b)	Total ore reserves at end 2010		Average mill recovery %	Interest %	Rio Tinto share Recoverable metal millions of tonnes
		Tonnage  millions of tonnes	Grade  %Cu			
<b>COPPER</b>						
<b>Reserves at operating mines</b>						
Bingham Canyon (US) (o)						
mine	O/P	888	0.46	86	100.0	3.514
stockpiles (g)	S/P	85	0.24	86	100.0	0.177
Escondida (Chile)						
sulphide mine	O/P	1,587	1.02	82	30.0	3.956
sulphide leach mine	O/P	2,443	0.51	30	30.0	1.125
oxide mine	O/P	84	0.97	68	30.0	0.166
sulphide stockpiles (g)	S/P	8	1.02	82	30.0	0.019
sulphide leach stockpiles (g)	S/P	75	0.89	30	30.0	0.060
oxide stockpiles (g)	S/P	48	0.54	68	30.0	0.053
Grasberg (Indonesia) (p)	O/P + U/G	2,575	0.98	89	(p)	6.973
Northparkes (Australia) (q)						
mine	U/G	67	0.88	89	80.0	0.420
stockpiles (g)	S/P	9	0.41	85	80.0	0.024
Palabora (South Africa) (r)	U/G	62	0.60	88	57.7	0.190
<b>Rio Tinto total reserves at operating mines</b>						16.676
<b>Undeveloped reserves (n)</b>						
Eagle (US) (s)	U/G	4	2.68	95	100.0	0.105
Oyu Tolgoi (Mongolia)						
Hugo Dummett North (t)	U/G	410	1.90	92	26.6	1.910
Hugo Dummett North Extension						
(u)	U/G	27	1.85	94	24.9	0.116
Southern Oyu (v)	O/P	955	0.49	81	26.6	1.012
<b>Rio Tinto total undeveloped reserves</b>						3.144
						<b>Recoverable</b>

						<b>diamonds</b>
		<b>millions</b>	<b>carats</b>			<b>millions</b>
		<b>of tonnes</b>	<b>per</b>			<b>of carats</b>
			<b>tonne</b>			
<b>DIAMONDS (c)</b>						
<b>Reserves at operating mines</b>						
Diavik (Canada)	O/P + U/G	<b>18</b>	<b>2.9</b>	60.0		31.7
						<b>Recoverable metal</b>
		<b>millions</b>	<b>grammes</b>			<b>millions</b>
		<b>of tonnes</b>	<b>per</b>			<b>of ounces</b>
			<b>tonne</b>			
<b>GOLD</b>						
<b>Reserves at operating mines</b>						
Bingham Canyon (US) (o)						
mine	O/P	<b>888</b>	<b>0.21</b>	65	100.0	3.808
stockpiles (g)	S/P	<b>85</b>	<b>0.14</b>	65	100.0	0.255
Grasberg (Indonesia) (p)	O/P + U/G	<b>2,575</b>	<b>0.83</b>	69	(p)	12.829
Northparkes (Australia) (q)						
mine	O/P + U/G	<b>67</b>	<b>0.33</b>	73	80.0	0.416
stockpiles (g)	S/P	<b>9</b>	<b>0.27</b>	76	80.0	0.045
<b>Rio Tinto total reserves at operating mines</b>						17.352
<b>Undeveloped reserves (n)</b>						
Eagle (US) (s)	U/G	<b>4</b>	<b>0.27</b>	73	100.0	0.026
Oyu Tolgoi (Mongolia)						
Hugo Dummett North (t)	U/G	<b>410</b>	<b>0.40</b>	83	26.6	1.162
Hugo Dummett North Extension						
(u)	U/G	<b>27</b>	<b>0.72</b>	85	24.9	0.132
Southern Oyu (v)	O/P	<b>955</b>	<b>0.36</b>	75	26.6	2.189
<b>Rio Tinto total undeveloped reserves</b>						3.510

**Table of Contents**

	Type of mine (b)	Total ore reserves at end 2010		Average mill recovery %	Interest %	Rio Tinto share Marketable product millions of tonnes
		Tonnage millions of tonnes	Grade % Fe			
<b>IRON ORE (c)</b>						
<b>Reserves at operating mines</b>						
Hamersley wholly owned (Australia)						
Brockman 2 (Brockman ore) (w)	O/P	12	62.6		100.0	12
Brockman 4 (Brockman ore)	O/P	603	62.0		100.0	603
Marandoo (Marra Mamba ore) (x)	O/P	236	63.1		100.0	236
Mt Tom Price (Brockman ore) (y) mine	O/P	69	63.6		100.0	69
stockpiles (g)	S/P	14	62.6		100.0	14
Mt Tom Price (Marra Mamba ore) (z)	O/P	20	61.2		100.0	20
Nammuldi (Marra Mamba ore)	O/P	16	61.3		100.0	16
Paraburdoo (Brockman ore)	O/P	14	63.5		100.0	14
Turee Syncline Central (Brockman ore)	O/P	78	61.9		100.0	78
Western Turner Syncline (Brockman ore)	O/P	291	62.2		100.0	291
Yandicoogina (Pisolite ore HG) (aa) mine	O/P	171	58.6		100.0	171
stockpiles (g)	S/P	5	58.5		100.0	5
Yandicoogina (Process product) (bb)	O/P	91	58.6		100.0	91
Hamersley - Channar (Australia) (cc)						
Brockman ore	O/P	65	63.0		60.0	39
Hamersley - Eastern Range (Australia) (dd)						
Brockman ore	O/P	58	62.8		54.0	31
Hope Downs 1 (Australia)						
Marra Mamba ore	O/P	324	61.5		50.0	162
Iron ore Company of Canada (Canada) (ee)						
Robe River (Australia)	O/P	638	65.0		58.7	375
Pannawonica (Pisolite ore)						



mine	O/P	238	57.1	53.0	126
stockpiles (g)	S/P	9	58.3	53.0	5
West Angelas (Marra Mamba ore)					
mine	O/P	317	61.7	53.0	168
stockpiles (g)	S/P	3	58.4	53.0	1
<b>Rio Tinto total</b>					2,527
					<b>Recoverable metal</b>
					<b>millions of tonnes</b>
<b>MOLYBDENUM</b>		<b>millions of tonnes</b>	<b>%Mo</b>		<b>millions of tonnes</b>
<b>Reserves at operating mines</b>					
Bingham Canyon (US) (o) (ff)					
mine	O/P	888	0.040	71	100.0
stockpiles (g)	S/P	85	0.022	71	100.0
<b>Rio Tinto total</b>					0.265
					<b>Recoverable metal</b>
					<b>millions of tonnes</b>
<b>NICKEL</b>		<b>millions of tonnes</b>	<b>%Ni</b>		<b>millions of tonnes</b>
<b>Undeveloped reserves (n)</b>					
Eagle (US) (s)	U/G	4	3.15	87	100.0

**Table of Contents**

Ore Reserves (under Industry Guide 7) continued

		<b>Total ore reserves at end 2010</b>		<b>Average mill recovery %</b>	<b>Interest %</b>	<b>Rio Tinto share Recoverable metal millions of ounces</b>
Type of mine (b)	<b>Tonnage</b>	<b>Grade</b>				
	<b>millions of tonnes</b>	<b>grammes per tonne</b>				
<b>SILVER</b>						
<b>Reserves at operating mines</b>						
Bingham Canyon (US) (o)						
mine	O/P	<b>888</b>	<b>2.05</b>	74	100.0	43.143
stockpiles (g)	S/P	<b>85</b>	<b>1.34</b>	74	100.0	2.703
Grasberg (Indonesia) (p)	O/P + U/G	<b>2,575</b>	<b>4.12</b>	70	(p)	80.141
<b>Rio Tinto total</b>						125.987
						<b>Marketable product</b>
						<b>millions of tonnes</b>
<b>TALC (f)</b>						
<b>Reserves at operating mines</b>						
Rio Tinto Minerals - talc (gg)						
(Europe/North America/Australia) mine	O/P + U/G	<b>32.0</b>			100.0	32.0
stockpiles (g)	S/P	<b>0.2</b>			100.0	0.2
<b>Rio Tinto total</b>						32.2
						<b>Marketable product</b>
						<b>millions of tonnes</b>
<b>TITANIUM DIOXIDE FEEDSTOCK (f)</b>						
<b>Reserves at operating mines</b>						
RTFT (Canada)	O/P	<b>50.7</b>			100.0	50.7

QMM (Madagascar) (hh)	D/O	<b>9.3</b>			80.0	7.4
<b>Rio Tinto total</b>						58.1
						<b>Recoverable metal</b>
						<b>millions</b>
<b>URANIUM</b>		<b>millions of tonnes</b>	<b>% U<sub>3</sub>O<sub>8</sub></b>			<b>of tonnes</b>
<b>Reserves at operating mines</b>						
Energy Resources of Australia (Australia) (ii)						
Ranger #3 mine	O/P	<b>4.6</b>	<b>0.206</b>	85	68.4	0.005
Ranger #3 stockpiles (g)	S/P	<b>20.3</b>	<b>0.101</b>	85	68.4	0.012
Rössing (Namibia) (jj)						
mine	O/P	<b>168.2</b>	<b>0.038</b>	84	68.6	0.037
stockpiles (g)	S/P	<b>3.3</b>	<b>0.029</b>	80	68.6	0.001
<b>Rio Tinto total</b>						0.055

**Table of Contents**

Type of mine	Proven ore reserves at end 2010			Probable ore reserves at end 2010			
	(b) Tonnage millions of tonnes	Grade %Al <sub>2</sub> O <sub>3</sub>	Drill hole spacing (kk)	Tonnage millions of tonnes	Grade %Al <sub>2</sub> O <sub>3</sub>	Drill hole spacing (kk)	Drill hole spacing (kk)
<b>BAUXITE (c)</b>							
<b>Reserves at operating mines</b>							
Gove (Australia)	O/P	102	49.6	50m x 100m	35	49.3	200m x 200m
Porto Trombetas (Brazil) (d)	O/P	21	50.1	200m x 200m			
Sangaredi (Guinea) (e)	O/P				117	52.4	75m x 75m
Weipa (Australia)	O/P	612	52.6	150m x 150m	990	53.2	300m x 300m
		<b>millions of tonnes</b>			<b>millions of tonnes</b>		
<b>BORATES (f)</b>							
<b>Reserves at operating mines</b>							
Rio Tinto Minerals - Boron (US)							
- mine	O/P	14.4		61m	7.3		61m
- stockpiles (g)	S/P				2.3		
		<b>millions of tonnes</b>			<b>millions of tonnes</b>		
			<b>% Yield to Give</b>				
		<b>Recoverable reserves</b>	<b>Marketable</b>	<b>Proven</b>	<b>Marketable Reserves</b>		<b>Drill hole spacing (kk)</b>
		<b>total millions of tonnes</b>	<b>Reserves</b>	<b>millions of tonnes</b>	<b>Drill hole spacing (kk)</b>	<b>Probable millions of tonnes</b>	<b>Drill hole spacing (kk)</b>
<b>COAL (h)</b>							
<b>Reserves at operating mines</b>							
Rio Tinto Coal Australia							
Bengalla (Australia)	O/C	172	80	129	300m	8	500m
Blair Athol (Australia) (k)	O/C	11	89	9	150m		150m to
Clermont (Australia)	O/C	190	96	178	220m	4	300m
Hail Creek (Australia) (l)	O/C	213	59	60	<750m	66	Max 750m

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Hunter Valley Operations (Australia)	O/C	386	68	229	300m	34	500m
Kestrel (Australia)	U/G	151	83	45	500m	81	1000m
Mount Thorley Operations (Australia)	O/C	37	65	21	125m	3	500m
Warkworth (Australia)	O/C	400	65	140	300m	121	750m
<b>US Coal</b>							
Colowyo (US) (m)	O/C	15	100	12	137m	2	305m
<b>Undeveloped reserves (n)</b>							
<b>Rio Tinto Coal Australia</b>							
Mount Pleasant (Australia)	O/C	394	82			324	125m to 500m

www.riotinto.com 89

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**Table of Contents**

Ore Reserves (under Industry Guide 7) continued

	Type of mine (b)	Proven ore reserves at end 2010			Probable ore reserves at end 2010		
		Tonnage millions of tonnes	Grade % Cu	Drill hole spacing (kk)	Tonnage millions of tonnes	Grade % Cu	Drill hole spacing (kk)
<b>COPPER</b>							
<b>Reserves at operating mines</b>							
Bingham Canyon (US) (o)							
- mine	O/P	418	0.53	85m	470	0.39	131m
- stockpiles (g)	S/P	52	0.26		34	0.22	
Escondida (Chile)							
- sulphide mine	O/P	718	1.15	50m x 50m	869	0.91	85m x 85m
- sulphide leach mine	O/P	708	0.47	55m x 55m	1,735	0.53	100m x 100m
- oxide mine	O/P	28	1.11	40m x 40m	56	0.90	50m x 50m
- sulphide stockpiles (g)	S/P	8	1.02				
- sulphide leach stockpiles (g)	S/P	75	0.89				
- oxide stockpiles (g)	S/P	48	0.54				
Grasberg (Indonesia) (p)	O/P + U/G	825	1.09	16m to 53m	1,750	0.93	51m to 105m
Northparkes (Australia) (q)							
- mine	O/P + U/G				67	0.88	40 x 40 x 80m
- stockpiles (g)	S/P	9	0.41				
Palabora (South Africa) (r)	U/G	62	0.60	76m			
<b>Undeveloped reserves (n)</b>							
Eagle (US) (s)	U/G				4	2.68	25m
Oyu Tolgoi (Mongolia)							
- Hugo Dummett North (t)	U/G				410	1.90	135 x 75m
- Hugo Dummett North Extension (u)	U/G				27	1.85	135 x 75m
- Southern Oyu (v)	O/P	127	0.58	50m	828	0.48	75m to 100m
		<b>millions of tonnes</b>	<b>carats per tonne</b>		<b>millions of tonnes</b>	<b>carats per tonne</b>	
<b>DIAMONDS (c)</b>							
<b>Reserves at operating mines</b>							
Diavik (Canada)	O/P + U/G	8	2.9	24m to 40m	10	3.0	24m to 40m
		<b>millions of tonnes</b>	<b>grammes per tonne</b>		<b>millions of tonnes</b>	<b>grammes per tonne</b>	
<b>GOLD</b>							

**Reserves at operating mines**

Bingham Canyon (US) (o)							
- mine	O/P	418	0.23	85m	470	0.18	131m
- stockpiles (g)	S/P	52	0.16		34	0.12	
Grasberg (Indonesia) (p)	O/P + U/G	825	1.03	16m to 53m	1,750	0.74	51m to 105m
Northparkes (Australia) (q)							
- mine	O/P + U/G				67	0.33	40 x 40 x 80m
- stockpiles (g)	S/P	9	0.27				

**Undeveloped reserves (n)**

Eagle (US) (s)	U/G				4	0.27	25m
Oyu Tolgoi (Mongolia)							
- Hugo Dummett North (t)	U/G				410	0.40	135 x 75m
- Hugo Dummett North							
Extension (u)	U/G				27	0.72	135 x 75m
- Southern Oyu (v)	O/P	127	0.93	50m	828	0.27	75m to 100m

**Table of Contents**

	Type of mine	Proven ore reserves at end 2010			Probable ore reserves at end 2010		
		(b) Tonnage millions of tonnes	Grade %Fe	Drill hole spacing (kk)	Tonnage millions of tonnes	Grade %Fe	Drill hole spacing (kk)
<b>IRON ORE (c)</b>							
<b>Reserves at operating mines</b>							
Hamersley wholly owned (Australia)							
- Brockman 2 (Brockman ore) (w)	O/P	11	62.6	50m x 50m	1	62.5	Max 100m
- Brockman 4 (Brockman ore)	O/P	353	62.2	50m x 50m	251	61.9	200m x 100m
- Marandoo (Marra Mamba ore) (x)	O/P	205	63.4	75m x 75m	31	61.2	Max 150m
- Mt Tom Price (Brockman ore) (y)							
- mine	O/P	29	63.7	30m x 30m	40	63.5	60m x 30m
- stockpiles (g)	S/P				14	62.6	
- Mt Tom Price (Marra Mamba ore) (z)	O/P	18	61.4	60m x 30m	2	58.9	60m x 30m
- Nammuldi (Marra Mamba ore)	O/P	10	61.3	50m x 50m	6	61.2	100m x 50m
- Paraburdoo (Brockman ore)	O/P	9	63.3	30m x 30m	5	63.7	60m x 30m
- Turee Syncline Central (Brockman ore)	O/P	72	62.0	60m x 60m	6	61.5	120m x 120m
- Western Turner Syncline (Brockman ore)	O/P	224	62.5	60m x 60m	67	61.3	60m x 60m
- Yandicoogina (Pisolite ore HG) (aa)							
- mine	O/P	171	58.6	50m x 50m			
- stockpiles (g)	S/P				5	58.5	
- Yandicoogina (Process product) (bb)	O/P	91	58.6	50m x 50m			
Hamersley - Channar (Australia) (cc)							
- Brockman ore	O/P	44	63.1	60m x 60m	21	62.7	Max 120m
Hamersley - Eastern Range (Australia) (dd)							
- Brockman ore	O/P	48	62.9	60m x 60m	10	62.7	Max 120m
Hope Downs 1 (Australia)							
- Marra Mamba ore	O/P	20	61.6	50m x 50m	304	61.5	50m x 50m
	O/P	366	65.0	122m x 61m	272	65.0	122m x 122m



Iron ore Company of Canada  
(Canada) (ee)

## Robe River (Australia)

## - Pannawonica (Pisolite ore)

- mine	O/P	187	57.4	Max 70m x 70m	52	56.1	Max 100m x 100m
- stockpiles (g)	S/P	3	56.9		6	59.0	
- West Angelas (Marra Mamba ore)							
- mine	O/P	154	62.1	50m x 50m	163	61.4	Max 200m x 50m
- stockpiles (g)	S/P	0.3	62.7		2	57.8	

		<b>millions of tonnes</b>	<b>%Mo</b>		<b>millions of tonnes</b>	<b>% Mo</b>	
<b>MOLYBDENUM</b>							

**Reserves at operating mine**

## Bingham Canyon (US) (o) (ff)

- mine	O/P	418	0.044	85m	470	0.036	131m
- stockpiles (g)	S/P	52	0.028		34	0.013	

		<b>millions of tonnes</b>	<b>%Ni</b>		<b>millions of tonnes</b>	<b>% Ni</b>	
<b>NICKEL</b>							

**Undeveloped reserves (n)**

Eagle (US) (s)	U/G				4	3.15	25m
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**Table of Contents**

Ore Reserves (under Industry Guide 7) continued

	Type of mine (b)	Proven ore reserves at end 2010			Proven ore reserves at end 2010		
		Tonnage millions of tonnes	Grade grammes per tonne	Drill hole spacing (kk)	Tonnage millions of tonnes	Grade grammes per tonne	Drill hole spacing (kk)
<b>SILVER</b>							
<b>Reserves at operating mines</b>							
Bingham Canyon (US) (o)							
- mine	O/P	418	2.23	85m	470	1.89	131m
- stockpiles (g)	S/P	52	1.31		34	1.38	
Grasberg (Indonesia) (p)	O/P + U/G	825	4.22	16m to 53m	1,750	4.08	51m to 105m
		<b>millions of tonnes</b>			<b>millions of tonnes</b>		
<b>TALC (f)</b>							
<b>Reserves at operating mines</b>							
Rio Tinto Minerals - talc (gg) (Europe/North America/Australia)							
- mine	O/P + U/G	23.3		10m to 50m	8.7		15m to 100m
- stockpiles	S/P	0.2					
		<b>millions of tonnes</b>			<b>millions of tonnes</b>		
<b>TITANIUM DIOXIDE FEEDSTOCK (f)</b>							
<b>Reserves at operating mines</b>							
RTFT (Canada)	O/P	27.2		60m	23.5		100m
QMM (Madagascar) (hh)	D/O	1.8		200m x 100m	7.5		100m x 100m
		<b>millions of tonnes</b>			<b>millions of tonnes</b>		
<b>URANIUM</b>							
<b>Reserves at operating mines</b>							
Energy Resources of Australia (Australia) (ii)							
- Ranger #3 mine	O/P	3.5	0.213	25m x 25m	1.1	0.185	50m x 50m
- Ranger #3 stockpiles (g)	S/P				20.3	0.101	

Rössing (Namibia) (jj)

- mine	O/P	42.7	0.032	20m x 20m	125.4	0.040	120m x 120m
- stockpiles (g)	S/P	3.3	0.029				

92 Rio Tinto 2010 Annual report

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**Table of Contents****Notes**

- (a) Commodity prices (based on a three year average historical price to 30 June, 2010) used to test whether the reported reserve estimates could be economically extracted, include the following benchmark prices :

<b>Ore reserve</b>	<b>Unit</b>	<b>US\$</b>
Aluminium	pound	0.99
Copper	pound	2.93
Gold	ounce	930
Iron Ore		
Australian benchmark (fines)	dmtu**	120.4
Molybdenum	pound	21.04
Nickel	pound	9.33
Silver	ounce	15.09

\*\* dry metric tonne unit

Prices for all other commodities are determined by individual contract negotiation. The reported reserves for these commodities have been tested to confirm that they could be economically extracted using a combination of existing contract prices until expiry and thereafter three year historical prices.

- (b) Type of mine: O/P = open pit, O/C = open cut, U/G = underground, D/O = dredging operation.
- (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) The decrease in reserves at Porto Trombetas results from production as well as reclassification of material ahead of permitting.
- (e) The decrease in reserves at Sangaredi follows production.
- (f) Reserves of industrial minerals are expressed in terms of marketable product, i.e. after all mining and processing losses. In the case of borates, the marketable product is B<sub>2</sub>O<sub>3</sub>.
- (g) Stockpile components of reserves are shown for all operations at the relevant mine.
- (h) Coal reserves are shown as both recoverable and marketable. The yield factors shown reflect the impact of further processing, where necessary, to provide marketable coal. All reserves at operating mines are assigned, all undeveloped reserves are unassigned. By assigned and unassigned, we mean the following: assigned reserves means coal which has been committed by the coal company to operating mine shafts, mining equipment, and plant facilities, and all coal which has been leased by the company to others; unassigned reserves represent coal which has not been committed, and which would require new mineshafts, mining equipment, or plant facilities before operations could begin on the property.
- (i) Coal type: SC: steam/thermal coal, MC: metallurgical/coking coal.
- (j) Analyses of coal from the US were undertaken according to ASTM Standards on an As Received moisture basis whereas the coals from Australia have been analysed on an Air Dried moisture basis according to Australian

Standards. MJ/kg = megajoules per kilogramme. 1 MJ/kg = 430.2 Btu/lb.

- (k) The reduced reserves at Blair Athol reflect production and reclassification of material following an economic re-evaluation.
- (l) The lower reserve at Hail Creek has resulted from model updates and yield data refinement, production depletions and reclassification of tonnes following a strategic review.
- (m) The lower reserve tonnage at Colowyo follows production depletion.
- (n) The term "other 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.
- (o) A strategic review of the Bingham Canyon pit has led to significant conversions of material to reserves with resulting recasting of tonnage and grade figures. This has added tonnes far in excess of the annual production.
- (p) 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.
- (q) Tonnage and grade depletions at Northparkes stem from campaign mining and selective stockpiling ahead of processing.
- (r) The decrease in the Palabora reserve tonnage follows production as well as planning and scheduling updates.
- (s) The Eagle reserve increase is the result of an updated economic model and a mine design review.
- (t) Hugo Dummett North is reported for the first time as a result of technical and economic studies.
- (u) Hugo Dummett North Extension is reported for the first time as a result of technical and economic studies.
- (v) Rio Tinto's interest in South Oyu increased from 19.9 to 26.6 per cent during 2010.
- (w) The reserve decrease at Hamersley Brockman 2 reflects production and updating of the model.
- (x) Hamersley Marandoo (Marra Mamba ore) reserve increase is the result of a strategic review.
- (y) The Hamersley Mt Tom Price (Brockman ore) reserve decrease reflects production and updating of the model.
- (z) Production led to a decrease in the Hamersley Mt Tom Price (Marra Mamba ore) reserve.
- (aa) The Hamersley Yandicoogina (Pisolite ore HG) reserve decrease reflects production and a model update.
- (bb) The Hamersley Yandicoogina (Process Product) reserve tonnage decreased following production and selective stockpiling.
- (cc) The Hamersley Channar (Brockman ore) reserve decrease reflects a model update.
- (dd) The Hamersley Eastern Range (Brockman ore) reserve decrease reflects a model update.
- (ee)

Reserves at Iron Ore Company of Canada are reported as marketable product (65 per cent pellets and 35 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 and a modelling cut off grade of 28 per cent concentrate weight yield. The marketable product is obtained from mined material comprising 860 million dry tonnes at 38.2 per cent iron (Proven) and 630 million dry tonnes at 37.8 per iron (Probable).

- (ff) Molybdenum grades interpolated from exploration drilling assays have been factored based on a long reconciliation history to blasthole and mill samples.
- (gg) In February 2011, Rio Tinto announced that it had received a binding offer for the purchase of 100 per cent of its talc business.
- (hh) Reserve changes at QMM are due to decreased metallurgical recovery, mine design changes and the reclassification of reserve material.
- (ii) Mine production and planning updates have reduced the Ranger #3 reserve.
- (jj) Production together with a revised model has led to a decrease in Rössing reserve tonnes and an increase in grade.
- (kk) 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.

**Table of Contents**

## Mines and production facilities

Group mines as at 31 December 2010

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

<b>Mine</b>	<b>Location</b>	<b>Access</b>	<b>Title/lease</b>
<b>BAUXITE</b>			
<b>CBG Sangaredi (23%)</b>	Kamsar, Guinea	Road, air and port	Lease expires in 2038
<b>Gove</b>	Gove, Northern Territory,  Australia	Road, air and port	100% leasehold, expiring in 2011, with most leases having a right of renewal for a further 42 years (freehold interest in underlying land held in escrow by the Northern Land Council on behalf of the Arnhem Land Aboriginal Land Trust until expiry of the leases, including period of renewal); additional lease is to be granted by the Arnhem Land Aboriginal Land Trust for the purpose of residue disposal.
<b>MRN Porto Trombetas (12%)</b>	Porto Trombetas,  Para, Brazil	Air or port	Mineral rights granted for undetermined period

<b>Weipa/Ely</b>	Weipa, Queensland,  Australia	Road, air and port	The Weipa Queensland Government lease expires in 2041 with an option of 21 year extension, then two years notice of termination; the Ely Alcan Queensland Pty. Limited Agreement Act 1965 expires in 2048 with 21 year right of renewal with a two year notice period
<b>COPPER</b>			
<b>Escondida (30%)</b>	Atacama Desert, Chile	Pipeline and road to deep  sea port at Coloso; road and rail	Rights conferred by Government under Chilean Mining Code
<b>Grasberg joint venture</b>  (40% of production)	Papua, Indonesia	Pipeline, road and port	Indonesian Government Contracts of Work expire in 2021 with option of two ten year extensions
<b>Kennecott Utah Copper</b> Bingham Canyon	Near Salt Lake City, Utah, US	Pipeline, road and rail	Owned
<b>Northparkes (80%)</b>	Goonumbla, New South	Road and rail	State Government mining lease issued in 1991 for 21 years.



		Wales, Australia		Development consent approved in 2009 for extension of mine life to 2025
<b>Palabora (57.7%)</b>		Phalaborwa, Limpopo Province, South Africa	Rail and road	Lease from South African Government until deposits depleted. Base metal claims owned by Palabora
<b>DIAMONDS &amp; MINERALS</b>				
<b>Diamonds</b>				
<b>Argyle Diamonds</b>		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
<b>Diavik (60%)</b>		Northwest Territories, Canada	Air, ice road in winter	Mining leases from Canadian Federal Government expiring in 2017 and 2018
<b>Murowa (77.8%)</b>		Zvishavane, Zimbabwe	Road and air	Claims and mining leases
<b>Industrial Minerals</b>				
<b>Rio Tinto Minerals</b>	<b>Boron</b>	California, US	Road, rail and port	Owned
<b>Rio Tinto Minerals</b>	<b>Talc</b>	Trimouns, France (other	Road and rail	Owner of ground (orebody) and long term lease

	smaller operations in Australia, Europe and North America)		agreement to 2012
<b>Rio Tinto Fer et Titane</b>	Havre-Saint-Pierre,	Rail and port	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
Lac Tio	Quebec, Canada	(St Lawrence River)	
<b>QIT Madagascar Minerals (80%)</b>	Fort-Dauphin, Madagascar	Road and port	Mining lease
<b>Richards Bay Minerals (37%)</b>	Richards Bay, KwaZulu-Natal, South Africa	Rail, road and port	Long term renewable mineral leases; State lease for Reserve 4 initially runs to end 2022; Ingonyama Trust lease for Reserve 10 runs to 2022. Application made for both mineral leases to be converted to new order mining rights following transfer in December 2009 of 26% interest to investor groups of previously disadvantaged South Africans in terms of Mining Charter legislation

**Table of Contents**

**History**

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 million tonnes

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

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%)

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 at Weipa. 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. In 2004 a mine expansion was completed at Weipa that has 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. A second shiploader that increases the shipping capability was commissioned in 2006 at Weipa. First ore extracted at Ely in 2007

Production started in 1990 and expanded in phases to 2002 when new concentrator was completed; production from Norte started in 2005 and the sulphide leach produced the first cathode during 2006

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

Interest acquired in 1989. Modernisation includes smelter complex and expanded tailings dam

Production started in 1995; interest acquired in 2000

Development of 20 year underground mine commenced in 1996 with open pit closure in 2003

Interest increased from 59.7% following purchase of Ashton Mining in 2000. Underground mine project approved in 2005 to extend mine life to 2018

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 is expected to start production in 2010, ramping up to full production in 2013

Discovered in 1997. Small scale production started in 2004

Deposit discovered in 1925 and acquired by Rio Tinto in 1967

Production started in 1885; acquired in 1988. Australian mine Three Springs acquired in 2001

Production started 1950; interest acquired in 1989

Began as exploration project 1980s; construction approved 2005; ilmenite production started end of 2008

Production started 1977; interest acquired 1989. Fifth mining plant commissioned in 2000. One mining plant decommissioned in 2008



**Table of Contents**

## Mines and production facilities continued

Group mines as at 31 December 2010 continued

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

<b>Mine</b>	<b>Location</b>	<b>Access</b>	<b>Title/lease</b>
<b>ENERGY</b>			
<b>Energy Resources of Australia</b> (68.4%) Ranger	Northern Territory, Australia	Road	Mining tenure granted by Federal Government
<b>Rio Tinto Coal Australia</b> Bengalla (30.3%) Blair Athol (71.2%) Hail Creek (82%) Hunter Valley Operations (75.7%) Kestrel (80%) Mount Thorley Operations (60.6%) Warkworth (42.1%)	New South Wales and Queensland, Australia	Road, rail, conveyor and port	Leases granted by state
<b>Colowyo</b> (100%)	Colorado, US	Rail and road	Leases from US and state governments and private parties, with minimum coal production levels, and adherence to permit requirements and statutes
<b>Rössing Uranium</b> (68.6%)	Namib Desert, Namibia	Rail, road and port	National government grant
<b>IRON ORE</b>			
<b>Hamersley Iron</b> Brockman Brockman 4 Marandoo Mount Tom Price Nammuldi Paraburdoo Western Turner Syncline Yandicoogina Channar (60%) Eastern Range (54%)	Hamersley Ranges, Western Australia	Railway and port (owned by Hamersley Iron and operated by Pilbara Iron)	Agreements for life of mine with Government of Western Australia

<p><b>Hope Downs joint venture</b> (50% mine, 100% infrastructure)</p>	<p>Pilbara region, Western Australia</p>	<p>Railway owned and operated by Rio Tinto</p>	<p>Agreements for life of mine with Government of Western Australia</p>
<p><b>Iron Ore Company of Canada (58.7%)</b></p>	<p>Labrador City, Province of Labrador and Newfoundland</p>	<p>Railway and port facilities in Sept- Iles, Quebec (owned and operated by IOC)</p>	<p>Sublease with the Labrador Iron Ore Royalty Income Fund which has lease agreements with the Government of Newfoundland and Labrador that are due to be renewed in 2020 and 2022</p>
<p><b>Robe River Iron Associates (53%)</b> Mesa J Mesa A West Angelas</p>	<p>Pilbara region, Western Australia</p>	<p>Railway and port (owned by Robe River and operated by Pilbara Iron)</p>	<p>Agreements for life of mine with Government of Western Australia</p>
<p><b>Dampier Salt (68.4%)</b></p>	<p>Dampier, Lake MacLeod and Port Hedland, Western Australia</p>	<p>Road and port</p>	<p>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</p>

**Table of Contents**

	<b>Type of mine</b>	<b>Power s</b>
1981. Interest acquired through North in 2000. Life of mine extension to 2020 announced	Open pit	On site generati
Export at Blair Athol in 1984. Kestrel was acquired and recommissioned in 1999. 2003. Coal & Allied shares were first acquired in 1977, and management control extensive acquisitions of surrounding assets results in the current portfolio	Open cut and underground (Kestrel)	State ow
...d in 1995	Open cut	Supplie Co-oper national
...978	Open pit	Namibia
...eased to 68 million tonnes during 1990s. Yandicoogina first ore shipped in 1999 and port ...Eastern Range started 2004	Open pit	Supplie integrat Robe po by Pilba
...Rio Tinto and Hancock Prospecting. Construction of Stage 1 to 22 million tonnes ...ed April 2006 and first production occurred November 2007. Stage 2 to 30 million tonnes ...2009	Open pit	Supplie integrat Robe po by Pilba



<p>2000 through North. Current operation began in 1962 and has processed over one billion tonnes of concentrate. Annual capacity 17.5 million tonnes of concentrate of which 13.5 million tonnes</p>	<p>Open pit</p>	<p>Supplied by Hydro u contract</p>
<p>2. Annual sales reached 30 million tonnes in late 1990s. Interest acquired in 2000 through first ore shipped in 2002 and mine expanded in 2005. Current capacity approximately 10 million tonnes per year</p>	<p>Open pit</p>	<p>Supplied by integrated Robe port by Pilbara</p>
<p>Dampier field started in 1969; first shipment in 1972. Lake MacLeod was acquired in 1978 and Port Hedland was acquired in 2001 as an operating field</p>	<p>Solar evaporation of seawater (Dampier and Port Hedland) and underground brine (Lake MacLeod); dredging of gypsum from surface of Lake MacLeod</p>	<p>Dampier Hamersley MacLeod Power units; Port Hedland Western</p>

**Table of Contents**

## Mines and production facilities continued

## Group smelters and refineries

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

<b>Smelter/refinery</b>	<b>Location</b>	<b>Title/lease</b>	<b>Plant type/product</b>
<b>ALUMINIUM</b>			
<b>Alma</b>	Alma, Quebec, Canada	100% freehold	Aluminium smelter producing rod, t-foundry, molten metal
<b>Alouette</b> (40%)	Sept-Îles, Quebec, Canada	100% freehold	Aluminium smelter producing high purity, remelt
<b>Alucam</b> (46.7%)	Edéa, Cameroon	100% freehold	Aluminium smelter producing slab, remelt
<b>Arvida</b>	Saguenay, Quebec, Canada	100% freehold	Aluminium smelter producing billet, molten metal
<b>Bécancour</b> (25.1%)	Bécancour, Quebec, Canada	100% freehold	Aluminium smelter producing slab, billet, t-foundry, remelt
<b>Bell Bay</b>	Bell Bay, Northern Tasmania, Australia	100% freehold	Aluminium smelter producing molten metal, small form
<b>Boyne Smelters</b> (59.4%)	Boyne Island, Queensland, Australia	100% freehold	Aluminium smelter producing EC grade, small form and
<b>Dunkerque</b>	Dunkerque, France	100% freehold	Aluminium smelter producing slab, small form foundry
<b>Gardanne</b>	Gardanne, France	100% freehold	Refinery producing special
<b>Gove</b>	Gove, Northern Territory, Australia	100% leasehold, expiring in 2011, with most leases having a right of renewal for a further 42 years (freehold interest in underlying land held in escrow by the Northern Land Council on behalf of the Arnhem Land Aboriginal Land Trust until expiry of the leases, including period of renewal); additional lease is to be granted by the Arnhem Land Aboriginal Land Trust for the	Refinery producing aluminium

purpose of residue disposal

<b>Grande-Baie</b>	Saguenay, Quebec, Canada	100% freehold	Aluminium smelter production of slab, molten metal, high purity
<b>ISAL</b>	Reykjavik, Iceland	100% freehold	Aluminium smelter production of slab, remelt
<b>Jonquière (Vaudreuil)</b>	Jonquière, Quebec, Canada	100% freehold	Refinery producing special smelter grade aluminas
<b>Kitimat (a)</b>	Kitimat, British Columbia, Canada	100% freehold	Aluminium smelter production of billet, slab, remelt
<b>Laterrière</b>	Saguenay, Quebec, Canada	100% freehold	Aluminium smelter production of slab, remelt, molten metal
<b>Lochaber</b>	Fort William, Scotland, UK	100% freehold	Aluminium smelter production of slab, remelt
<b>Lynemouth</b>	Lynemouth, Northumberland, UK	100% freehold	Aluminium smelter production of slab, remelt
<b>Queensland Alumina (80%)</b>	Gladstone, Queensland, Australia	73.3% freehold; 26.7% leasehold (of which more than 80% expires in 2026 and after)	Refinery producing alumina
<b>Saint-Jean-de-Maurienne</b>	Saint-Jean-de-Maurienne, France	100% freehold	Aluminium smelter production of rod, remelt
<b>São Luis (Alumar) (10%)</b>	São Luis, Maranhão, Brazil	100% freehold	Refinery producing alumina
<b>Sebree</b>	Robards, Kentucky, US	100% freehold	Aluminium smelter production of billet, small form foundry
<b>Shawinigan</b>	Shawinigan, Quebec, Canada	100% freehold	Aluminium smelter production of billet, remelt
<b>Sohar (20%)</b>	Sohar, Oman	100% leasehold (expiring 2039)	Aluminium smelter production of high purity, remelt
<b>SØRAL (50%)</b>	Husnes, Norway	100% freehold	Aluminium smelter production of billet, remelt

**Table of Contents**

Group smelters and refineries continued  
(Rio Tinto's interest 100 per cent unless otherwise shown)

<b>Location</b>	<b>Title/lease</b>	<b>Plant type/product</b>	<b>Capacity as of 12/31/2010 (based on 100% capacity)</b>
Wendover, 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	365,000 tonnes aluminium
Wagga, New South Wales, Australia	100% freehold	Aluminium smelter producing aluminium billet, slab, remelt	533,000 tonnes aluminium
Woodward, Queensland, Australia	97% freehold. 3% leasehold (expiring 2101 and after)	Refinery producing alumina	1,400,000 tonnes alumina
Wagon, Salt Lake City, Utah, US	100% freehold	Flash smelting furnace/Flash converter furnace copper refinery	335,000 tonnes refined copper
Witwatersrand, South Africa	100% freehold	Reverberatory Pierce Smith copper refinery	90,000 tonnes refined copper
<b>MINERAL PROCESSING PLANTS</b>			
California, US	100% freehold	Borates refinery	565,000 tonnes boric oxide
Theriot-Tracy, Quebec, Canada	100% freehold	Ilmenite smelter	1,100,000 tonnes titanium dioxide 900,000 tonnes
Richards Bay, South Africa	100% freehold	Ilmenite smelter	1,060,000 tonnes titanium dioxide 550,000 tonnes
Wagin, Western Australia	100% leasehold (expiring in 2010 with rights of renewal for further	HIsmelt® ironmaking plant producing pig iron	800,000 tonnes pig iron

25 year terms)

brador City, Newfoundland d 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 pellet
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*Notes:*

- (a) Capacity as at 31 December 2010 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.
- (b) In March 2009, Rio Tinto announced that HIs melt<sup>®</sup> would be placed on an extended care and maintenance programme. In December 2010, the HIs melt<sup>®</sup> joint venture partners agreed to close the Kwinana site permanently and terminate the joint venture. A closure study is expected to be completed by 2012.

**Table of Contents**

## Mines and production facilities continued

## Information on Group power plants

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

	<b>Location</b>	<b>Title/lease</b>	<b>Plant type/product</b>
<b>ALUMINIUM</b>			
<b>Gladstone power station</b> (42%)	Gladstone, Queensland, Australia	100% freehold	Thermal power station
<b>Highlands power stations</b>	Lochaber, Kinlochleven, UK	100% freehold	Hydroelectric power
<b>Lynemouth power station</b>	Lynemouth, UK	100% freehold	Thermal power station
<b>Kemano power station</b>	Kemano, British Columbia, Canada	100% freehold	Hydroelectric power
<b>Quebec power stations</b>	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
<b>Vigelands power station</b>	Nr Kristiansand, Norway	100% freehold	Hydroelectric power
<b>Yarwun alumina refinery co-generation plant</b>	Gladstone, Queensland, Australia	100% freehold	Gas turbine and heat recovery providing process steam for alumina refining operations sold to grid.
<b>COPPER</b>			
<b>Phalaborwa power station</b> (57.7%)	Phalaborwa, Limpopo Province, South Africa	100% freehold	Steam turbine running at the copper smelter
<b>Puncakjaya Power</b> (22.12%)	Grasberg, Papua, Indonesia	Lease	Diesel power plant Thermal power plant
<b>Kennecott Utah Copper Power Stations</b>	Salt Lake City, Utah, US	100% freehold	Thermal power station  Steam turbine running at the copper smelter Combined heat and power steam to the copper refinery

**Kennecott Utah Copper**

Salt Lake City, Utah, US

100% freehold (in 2011 or 2012)

Combined heat and power  
steam to the molybdenum

100 Rio Tinto 2010 Annual report

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**Table of Contents**

	<b>Location</b>	<b>Title/lease</b>	<b>Plant type/product</b>	<b>Capacity and (based on 1</b>
<b>ant</b>	Boron, California, US	100% freehold (Rio Tinto Minerals operates a second plant owned by a third party)	Co-generation uses natural gas to generate steam, used to run Boron's refining operations	100MW (85 to a local ut
<b>3%)</b>	Ranger mine, Jabiru, Northern Territory, Australia	100% freehold	Five diesel generator sets rated at 5.1MW; 1 diesel generator rated at 1.9MW	27.4MW
	Cape Lambert, Western Australia, Australia	Lease	Gas fired boilers with steam turbines	105MW
<b>ion</b>	Paraburdoo, Western Australia, Australia	Lease	LM6000 PC gas fired turbines	153MW
	Dampier, Western Australia, Australia	Lease	LM6000 PD gas fired turbines	180MW



**Table of Contents**

Board of directors

The board comprises the chairman, three executive directors and ten independent non executive directors.

102 Rio Tinto 2010 Annual report

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**Table of Contents**

1. Jan du Plessis (c and e) Chairman, BCom, LLB, CA (SA), age 57 Appointment and election: Director of Rio Tinto plc and Rio Tinto Limited effective September 2008. Jan was elected by shareholders at the 2009 annual general meetings. He was appointed chairman at the conclusion of the 2009 annual general meetings.

Skills and experience: Jan 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, becoming chairman of British American Tobacco in 2004.

External appointments (current and recent): Non executive director of Marks and Spencer Group plc since 2008, non executive director of British American Tobacco plc from 1999 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, chairman of RHM plc from 2005 until 2007.

2. Tom Albanese (e) Chief executive, BS (Mineral Economics), MS (Mining Engineering), age 53

Appointment and election: Director of Rio Tinto plc and Rio Tinto Limited since 2006. Tom was last re-elected in 2008.

Skills and experience: Tom joined Rio Tinto in 1993 on Rio Tinto's acquisition of Nerco and held a series of management positions before being appointed chief executive of the Industrial Minerals group in 2000, after which he became chief executive of the Copper group and head of Exploration in 2004. He took over as chief executive with effect from 2007.

External appointments (current and recent): Director of Ivanhoe Mines Limited from 2006 to 2007, director of Palabora Mining Company from 2004 to 2006, member of the executive committee of the International Copper Association from 2004 to 2006, member of the board of visitors, Duke University, Fuqua School of Business from 2009.

3. Robert Brown (c, d and f) Non executive director, BSc, age 66 Appointment and election: Appointed a director of Rio Tinto plc and Rio Tinto Limited in April 2010. Bob was elected by shareholders at the 2010 annual general meetings.

Skills and experience: Bob is chairman of Groupe Aeroplan Inc and serves on the board of Bell Canada Enterprises (BCE Inc), the holding company for Bell Canada. 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 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 of Groupe Aeroplan Inc since 2005 and chairman since 2008, non executive director of Bell Canada Enterprises (BCE Inc) since 2009, president and chief executive officer of CAE Inc from 2004 until 2009, non executive director of Nortel Corporation from 2000 to 2006, Ace Aviation Holdings Inc from 2004 to 2009 and Fier CPVC Montreal L.P., trustee of Jazz Air Income Fund from 2006-2008.

4. Vivienne Cox (a, c, d and f) Non executive director, MA (Oxon), MBA (INSEAD), Honorary PhD (Hull), age 51 Appointment and election: Director of Rio Tinto plc

and Rio Tinto Limited since 2005. Vivienne was last re-elected in 2008.

Skills and experience: Vivienne was executive vice president and chief executive officer, Alternative Energy for BP plc until 2009. She became a member of the BP group chief executive's committee when she became chief executive of the Gas, Power and Renewables business. During her career at BP she worked in chemicals, exploration, finance and refining and marketing. Vivienne holds degrees in chemistry from Oxford University and in business administration from INSEAD.

External appointments (current and recent): Non executive director of the Department for International Development since December 2010, non executive director of The Climate Change Organisation since December 2010, non executive director of Climate Change Capital Limited since 2008 and non executive chairman since 2009, member of the supervisory board of Vallourec since February 2010, member of the offshore advisory committee of Mainstream Renewable Power since September 2010, member of the board of INSEAD since 2009, executive vice president for BP plc between 2004 and 2009.

5. Sir Rod Eddington (c, d and f) Non executive director,  
BEng, MEng, DPhil (Oxon), age 61

Appointment and election: Director of Rio Tinto plc and Rio Tinto Limited since 2005. Sir Rod was last re-elected in 2009 and will retire at the conclusion of the Rio Tinto Limited annual general meeting in 2011.

Skills and experience: Sir Rod was chief executive of British Airways plc until 2005. Prior to his role with British Airways, Sir Rod was managing director of Cathay Pacific Airways from 1992 until 1996 and executive chairman of Ansett Airlines from 1997 until 2000.

External appointments (current and recent): Non executive chairman of JPMorgan Australia and New Zealand since 2006, director of CLP Holdings since 2006, director of News Corporation plc since 1999, director of John Swire & Son Pty Limited since 1997, chairman of Infrastructure Australia since 2008, director of Allco Finance Group Limited from 2006 until 2009, chief executive of British Airways plc from 2000 until 2005, chairman of the EU/Hong Kong Business Co-operation Committee of the Hong Kong Trade Development Council from 2002 until 2006.

6. Guy Elliott (e) Chief financial officer,  
MA (Oxon), MBA (INSEAD), age 55

Appointment and election: Chief financial officer of Rio Tinto plc and Rio Tinto Limited since 2002. Guy was last re-elected in 2010.

Skills and experience: Guy joined the Group in 1980 after gaining an MBA 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.

External appointments (current and recent): Non executive director and member of the audit committee of Royal Dutch Shell plc since September 2010. Non executive director and senior independent director of Cadbury plc from 2007 and 2008 respectively until March 2010.



**Table of Contents**

Board of directors continued

7. Michael Fitzpatrick (a, b, c and f) Non executive director,  
BEng, BA (Oxon), age 58

Appointment and election: Director of Rio Tinto plc and Rio Tinto Limited since 2006. Michael was re-elected at the 2010 annual general meetings.

Skills and experience: Michael sold his interest in, and ceased to be a director of, Hastings Funds Management Ltd during 2005, the pioneering infrastructure asset management company which he founded in 1994. He is chairman of Treasury Group Limited, an incubator of fund management companies. He is chairman of the Australian Football League, having previously played the game professionally, and is a former chairman of the Australian Sports Commission.

External appointments (current and recent): Chairman of Treasury Group Limited since 2005, director of the Walter & Eliza Hall Institute of Medical Research since 2001, chairman of the Victorian Funds Management Corporation from 2006 to 2008, managing director of Hastings Funds Management Ltd from 1994 to 2005, director of Australian Infrastructure Fund Limited from 1994 to 2005.

8. Yves Fortier (c, d and f) Non executive director,  
CC, OQ, QC, LLD, Av Em, age 75

Appointments and election: Director of Rio Tinto plc and Rio Tinto Limited since 2007. Yves was elected by shareholders in 2008 and will retire at the conclusion of the Rio Tinto Limited annual general meeting in 2011.

Skills and experience: Yves Fortier was ambassador and permanent representative of Canada to the United Nations from 1988 to 1992. He is chairman emeritus and a senior partner of the law firm Ogilvy Renault and was chairman of Alcan from 2002 until 2007.

External appointments (current and recent): Chairman emeritus and senior partner of Ogilvy Renault since 2009, chairman of Ogilvy Renault from 1992 until 2009, director of NOVA Chemicals Corporation from 1998 until 2009, chairman and director of Alcan Inc. from 2002 until 2007, director of Royal Bank of Canada from 1992 to 2005, director of Nortel Corporation from 1992 to 2005, governor of Hudson's Bay Company from 1998 to 2006, trustee of the International Accounting Standards Committee from 2000 to 2006.

9. Ann Godbehere (a, c and f) Non executive director, FCGA, age 55 Appointment and election: Appointed a director of Rio Tinto plc and Rio Tinto Limited in February 2010. Ann was elected by shareholders at the 2010 annual general meetings. Ann is chairman of the Audit committee.

Skills and experience: Ann succeeded Sir David Clementi as chairman of the Audit committee upon his retirement from the board at the conclusion of the 2010 annual general meetings. Ann has more than 25 years experience in the financial services industry. She spent ten years at Swiss Re, latterly as chief financial officer from 2003 until 2007 and from 2008 until 2009 she was interim chief financial officer and executive director of Northern Rock post nationalisation.

External appointments (current and recent): Non executive director of UBS AG since 2009, non executive director of Atrium Underwriting Group Limited and Ariel Group Limited since 2007, non executive director of Prudential since 2007 and chairman of the Audit committee since 2009, chief financial officer and executive director of Northern Rock from 2008 to 2009.

10. Richard Goodmanson (b, c, d and f) Non executive director, MBA, BEc and BCom, BEng (Civil), age 63

Appointment and election: Director of Rio Tinto plc and Rio Tinto Limited since 2004. He was last re-elected in 2008 and is chairman of the Committee on social and environmental accountability.

Skills and experience: Richard was executive vice president and chief operating officer of DuPont until 2009. He was responsible for a number of the global functions, and for the non US operations of DuPont, with particular focus on growth in emerging markets. During his career he has worked at senior levels for McKinsey & Co, PepsiCo and America West Airlines, where he was president and chief executive officer.

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 DuPont from 1999 until 2009, director of the United Way of Delaware between 2002 and 2009 (chairman between 2006 and 2007).

11. Andrew Gould (b, c and f) Non executive director,

BA, FCA, age 64 Appointment and election: Director of Rio Tinto plc and Rio Tinto Limited since 2002. Andrew was appointed the senior independent non executive director and chairman of the Remuneration committee at the conclusion of the 2008 annual general meetings. Andrew was last re-elected in 2009.

Skills and experience: Andrew is chairman and chief executive officer of Schlumberger Limited, where he has held a succession of financial and operational management positions, including that of executive vice president of Schlumberger Oilfield Services and president and chief operating officer of Schlumberger Limited. He has worked in Asia, Europe and the US. He joined Schlumberger in 1975. He holds a degree in economic history from Cardiff University and qualified as a chartered accountant with Ernst & Young.

External appointments (current and recent): Chairman and chief executive officer of Schlumberger Limited since 2003, member of the board of trustees of King Abdullah University of Science and Technology in Jeddah, Saudi Arabia since 2008, member of the advisory board of the King Fahd University of Petroleum and Minerals in Dhahran, Saudi Arabia since 2007, member of the commercialisation advisory board of Imperial College of Science Technology and Medicine, London since 2002, member of the UK prime minister's Council of Science and Technology from 2004 to 2007.

12. Lord Kerr of Kinlochard (a, c, d and f) Non executive director, GCMG, MA, age 69

Appointment and election: Director of Rio Tinto plc and Rio Tinto Limited since 2003. He was last re-elected in 2010.

Skills and experience: John Kerr was in the UK Diplomatic Service for 36 years and headed it from 1997 to 2002 as permanent under secretary at the Foreign Office. John previously served in HM Treasury, and in the Soviet Union and Pakistan, as ambassador to the European Union (1990 to 1995), and the US (1995 to 1997). He has been an independent member of the House of Lords since 2004.

External appointments (current and recent): Director of Scottish Power Limited since 2009, deputy chairman of Royal Dutch Shell plc since 2005, director of The Scottish American Investment Trust plc since 2002, advisory board member, BAE Systems since 2008,

**Table of Contents**

chairman of the Centre for European Reform (London) since 2008, vice president of the European Policy Centre (Brussels) since 2007, chairman of the Court and Council of Imperial College, London since 2005, trustee of the Carnegie Trust for the Universities of Scotland since 2005, director of The Shell Transport and Trading Company plc 2002 to 2005, advisory board member, Scottish Power (Iberdrola) from 2007 to 2009, trustee of the National Gallery from 2002 to 2010 and trustee of the Rhodes Trust from 1997 to 2010.

13. Hon. Paul Tellier (a, b, c and f) Non executive director, LL.L, BLitt (Oxon), LLD, CC. age 71

Appointment and election: Director of Rio Tinto plc and Rio Tinto Limited since 2007. Paul was elected at the 2008 annual general meetings.

Skills and experience: Paul was clerk of the Privy Council Office and secretary to the Cabinet of the Government of Canada from 1985 to 1992 and was 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.

External appointments (current and recent): Chairman of Global Container Terminals since 2007, director of McCain Foods 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 advisor 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 May 2010, director of BCE Inc from 1999 to May 2010, non executive director of Alcan Inc. from 1998 to 2007.

14. Sam Walsh Executive director, AO, BCom (Melbourne), age 61 Appointment and election: Director of Rio Tinto plc and Rio Tinto Limited since 2009. Sam was elected by shareholders at the 2010 annual general meetings.

Skills and experience: Sam was appointed executive director and chief executive, Iron Ore and Australia in 2009. He 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 within the Group, including from 2001 to 2004 chief executive of the Aluminium group and from 2004 to 2009 chief executive of the Iron Ore group. Sam is also a Fellow of the Australian Institute of Management, the Australasian Institute of Mining and Metallurgy and the Australian Institute of Company Directors. In June 2010, Sam was appointed an Officer in the General Division of the Order of Australia.

External appointments (current and recent): Member of the University of Western Australia's Energy and Minerals Institute board of trustees since September 2010, director of West Australian Newspaper Holdings Limited since 2008, director of the Committee for Perth Ltd between 2006 and 2009, director of the Australian Mines and Metals Association between 2001 and 2005, director of the Australian Chamber of Commerce and Industry between 2003 and 2005.

Directors who left the Group during 2010

Sir David Clementi MA, MBA

Director of Rio Tinto plc and Rio Tinto Limited since 2003. Sir David was chairman of the Audit committee until his retirement at the conclusion of the 2010 annual general meetings.

Skills and experience: Sir David was chairman of Prudential plc until 2008, prior to which he was deputy governor of the Bank of England. His earlier career was with Kleinwort Benson where he spent 22 years, holding various

positions including chief executive and vice chairman. A graduate of Oxford University and a qualified chartered accountant, Sir David also holds an MBA from Harvard Business School.

External appointments (current and recent) upon leaving the Group: Non executive director of Foreign & Colonial Investment Trust plc since 2008, chairman, King's Cross Central General Partnership since 2008, chairman of Prudential plc from 2002 until 2008, member of the Financial Reporting Council between 2003 and 2007.

David Mayhew

Director of Rio Tinto plc and Rio Tinto Limited from 2000 until his retirement at the conclusion of the 2010 annual general meetings.

Skills and experience: David joined Cazenove in 1969 and in 1986 he became the partner in charge of the firm's Capital Markets Department. He became chairman of Cazenove Group Limited in 2001 and JPMorgan Cazenove in 2005 until January 2010 when he became vice chairman of JPMorgan.

External appointments (current and recent) upon leaving the Group: Vice chairman of JPMorgan effective January 2010, chairman of Cazenove Group Limited between 2001 and January 2010, chairman of JPMorgan Cazenove Holdings Limited (formerly Cazenove Group plc) between 2005 and January 2010.

*Notes*

- (a) Audit committee
- (b) Remuneration committee
- (c) Nominations committee
- (d) Committee on social and environmental accountability
- (e) Chairman's committee
- (f) Independent



## **Table of Contents**

### Executive committee

The Executive committee is responsible, under the leadership of the chief executive, for the management of the business, setting performance targets and implementation of the Group's strategy.

1. Hugo Bague MA (Linguistics), age 50

**Skills and experience:** Hugo Bague was appointed Group executive, People & Organisation in 2009 having joined 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.

**External appointments (current and recent):** Non executive director and member of the nominating and governance committee and the compensation committee of Jones Lang LaSalle Incorporated since March 2011. Member of the Advisory Council of United Business Institute in Brussels, Belgium since 1995.

2. Preston Chiaro BSc (Hons) (Environmental Engineering), MEng (Environmental Engineering), age 57

**Skills and experience:** 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 re-organisation, he also assumed responsibility for the Industrial Minerals group.

**External appointments (current and recent):** Director of Cloud Peak Energy Inc from 2008 to 2011, board member of Resources for the Future since 2006, director of Rössing Uranium Limited from 2004 to 2009, director of the World Coal Institute between 2003 and 2009 (chairman from 2006 to 2008), chairman of the Coal Industry Advisory Board to the International Energy Agency between 2004 and 2006, director of Energy Resources of Australia Limited between 2003 and 2006, director of Coal & Allied Industries Limited between 2003 and 2006.

3. Bret Clayton BA (Accounting), age 49

**Skills and experience:** Bret was appointed Group executive, Business Support & Operations in 2009. He joined the Group in 1995 and has held a series of management positions, including chief executive of the Copper and Diamonds groups, president and chief executive officer of Rio Tinto Energy America and chief financial officer of Iron Ore. Prior to joining the Group, Bret worked for PricewaterhouseCoopers for nine years, providing auditing and consulting services to the mining industry.

**External appointments (current and recent):** Non executive director and member of the audit committee of Alcan Engineered Products since January 2011, non executive director of Ivanhoe Mines Limited between 2007 and 2009, member of the board of directors and the executive committee of the International Copper Association between 2006 and 2009, member of the Coal Industry Advisory Board to the International Energy Agency (IEA) between 2003 and 2006, member of the board of directors of the US National Mining Association between 2002 and 2006.

4. Jacynthe Côté BChem, age 53

Skills and experience: 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.

External appointments (current and recent): Member of the Advisory Board of the Montreal Neurological Institute since July 2010, member of the Hautes Etudes Commerciales Board since 2009, member of the Canadian Council of Chief Executives since 2009, member of the International Aluminium Institute since 2006.

5. Andrew Harding BEng (Mining Engineering), MBA, age 44

Skills and experience: Andrew was appointed chief executive, Copper in 2009. He joined Rio Tinto in 1992, initially working for Hamersley Iron. Andrew went on to hold operating roles within the Energy, Aluminium and Iron Ore product groups, including at the Mount Thorley, Hunter Valley, Weipa, Mount Tom Price, Marandoo and Brockman mines. In 2007, he became global practice leader, Mining within Rio Tinto's Technology &

**Table of Contents**

Innovation group. Prior to his current role, Andrew was president and chief executive officer, Kennecott Utah Copper.

External appointments (current and recent): Director of Ivanhoe Mines Limited between 2009 and July 2010 and from February 2011.

6. Harry Kenyon-Slaney BSc (Hons) (Geology), age 50

Skills and experience: Harry was appointed chief executive of Rio Tinto's Diamonds & Minerals product group in 2009. 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 prior to his current role, became managing director of Rio Tinto Iron & Titanium in 2007.

External appointments (current and recent): Chairman of the Australian Uranium Association from 2006 to 2007, chairman of the Copper Development Association, South Africa from 2000 to 2003, director of Energy Resources of Australia Limited from 2004 to 2007.

7. Doug Ritchie LLB, FAusIMM, FAIM, FAICD, age 54

Skills and experience: Doug was appointed chief executive of Rio Tinto's Energy group in 2009. He has been with the Group since 1986 when he joined CRA as corporate counsel. Since then he has held a number of roles in various Rio Tinto businesses and corporate functions, including Exploration, Project Development and the Energy, Aluminium and Diamonds & Minerals product groups. Doug's previous roles have included head of Business Evaluation, managing director of Dampier Salt, Rio Tinto Coal Australia and Rio Tinto Diamonds. Prior to his current role, he was managing director, Strategy of Rio Tinto.

External appointments (current and recent): Director of Australian Coal Association from 2006 to 2008, director of Dalrymple Bay Coal Terminal Pty Ltd from 2006 to 2007, director of Queensland Resources Council from 2006 to 2007, deputy chairman of the Coal Industry Advisory Board to the IEA, director of Coal & Allied Industries Limited between 2006 and 2007 and since 2008, director of Rossing Uranium Limited since 2009, and a director of the World Coal Association since 2010.

8. Debra Valentine BA (History), JD, age 57

Skills and experience: Debra was appointed Group executive, Legal & External Affairs in 2009 having joined Rio Tinto as global head of Legal in 2008. Debra previously worked at United Technologies Corporation in the US where she was vice president, deputy general counsel and 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.

External appointments (current and recent): Member, Council on Foreign Relations since 1993, American Law Institute 1991, commissioner, Congressional Antitrust Modernisation Commission from 2004 to 2007.

Tom Albanese, Guy Elliott and Sam Walsh were also members of the Executive committee in 2010 through their positions as chief executive, chief financial officer and chief executive of the Iron Ore group respectively. Their biographies are shown on pages 103 and 105.

Company secretaries

Ben Mathews BA (Hons), FCIS, age 44

Skills and experience: Ben joined as company secretary of Rio Tinto plc during 2007. Prior to joining Rio Tinto, he spent five years with BG Group plc, 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): None.

Stephen Consedine BBus, CPA, age 49

Skills and experience: Stephen joined Rio Tinto in 1983 and has held various positions in Accounting, Treasury, and Employee Services before becoming company secretary of Rio Tinto Limited in 2002. He holds a business degree and is a certified practising accountant.

External appointments (current and recent): None.

**Table of Contents**

Directors' report

The directors present their report and audited financial statements for the year ended 31 December 2010.

Dual listed structure and constitutional documents

An explanation of the dual listed companies structure (DLC), which unified Rio Tinto plc and Rio Tinto Limited in 1995, and of the Companies' constitutional documents can be found on page 271. 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 2010 were minerals exploration, development, production and processing. The business review, which is set out on pages 2 to 76 provides a comprehensive review of the development, performance and likely future developments of Rio Tinto's operations for the year ended 31 December 2010. 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 37 to 40 to the financial statements.

Significant changes and events affecting the Group during 2010 and until the date of this report have been:

On 1 February 2010, the sale to Amcor of the majority of the Alcan Packaging businesses, comprising Alcan Packaging global Pharmaceuticals, global Tobacco, Food Europe and Food Asia divisions, completed for US\$1,948 million.

During 2010, the Group increased its ownership in Ivanhoe Mines to 40.3 per cent and to 42.1 per cent in January 2011. Rio Tinto controls and manages the Oyu Tolgoi copper/gold project in Mongolia and has agreed a pathway to increase its stake in Ivanhoe Mines to 49 per cent.

The sale of the Alcan Packaging Food Americas division to Bemis Company, Inc for a total consideration of US\$1.2 billion completed on 1 March 2010.

On 19 March 2010, Rio Tinto announced that it had signed a non binding memorandum of understanding with Chinalco to establish a joint venture covering the development and operation of the Simandou iron ore project in Guinea, in which Chinalco would acquire a 47 per cent interest of Rio Tinto's 95 per cent holding in the Simandou project. On 29 July 2010, Rio Tinto and Chalco, a subsidiary of Chinalco, signed a binding agreement to establish the joint venture, with Chalco providing US\$1.35 billion on an earn in basis through sole funding of ongoing development work over the next two to three years.

On 29 March 2010, the four Shanghai employees detained on 5 July 2009 on charges of receiving bribes and stealing commercial secrets were convicted by Shanghai Number One Intermediate People's Court.

On 31 March 2010, Rio Tinto announced that it had received a binding offer from Sun European Partners, LLP to acquire the Alcan Beauty Packaging business. On 5 July 2010, Rio Tinto announced the completion of the sale of its Alcan Packaging business for an undisclosed sum and the acquisition by Amcor of the Medical Flexibles business for US\$66 million.

With the structural shift in the iron ore market away from benchmarking pricing, Rio Tinto announced on 9 April 2010 that it would be negotiating contracts with its customers to supply iron ore priced on a quarterly basis.

The re-commencement of Rio Tinto's expansion programme in its Iron Ore Company of Canada (IOC) operations was announced on 6 May 2010, with the investment by IOC of US\$401 million to increase its annual concentrate

capacity by four million tonnes to 22 million tonnes by 2012. On 9 February 2011, a further US\$277 million investment was announced in the next phase of a project that will ultimately raise IOC's concentrate production capacity by 40 per cent to 26 million tonnes per year (Mt/a).

On 15 June 2010, Rio Tinto announced that it would invest US\$469 million in constructing the Kennecott Eagle nickel and copper mine in Michigan's Upper Peninsula (US).

Together with BHP Billiton, Rio Tinto announced on 21 June 2010 that it had signed a Heads of Agreement with the Western Australian Government under which (i) they agreed to pay iron ore royalties at all their mines at a rate of 5.625 per cent for fine ore and 7.5 per cent for lump ore from 1 July 2010; (ii) they agreed to a set of State Agreement amendments to promote greater efficiency and flexibility for their respective operations; and (iii) they made a combined payment to the State Government's Consolidated Revenue Fund of A\$350 million.

On 30 June 2010, the Australian Competition Tribunal issued a decision to not declare the Hamersley railway line available for third party access under Part IIIA of the Trade Practices Act. The Robe River line was declared, but only until 2018, rather than for the 20 year period desired by the applicants.

Between July and September 2010, Rio Tinto announced investments to expand Cape Lambert port and to de-bottleneck Dampier Port to increase capacity as detailed on page 77.

On 5 August 2010, the Group received a binding offer for the sale of 61 per cent of Alcan Engineered Products to certain investment funds affiliated with Apollo Global Management, LLC (Apollo) and the Fonds Stratégique d'Investissement. The divestment completed on 4 January 2011.

On 30 August 2010, Rio Tinto announced an investment, together with its joint venture participant, Hope Downs Iron Ore Pty Ltd, of US\$1.6 billion to develop the Hope Downs 4 iron ore project in Western Australia.

On 14 September 2010, the Group announced its investment of US\$803 million to ramp up the underground block cave project at its Argyle diamond mine in Western Australia.

On 21 September 2010, Rio Tinto completed the off market buy-back of all of the Rio Tinto Limited ordinary shares held by Tinto Holdings Australia Pty Ltd.

On 23 September 2010, Rio Tinto Alcan announced a US\$347 million investment to modernise and increase the ISAL smelter's capacity by 20 per cent following the completion of a long term energy supply agreement with Landsvirkjun, the Icelandic power utility. This was followed by an announcement on 1 October 2010 of a further investment of US\$140 million to develop a value-added casting facility.

**Table of Contents**

On 18 October 2010, Rio Tinto announced that it had jointly decided with BHP Billiton to end plans for an iron ore production joint venture in the Pilbara region in Western Australia following extensive discussions with regulators.

Rio Tinto announced on 20 October 2010 that it would invest a further US\$3.1 billion to expand its iron ore infrastructure in the Pilbara. On 26 November 2010, it was announced that new drilling results and ongoing assessment of assets in the Pilbara had revealed a significant increase in mineralisation. Rio Tinto announced on 1 December 2010 that it approved a further US\$1.2 billion investment for significant expansions at the Brockman 4 and Western Turner Syncline mines in the Pilbara in its drive to lift annual iron ore production capacity in Western Australia's Pilbara region to 283 Mt/a. Rio Tinto also approved a final feasibility study into increasing Pilbara production capacity to 333 Mt/a.

On 3 December 2010, Rio Tinto Limited and Sinosteel Corporation announced the extension of their 1987 Channar Mining joint venture in the Pilbara region, leading the way for a further 50 million tonnes of iron ore to be produced under this joint venture in addition to the original Channar agreements for the production of 200 million tonnes.

Rio Tinto and Chinalco signed a non-binding Memorandum of Understanding on 3 December 2010 to establish an exploration joint venture in China to explore mainland China for world-class mineral deposits. Chinalco will hold a 51 per cent interest in the joint venture and Rio Tinto will hold a 49 per cent interest.

On 14 December 2010, Rio Tinto announced it is to invest in its Canadian aluminium smelters to improve production efficiency through modernisation and expansion. The bulk of this new investment – US\$758 million will be spent on completing the first phase of the AP60 plant in Saguenay-Lac-Saint-Jean, Quebec. Rio Tinto will also invest an additional US\$300 million for further construction in preparation for the US\$2.5 billion modernisation of the Kitimat smelter in British Columbia.

Rio Tinto completed the divestment of its equity holdings in Cloud Peak Energy Inc on 21 December 2010, following a secondary public offering with gross proceeds of US\$573.3 million.

On 23 December 2010, Rio Tinto announced that it had entered into an agreement to acquire all the issued and outstanding shares of Riversdale Mining Limited by way of a recommended off-market takeover offer for a valuation of approximately A\$3.9 billion. On 10 March 2011, Rio Tinto announced that it had increased its cash offer price to A\$16.50 per share. The increased offer is conditional on Rio Tinto obtaining an interest in more than 50 per cent. of Riversdale shares and, unless extended, this offer is currently due to close on 1 April 2011.

Rio Tinto approved a US\$933 million investment on 9 February 2011 to extend the life of the Marandoo iron ore mine in the Pilbara region by 16 years to 2030.

On 10 February 2011, Rio Tinto announced a capital management programme, comprising a US\$5 billion share buy-back which, subject to market conditions, it expects to complete by the end of 2012.

On 23 February 2011, the Group received a binding offer from Imerys to acquire the talc business for US\$340 million. The binding offer is subject to customary closing conditions.

Details of events after the statement of financial position date are contained in note 48 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

A summary of the Group's position regarding risk identification, assessment and management is contained in the risk management section on page 24. The Group's principal risks and uncertainties are set out on pages 25 to 28.

#### Share capital

Details of the Group's share capital as at 31 December 2010 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 269 under the heading "Dual listed companies structure - 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 137.

Details of certain agreements triggered on a change of control can be found on page 269 under the heading "Dual listed companies structure".

Details of certain restrictions on holding shares in Rio Tinto are described on page 270 under the heading "Dual listed companies structure - 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.

Details of the substantial shareholders of Rio Tinto plc and Rio Tinto Limited can be found on page 274.

At the annual general meetings held in 2010, shareholders authorised:

- the purchase by Rio Tinto Limited and its subsidiaries, and the on-market repurchase by Rio Tinto plc of up to 152,488,000 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 152,488,000 Rio Tinto plc shares acquired by Rio Tinto Limited or its subsidiaries under the above authority;

- 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); and

- the off-market buy-back by Rio Tinto Limited of up to all of Rio Tinto Limited's shares indirectly held by Rio Tinto plc through Tinto Holdings Australia Pty Ltd.



**Table of Contents**

Directors report continued

On 21 September 2010, Rio Tinto completed the off-market buy-back of all of the Rio Tinto Limited shares held by Tinto Holdings Australia Pty Ltd. The buy-back was undertaken in two tranches: Rio Tinto Limited acquired 150,437,365 shares from Tinto Holdings Australia Pty Ltd at a price per share of A\$69.27 on 27 August 2010. The remaining 20,635,155 shares were bought back at a price of A\$75.13 on 21 September 2010.

All shares repurchased by Rio Tinto Limited from Tinto Holdings Australia Pty Ltd were subsequently cancelled. During 2010, in order to satisfy obligations under employee share plans, Rio Tinto plc issued 2,336,005 shares from treasury, and Rio Tinto plc's registrar purchased on market 693,000 shares and delivered 561,852 ordinary shares to plan participants. Rio Tinto Limited's registrar purchased on market and delivered 1,550,969 shares to plan participants.

Also during the year, the Companies' registrar purchased on market 660,948 Rio Tinto plc shares and 658,700 Rio Tinto Limited shares to satisfy obligations to shareholders under the dividend reinvestment plans.

On 10 February 2011, Rio Tinto announced a capital management programme, comprising a US\$5 billion share buy-back which, subject to market conditions, is expected to complete by the end of 2012. In the period to 21 February 2011, 1,725,000 Rio Tinto plc shares were repurchased for a total aggregate consideration of US\$125,500,000.

For the period 1 January 2011 to 21 February 2011, Rio Tinto plc issued 354,237 shares from treasury in connection with employee share plans and Rio Tinto Limited's registrar purchased on market and delivered 462,169 shares to plan participants.

Awards over 3,010,321 Rio Tinto plc shares and 1,783,657 Rio Tinto Limited shares were granted under employee share plans during 2010. As at 21 February 2011, awards were outstanding over 11,624,153 Rio Tinto plc shares and 5,842,538 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

The total dividend for 2010 will be US 108 cents, of which US 45 cents was paid as an interim dividend in September 2010. Final dividends of 39.14 pence or 61.94 Australian cents per share will be paid on 31 March 2011. Full details of dividends paid and the dividend policy can be found on page 262.

Annual general meetings

The 2011 annual general meetings will be held on 14 April in London and on 5 May in Perth. Separate notices of the 2011 annual general meetings are produced for the shareholders of each Company.

Directors

The names of the directors who served during the year, together with their biographical details and other information are shown on pages 102 to 105. Sir David Clementi and David Mayhew retired at the conclusion of the Rio Tinto Limited annual general meeting held on 26 May 2010. Sam Walsh, Ann Godbehere and Robert Brown were appointed as directors with effect from 5 June 2009, 9 February 2010 and 1 April 2010, respectively and were elected by shareholders at the 2010 annual general meetings.

Purchases of shares

			Rio Tinto Group Approximate
		(c)	
	(c) Total	Total	
	number of	number	
		of	dollar value of

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Rio Tinto plc	(b) Average	shares purchased as part of publicly announced plans or programmes	Rio Tinto Limited	(b) Average price paid per share US\$	shares purchased as part of publicly announced plans or programmes	shares that may yet be purchased under the plans or programmes US\$
(a) Total number of shares purchased	price paid per share US\$		(a) Total number of shares purchased	US\$		
2010						
1 Jan to 31 Jan			269,187	71.95		
1 Feb to 28 Feb			493,543	63.91		
1 Mar to 31 Mar			181,346	68.66		
1 Apr to 30 Apr	271,553	61.02	416,995	72.54		
1 May to 31 May			46,962	52.97		
1 Jun to 30 Jun			60,687	58.94		
1 Jul to 31 Jul			7,116	61.96		
1 Aug to 31 Aug			145,532	66.80		
1 Sep to 30 Sep	1,082,395	56.28	350,185	68.61		
1 Oct to 31 Oct			25,545	81.43		
1 Nov to 30 Nov			63,622	88.26		
1 Dec to 31 Dec			148,949	85.93		
<b>Total</b>	<b>1,353,948</b>	<b>57.23</b>	<b>2,209,669</b>	<b>68.24</b>		
2011						
1 Jan to 31 Jan			225,999	84.90		
1 Feb to 21 Feb	1,725,000	72.77	1,725,000	88.17		4,875,000,000

Notes:

(a) Rio Tinto plc ordinary shares of 10p each; Rio Tinto Limited shares.



**Table of Contents**

A provision of the new UK Corporate Governance Code requires all directors to retire and submit themselves for re-election by shareholders annually. With the exception of Sir Rod Eddington and Yves Fortier who will be retiring at the conclusion of the 2011 annual general meetings, all directors will stand for re-election at the 2011 annual general meetings.

Details of directors' service contracts and letters of appointment can be found on page 138 and page 141.

A table of directors' attendance at board and committee meetings during 2010 is on page 118.

**Remuneration of directors and executives**

The Remuneration report starting on page 128 forms part of the Directors' report and includes details of the nature and amount of each element of the remuneration (including share options) of each of the directors and of the key management personnel and highest paid executives below board level in respect of whom disclosures are required in 2010.

The 2009 Remuneration report was approved by shareholders at the 2010 annual general meetings.

**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 107.

**Corporate governance**

A full report on corporate governance can be found on pages 114 to 127 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.

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 pages 32 and 33 of the Sustainable development review.

**Donations**

During 2010, the Group spent US\$166 million on community assistance programmes and payments into benefit receiving trusts set up in directly negotiated community impact benefit agreements. As required by UK regulation, donations in the UK during 2010 amounted to £1.8 million (2009: £1.8 million) including £0.18 million for education programmes, £0.97 million for environment programmes, £0.01 million for health programmes, £0.57 million for general sponsorships and donations, and management costs totalling £0.05 million. No donations were made for political purposes in the EU, Australia or elsewhere, as defined by the UK Companies Act 2006.

**Governmental regulations**

Rio Tinto is subject to extensive governmental regulations affecting all aspects of its operations and consistently seeks to apply best practice in all of its activities. Due to Rio Tinto's product and geographical spread, there is unlikely to be any single governmental regulation in effect that could have a material effect on the Group's business.

Rio Tinto's operations in Australia and New Zealand are subject to state and federal regulations of general application governing mining and processing, land tenure and use, environmental requirements, including site specific environmental licences, permits and statutory authorisations, workplace health and safety, trade and export, corporations, competition, access to infrastructure, foreign investment and taxation. Some operations are conducted

under specific agreements with the respective governments and associated acts of parliament.

In addition, Rio Tinto's uranium operations in the Northern Territory, Australia and Namibia are subject to specific regulation in relation to mining and the export of uranium.

US and Canada-based operations are subject to local, state, provincial and national regulations governing mining and processing, access to infrastructure, land tenure and use, environmental aspects of operations, product and workplace health and safety, trade and export administration, corporations, competition, securities and taxation. 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.

Rio Tinto's operations in Europe are subject to national and European rules and regulations governing general and specific aspects of current and planned operations, notably land tenure and use, workplace health and safety, environmental issues, including applicable regulations in case of sale or closure of industrial sites and permit requirements concerning activities listed for environmental protection purposes, chemical risks management (REACH), competition requirements including compliance with antitrust rules, trade and export, corporations, intellectual property, labour requirements (including personal data protection), investment and taxation.

Rio Tinto's South African-based operations are 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 Committee on social and environmental accountability, including progress with remedial actions. Prosecutions and other breaches are also used to gauge Rio Tinto's performance.

**Table of Contents**

Directors' report continued

In 2010, there were 18 environment incidents rated high at Rio Tinto managed operations compared with 12 in 2009. These incidents were of a nature to affect the environment or to concern local communities. Of these, nine resulted from water discharge, six were spills and three related to air emissions. Examples of these include:

discharge standards for water being exceeded and also the overflow of leachate from a landfill to an adjacent water course at Alucam, Cameroon.

leakage of unleaded petrol from a storage tank at Gove, Australia.

a spill of alumina and coke waste from the loading dock at the port for Alucam, Cameroon.

recorded levels for dust and tar in air emissions which exceeded permitted amounts on a number of occasions at Rotterdam, Holland.

flooding during a storm event which led to the overflow of water from the red mud retention dam onto land adjoining the facility at Gardanne, France.

overflow from a retention pond into local waterways during a high rainfall event at Kitimat, Canada.

flooding of sediment-laden water off site onto nearby land and creeks following heavy rainfall at Northparkes, Australia.

a pump failure at a weir during a storm resulted in an overflow of mine water into the local river at Palabora, South Africa.

recording of levels of SO<sub>2</sub> in air emissions above permitted amounts on a number of occasions at Palabora, South Africa.

During 2010, 13 operations incurred fines amounting to US\$540,328 (US\$80,150 in 2009). Several fines paid in 2010 relate to incidents that occurred in 2008 and 2009. An amount of US\$262,046 relates to an incident that occurred in September 2008 at a plant in Saguenay, Canada. An amount of US\$174,697 relates to an incident that occurred in April 2009 at a port facility in Saguenay, Canada. An amount of US\$48,527 relates to an incident that occurred in August 2008 at a plant in Saguenay, Canada.

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 2010 deadline. The same three Rio Tinto entities have obligations under the Australian Energy Efficiency Opportunities Act 2006 (EEO). All three completed the required annual public reporting for 2010. Eight operations undertook EEO assessments in 2010. This completed the first five year cycle of assessments for Rio Tinto corporations. EEO requirements continue to be communicated to all sites covered by the Act, with internal reporting and compliance systems augmented.

Further information in respect of the Group's environmental performance is included throughout this Annual report, in the Sustainable development section on pages 29 to 41 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 35 to the financial statements.

Exploration, research and development

The Group carries out exploration and research & development in support of its activities as described more fully under Exploration, and Technology & Innovation on pages 62 to 64. Amounts charged for the year net of any gains on disposal generated a net loss for exploration and evaluation of US\$72 million (2009: net gain US\$380 million). Research and development costs were US\$187 million (2009: US\$193 million).

Auditors

PricewaterhouseCoopers LLP and PricewaterhouseCoopers 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 2011 annual general meetings. The resolution will also 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 256 in the financial statements.

No person who was an officer of Rio Tinto during 2010 was a director or partner of the auditors at a time when the auditors 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;

the directors have 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.

Principal auditor – audit and non audit fees and services

The amounts payable to the Group's principal auditors, were:

	<b>2010</b>	2009
	<b>US\$m</b>	US\$m
Audit fees <sup>(a)</sup>	<b>16.7</b>	23.2
Audit services in connection with divestment programme <sup>(b)</sup>	<b>9.1</b>	22.0
Tax fees	<b>0.4</b>	2.1
All other fees <sup>(c)</sup>	<b>7.1</b>	14.8
	<b>33.3</b>	62.1

(a) Audit fees relating to statutory audits.

(b) Represents fee for audit of carve out financial statements

(c)

All other fees in 2010 include those relating to the bond issues, divestment programme and similar corporate projects.



**Table of Contents**

Further information on audit and non audit fees is set out in note 43 to the financial statements.

A description of Rio Tinto's policies to uphold the independence of the Group's principal auditors is set out in the corporate governance section on page 125. Based on advice provided by the Audit committee as set out in the Report of the Audit committee on page 119, the directors are satisfied that the provision of non audit services by PricewaterhouseCoopers 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 33 to the 2010 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 2010, there were 23 days (2009: 24 days) purchases outstanding in respect of the Group based on the total invoiced by suppliers during the year.

**Going concern**

The directors, having made appropriate enquiries, have satisfied themselves that no material uncertainties that cast significant doubt about the ability of the Companies and the Group to continue as a going concern have been identified, and they have a reasonable expectation that the Group has adequate financial resources to continue in operational existence for the foreseeable future. Therefore, these financial statements have been prepared on a going concern basis.

The Directors' report is made in accordance with a resolution of the board.

Jan du Plessis, *chairman*

4 March 2011

## **Table of Contents**

### Corporate governance

Rio Tinto's board is ultimately responsible for the success of the Group and upholds high standards of corporate governance that will enable us to achieve our vision of global sector leadership.

The board of directors firmly believes that high standards of corporate governance form an essential underpinning to the achievement of Rio Tinto's vision to become the sector leading global mining and metals company and to maximise shareholder returns.

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. Statements of compliance with each of the corporate governance codes applied by these jurisdictions are set out on page 127.

#### 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.

#### **Responsibilities**

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

A formal schedule of matters specifically reserved for decision or consideration by the board as a whole has been agreed by the directors. This schedule covers areas such as the Group's strategy, major investments and acquisitions. It is available on the corporate governance section of the website.

In line with its principal role, the board is ultimately accountable to Rio Tinto's shareholders for the performance of the business. Responsibility for day to day management of the business is delegated to the chief executive who, in turn, has established an executive team, the Executive committee, with authorities delegated to individual executives, 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 133 of the Remuneration report). 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 performance

##### Key activities during 2010

Monitoring economic developments in order to meet the challenges of the financial volatility of OECD countries and the opportunities presented by the growing levels of urbanisation and industrialisation in populous parts of the world.

Promoting the growth of the business, evidenced in particular by: the signature of a joint venture agreement with Chalco for the development and operation of the Simandou iron ore project in Guinea; the approval of further funding for expansion of Pilbara iron ore capacity to 283 million tonnes per annum; and other corporate activity relating to Oyu Tolgoi and Riversdale.

Positioning Rio Tinto to meet fiscal and monetary challenges, including engagement with the Australian Government in relation to its proposed Resources Super Profits Tax and its subsequent replacement with a Minerals Resource Rent Tax.

Overseeing the management of the risks facing Rio Tinto, seeking to influence government and other external stakeholders within the mining and natural resource sector relating to resource nationalism and socio-economic development.

Reviewing each of the product group strategies.

Considering and eventually withdrawing from plans to create the Western Australian iron ore production joint venture with BHP Billiton.

Driving completion of the divestment programme.

#### Board objectives

Prioritise value adding growth.

Support the vision of global sector leadership.

Regular review and oversight of Group strategy.

Review financial and non-financial performance metrics.

Oversee succession planning for the board and senior executives.

Strive for excellence in the Group's governance processes and policies, including risk governance.

Review and implement actions from board and board committee performance evaluations.

Deliver year-on-year improvement in safety performance.

Maintain a strong balance sheet.

## **Table of Contents**

### **Board balance and independence**

#### *Chairman and chief executive*

The roles of the chairman and chief executive are separate and the division of their respective responsibilities has been reviewed and approved by the board.

#### *Board balance*

Rio Tinto has a diverse board comprising directors drawn from a wide range of professional backgrounds and geographic areas. The board supports the principle of diversity and its implementation throughout Rio Tinto and believes that a board and employee community reflective of the Group's global activities is critical to the success of the organisation. See pages 116 to 117 for more information on diversity.

As of the date of this report, the board consists of 14 directors: the chairman, three executive directors, and ten independent non executive directors.

The names, skills and experience of each director together with their terms in office are shown in the biographical details on pages 102 to 105. Details of changes to the board during 2010 and in the year to date are set out in the Directors' report on page 110.

Sir Rod Eddington and Yves Fortier have announced their intention to retire from the boards upon the conclusion of the 2011 annual general meetings. The board will then comprise 12 directors of which eight will be independent non executive directors.

#### *Director independence*

The tests of independence of a non executive director in the jurisdictions where Rio Tinto has listings are not wholly consistent. The board has therefore adopted a formal policy for the determination of the independence of its non executive directors. This policy, which includes materiality thresholds for the measurement of independence to be approved by the board, is available on the Group's website.

Among its key criteria 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 parties consolidated gross revenue per annum, although the test also takes other circumstances into account.

Applying these criteria, the board is satisfied that all of its non executive directors are independent in accordance with this policy.

Jan du Plessis, upon his original appointment to the board as a non executive director in September 2008, was deemed to be independent in accordance with the criteria set by the board's policy. At the time of his appointment as non executive chairman from 20 April 2009, the board determined that he continued to be independent under the policy. In the board's view, he continues to satisfy the tests for independence under the Australian Securities Exchange Corporate Governance Principles and Recommendations (ASX Principles) and the New York Stock Exchange Corporate Governance Standards (NYSE Standards).

### **Conflict of interests**

UK company law allows the board to authorise a situation in which there is, or may be, a conflict between the interests of Rio Tinto and the direct or indirect interests of a director or between the director's duties to Rio Tinto and to another person. Further to the approval obtained from shareholders in 2008, Rio Tinto plc's articles of association give directors the power to authorise such conflicts. The board has adopted procedures for ensuring that its powers to authorise conflicts operate effectively and for this purpose, a register of conflicts and any authorisation granted by the board is maintained by the company secretary and reviewed bi-annually by the board.

### **Executive directors' other directorships**

Executive directors may on occasion be invited to become non executive directors of other companies. The board has adopted 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 exposure. For further information see page 139.

**Table of Contents**

## Corporate governance continued

**Election and re-election**

The directors may appoint additional members to join the board during the year. Directors appointed in this way will, upon the recommendation of the board, offer themselves for election by shareholders at the first annual general meetings after their appointment.

In subsequent years the re-election of directors is subject to each director meeting the independence criteria detailed above, the absence of any conflicts of interests, ongoing commitment to Group activities, and satisfactory performance.

In accordance with a new provision of the UK Corporate Governance Code (formerly the Combined Code), Rio Tinto expects to submit all directors for re-election annually with effect from its annual general meetings in 2011.

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.

**Governance**

The board meets regularly in order to effectively conduct its business. In 2010, there were eight scheduled board meetings and three board meetings convened and held at short notice. The number of meetings held in 2010 is a reflection of the considerable corporate activity considered by the board during the year, particularly in relation to the proposed iron ore production joint venture with BHP Billiton in Western Australia, divestments, capital expenditure commitments and acquisition opportunities. Details of the directors' attendance at all of the board and committee meetings held in 2010 are set out on page 118.

The board has regular discussions with the executives during the year on the Group's strategy. These discussions will typically include strategy presentations that are given by product group chief executives, other members of the Executive committee or global heads of function. The board also holds an annual two day strategy-setting meeting with the Executive committee 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 management and other information to enable them to fulfil their duties. They also have direct access to the advice and services of the company secretaries. In the event that they consider it to be required in the delivery of their fiduciary duties, the directors are also able to obtain independent professional advice at the Group's expense through the company secretaries.

In addition to these formal processes, the directors are in regular informal communication with members of the Executive committee and other senior executives. This helps to foster an open and regular exchange of knowledge and experience between management and the non executive directors.

To continue building on the formal induction programmes, which all new non executive directors undertake, they are routinely provided with training and development opportunities. In 2010, these opportunities included a briefing on reserves and mineral resource reporting. The directors are also encouraged to participate in site visits to the Group's operations around the world and to meet local employees. In 2010, directors were able to benefit in this way by a visit to the Group's coal operations in Australia. The board also takes the opportunity to combine attendance at the annual general meeting in Australia with site visits.

**Board performance evaluation**

Under the leadership and guidance of the chairman and with the support of the company secretary, the directors continue to review the design and effectiveness of the board evaluation processes. These processes have been further refined in 2010 resulting in an annual exercise to evaluate not only the board's effectiveness, but also that of the board committees and individual directors.

Each non executive director's performance is appraised personally by the chairman each year. For 2010, in light of the publication of the new UK Corporate Governance Code, which requires the evaluation of the board to be externally facilitated at least every three years, a range of alternatives for conducting the evaluation of the board and committees was considered. The board concluded that an evaluation process led by Jan du Plessis, in his capacity as chairman of

the board, managed by the company secretary, but overseen by an independent third party, was appropriate for 2010, since it was considered that this approach would promote further transparency and objectivity and facilitate a challenging and rigorous self-assessment process (summarised opposite).

For the board committees, a similar process was followed with the assistance of the external facilitator, agreed with the committee chairman and completed by each committee member and regular attendees.

The senior independent non executive director leads a discussion involving all of the non executive directors without the chairman in attendance to assess the chairman's performance, taking into consideration the views of the executive. Feedback is provided directly to the chairman by the senior independent non executive director.

The chief executive undertakes a performance evaluation of the other executive directors. Taking into consideration the views of the chairman and non executive directors, feedback is often provided directly to the executive directors by the chief executive.

Based upon the results of these evaluations (summarised opposite), it was concluded that the board and its committees are operating effectively and that the individual directors' performance continues to be effective and demonstrates the level of commitment expected by Rio Tinto.

Diversity

#### **Rio Tinto's commitment to diversity and inclusion**

We believe that diversity improves business outcomes. 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 best able to develop innovative solutions to challenges and deliver sustainable value for Rio Tinto and its stakeholders.

#### **What diversity and inclusion means for Rio Tinto**

Embracing workforce diversity irrespective of age, gender, race, national and ethnic origin, religion, sexual orientation, physical ability, language.

**Table of Contents**

Board and board committee evaluations

Based upon the results of these evaluations, it was concluded that the board and its committees are operating effectively

Key areas of focus for the board:

board structure and dynamics

board composition and capability

strategy, planning and risk

succession planning

culture and relationships

board and committee governance

board process and support

directors' training and development

Key areas of focus for board committees:

roles and responsibilities

performance and effectiveness

capabilities of members

interaction with management

committee governance and processes

members' training and development

For the board:

the evaluation results informed discussions between the chairman and each individual director

the chairman also took the opportunity to provide feedback on each non executive director's individual performance and contribution together with that of the chief executive. The chief executive undertook this process for the other executive directors.

the board used one of its scheduled meetings to discuss the output from its performance evaluation and agreed a number of actions

For board committees:

the evaluation results were collated and presented for discussion and debate and to agree actions

For the board:

a desire for continued improvement of the process by which management proposals are made to, and reviewed by, the board and its committees



seeking to further enhance the non executive directors' induction process and their continued training and development

building on the improvements made in risk governance in 2010 and placing increased emphasis on the oversight of reputational risk

enhancing the board's mix of experience to assist its understanding of investor sentiment

**For board committees:**

reviewing the Audit committee's risk governance responsibilities in light of the implementation of a refreshed risk management process in 2010

a continued focus for the Remuneration committee on ensuring alignment of reward with strategic objectives

reviewing the range of non financial, corporate social responsibility-related indicators provided to the Committee on social and environmental accountability and the board and re-examining the quality and substance of stakeholder engagement

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

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

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

**How we are building an inclusive environment at Rio Tinto**

We use five levers to drive action and build awareness about diversity and inclusion. Long and short term initiatives are prioritised based on need and impact.

Governance models, such as the recently established Group Diversity Council

Policies, practices and targets

Leadership and cultural competence

Stakeholder relationships

Education and communication

**What our current focus is**

Priorities for 2011 include five year programmes to:

Improve the representation of women in senior management roles and the pipeline of female talent; and

Improve the number of individuals from under-represented nationalities in professional and leadership roles, especially people from emerging regions in which Rio Tinto is developing business.



**Table of Contents**

## Corporate governance continued

## Board committees

The board has established committees which are responsible for audit, remuneration, executive and non executive succession, social and environmental matters and assisting the board to deliver its responsibilities. Each committee plays a vital role in helping the board ensure that high standards of corporate governance are maintained throughout the Group. The committees are governed by terms of reference which are reviewed annually and can be viewed in the corporate governance section of the website.

## Governance structure

- (a) The Continuous disclosure committee is an independent management committee.

**Attendance at board and committee meetings during 2010**

	Board scheduled <sup>(b)</sup>	Board short notice <sup>(b)</sup>	Audit committee <sup>(b)</sup>	Nominations committee <sup>(b)</sup>	Committee on social and environmental accountability <sup>(b)</sup>	Remuneration committee <sup>(b)</sup>	Chairman's committee <sup>(b)</sup>
Tom Albanese	8/8	3/3					17/18
Sir David Clementi (a)	2/3	1/1	4/4	1/1		1/1	
Robert Brown	6/6	3/3		2/2	4/4		
Vivienne Cox	8/8	2/3	7/7	3/3			
Jan du Plessis	8/8	3/3		3/3			18/18
Sir Rod Eddington	8/8	2/3		3/3	6/6		
Guy Elliott	8/8	3/3					16/18
Michael Fitzpatrick	8/8	3/3	7/7	3/3		3/3	
Yves Fortier	8/8	2/3		3/3	5/6		
Ann Godbehere	8/8	2/3	6/6	2/2			
	8/8	3/3		3/3	6/6	3/3	

Richard  
Goodmanson

Andrew Gould	8/8	2/3		3/3		3/3
Lord Kerr	8/8	3/3	7/7	3/3	6/6	
David Mayhew <sup>(a)</sup>	2/3	1/1				
Paul Tellier	8/8	3/3	7/7	3/3		3/3
Sam Walsh	8/8	3/3				

(a) Retired from the board on 26 May 2010.

(b) Number of meetings attended/maximum the director could have attended

**Table of Contents**

Audit committee report

Members (a) (b)

1. Ann Godbehere chair
2. Vivienne Cox
3. Michael Fitzpatrick
4. Lord Kerr
5. Paul Tellier

(a) Sir David Clementi was chair of the Audit committee until his retirement on 26 May 2010.

(b) Ann Godbehere became a member upon her appointment on 9 February 2010, and became chair upon Sir David Clementi's retirement.

**Key responsibilities**

The primary function of the Audit committee, as set out in its terms of reference which are summarised below, is to assist the board in fulfilling its responsibilities by monitoring decisions and processes designed to ensure the integrity of financial reporting and sound systems of internal control and risk management. The scope of the Committee's responsibilities includes: financial reporting and internal controls over financial reporting; internal controls; corporate assurance; external auditors; risk management; and 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 such direct access to the resources of the Group as it may reasonably require including the external and internal auditors.

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 and capital expenditure 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 Rio Tinto's risk management policies and processes. Its responsibilities also include the oversight of the whistleblowing programme.

#### Governance processes

To ensure the Committee discharges its responsibilities, it meets not less than four times per year and arranges occasional training sessions which may cover new legislation and other information relevant to the Committee's role. The Audit committee met seven times in 2010. The Group's chairman, chief executive, chief financial officer, other senior financial management, 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 UK's Combined Code on Corporate Governance (the Code), the ASX Principles, the NYSE Code and US legislation, and 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 experience. Following the retirement of Sir David Clementi as its chairman with effect from the conclusion of the 2010 annual general meetings, Ann Godbehere, chairman of the Committee since 25 May 2010, and Michael Fitzpatrick are considered by the board to have recent and relevant financial experience and are therefore the Committee's financial experts. All other members of the Committee are, in the opinion of the Audit committee, deemed to be financially literate by virtue of their business experience.

The Audit committee applies policies for the pre-approval of permitted services provided by the Group's principal auditors. All of the engagements for services provided by them were either within the pre-approval policies or approved by the Audit committee. The directors are satisfied that the provision of non audit services by PricewaterhouseCoopers 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 the Group's Auditors, PricewaterhouseCoopers, and Rio Tinto Corporate 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 respectively. 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.

#### Key achievements

During 2010 the Committee undertook the following activities:

reviewed and updated the terms of reference to reflect:

- i. the Committee's role with respect to resource and reserves evaluation and reporting;
  - ii. the Committee's amended responsibility with respect to risk. Following the establishment of a Risk management committee and the enhancement of the board's oversight role for risk management, the Committee is now responsible for conducting an annual review of the maturity and effectiveness of management processes relating to risk;
  - iii. the Committee's role in overseeing the operation of the integrity and compliance programme including the whistleblowing facility.
- evaluated the effectiveness of PricewaterhouseCoopers, agreed the fees payable in respect of the 2010 audit, assessed their



**Table of Contents**

Corporate governance continued

independence in accordance with both UK and Australian standards and US legislation and recommended to the board that they be proposed for re-appointment at the 2010 annual general meetings.

appointed a new external audit partner in accordance with the policy governing audit partner rotation.

reviewed the effectiveness of the Group's third party provider of Internal Audit services.

engaged in training sessions on the governance process surrounding ore reserves and mineral resources.

completed its annual performance evaluation and reported the results to the board.

Priorities for 2011

In addition to discharging the responsibilities set out above, the Committee's priorities for 2011 include:

reviewing the effectiveness of the Group's risk management processes;

oversight of the Internal Audit strategic review;

focusing on training and development, particularly in relation to new legislation and regulation, including the US Dodd Frank Act and the UK Bribery Act.

Ann Godbehere, *chairman*

Nominations committee report

Members <sup>(a)</sup>

1. Jan du Plessis – chair
2. Robert Brown
3. Vivienne Cox
4. Sir Rod Eddington
5. Michael Fitzpatrick
6. Yves Fortier

7. Ann Godbehere
8. Richard Goodmanson
9. Andrew Gould
10. Lord Kerr
11. Paul Tellier

(a) Membership of the Nominations committee was extended to all non executive directors with effect from 1 January 2010.

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 skills, diversity and capacity required to ensure it remains relevant and appropriately aligned to oversee the delivery of Rio Tinto's strategy.

Taking into account these factors, the Committee develops and agrees the desired profiles of potential candidates for board membership. In consultation with external search consultants, it then oversees a recruitment process to supplement the board's skills or to replace directors as needed. The recruitment process itself includes identification of suitable candidates, followed by a formal assessment of each candidate, leading to a final selection process. Proposals for new board members are submitted to the full 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

The Committee meets not less than twice a year. In 2010, the Committee met three times.

The members of the Committee are all independent and free of any relationship that would affect their impartiality in carrying out their responsibilities. The chairman is considered independent under the ASX Principles and the NYSE Code. Under the Code he is not considered independent following his appointment as chairman, however the Code specifically allows the chairman to chair the Nominations committee. The composition of the Committee is therefore also compliant with the Code.

#### Key achievements in 2010

During 2010, the Committee:

- extended the membership of the Committee to all non executive directors of Rio Tinto;

- following consideration of the overall balance of skills, knowledge, experience and diversity on the board against current and future requirements of the Group, conducted a rigorous search and selection process resulting in the appointment of Ann Godbehere and Robert Brown as non executive directors; and

- considered the proposed annual re-election of directors, taking into account the board's policy on independence and the results of the evaluations of the non executive directors;

- undertook its annual performance evaluation and reported the results to the board.

#### Priorities for 2011

- to review plans formulated for both executive and non executive director succession ;

- to consider the implications arising from the annual re-election of directors, including possible revisions to terms of appointment; and

- to monitor emerging regulation, including relating to diversity.

Jan du Plessis, *chairman*

**Table of Contents**

Committee on social and environmental accountability

**Members** (a)

1. Richard Goodmanson chair
2. Robert Brown
3. Sir Rod Eddington
4. Yves Fortier
5. Lord Kerr
6. Vivienne Cox

(a) Vivienne Cox joined the Committee on social and environmental accountability on 30 November 2010.

**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**

The Committee meets not less than four times a year. In 2010, the Committee met six times. The chairman, chief executive, and other senior management regularly attend its meetings.

The members of the Committee are all independent and free of any relationship that would affect their impartiality in carrying out their responsibilities.

**Key achievements in 2010**

During 2010 the Committee undertook the following activities:

Reviewed performance during the year against each of the Committee's core areas of activity;

Reviewed the adequacy of critical controls and corporate culture arising from publicised disasters external to the Group;

Assessed the Group's business resilience and corporate recovery programme;

Reviewed the processes for the management of key operational (non financial) risks in the Group;

Oversaw the conduct of an independent internal sustainable development assurance audit and reviewed the results; and

Undertook its annual performance evaluation and reported the results to the board.

Priorities for 2011

To assess progress towards embedding a zero harm culture through the Group and its non-managed operations;

To continually review the approach to sustainable development to ensure it remains focused on the social, environmental, economic and governance risks most relevant to supporting the Group's vision and delivering our strategy;

To review work plans formulated for health, safety, environment, communities and employment practices;

To consider the implications of emerging legislation; and

To continue to improve the diversity of the Group's workforce

The sustainable development review has been reviewed by the Committee and approved by the board.

For more information read page 29

**Table of Contents**

Corporate governance continued

Remuneration committee

Members (a)

1. Andrew Gould chair
2. Michael Fitzpatrick
3. Richard Goodmanson
4. Paul Tellier

(a) Sir David Clementi was a member of the Remuneration committee until his retirement on 26 May 2010.

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 128 to 155 has been reviewed by the Committee and approved by the board. Key responsibilities, governance processes, key achievements in 2010, and priorities for 2011 are set out in the report.

Chairman's committee report

Members

1. Jan du Plessis chair
2. Tom Albanese
3. Guy Elliott

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.

Jan du Plessis, *chairman*

122 Rio Tinto 2010 Annual report

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## **Table of Contents**

### Australia and Canada forum

An advisory forum has been established in each of Australia and Canada to advise the board and executive management on political, economic and social developments in those countries which could affect the successful development of Rio Tinto's businesses. Each forum meets twice annually and is attended by the chairman, chief executive, chief financial officer, local directors and senior management.

### Management committees

The chief executive has delegated authority from the board for the day to day management of the Group's operations. The chief executive, chief financial officer and the heads of the product and global support groups share management responsibility for the management of the business.

The chief executive is assisted by the work of management committees in monitoring performance and delivering Rio Tinto's strategy. The management committees are described below.

### Executive committee

The Executive committee is responsible, under the leadership of the chief executive, for the day to day management of the business, setting performance targets and implementation of the Group's strategy and direction as determined by the board. Based upon the financial authorities vested in the chief executive by the board, each member of this committee has delegated financial authorities, within a clear internal control framework, for the management of their respective areas. The members of the Committee are: the chief executive; the chief financial officer; the five product group chief executives; the Group executive, Technology & Innovation; the Group executive, Legal & External Affairs; the Group executive, People & Organisation; and the Group executive, Business Support & Operations.

### Other management committees

Other management committees have been established to monitor performance, maintain controls and support the delivery of the Group's strategy.

### **Investment committee**

The purpose of the Investment committee is to review proposals for major capital decisions to ensure that they accord with the strategic objectives established by the board. The members of the Committee are: the chief executive (chair); the chief financial officer; the Group executive, Technology & Innovation; and the Group executive, Business Support & Operations.

### **Strategy and finance committee**

The Strategy and finance committee is responsible, under the leadership of the chief financial officer, to review and advise on issues that arise in the day to day workings within the functional areas of the chief financial officer's direct reports. The members of the Committee are: the chief financial officer; the global head of Planning & Reporting; the global head of Treasury; the global head of Taxation; the head of Investor Relations; and the head of Business Development.

### **Ore reserves steering committee**

The Ore reserves steering committee is the primary governance body over the ore reserve estimation and disclosure processes. The members of the Committee are: the Group executive, Technology & Innovation (chair); the global head of Planning &

Reporting; the global practice leader, Mining, Technology & Innovation; the chief adviser, Evaluation; the chief adviser, Orebody Knowledge, Technology & Innovation; the chief adviser, Resources and Reserves, Technology & Innovation; the general manager, Resource Development, Iron Ore; and the chief geologist, Rio Tinto Exploration.

### **Continuous disclosure committee**

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. The members of the committee are: the chief financial officer (chair); the company secretary of Rio Tinto plc; General counsel Asia Pacific; the head of Business Development; the head of Investor Relations; and the global practice leader, Media Relations.

**Disclosure and procedures committee**

The primary role of this Committee is to assist the board, Audit committee and individual directors and officers who are required under various regulations to endorse the Group's shareholder reports and other public documents. The members of the Committee are: the company secretary of Rio Tinto plc (chair); the global head of Planning & Reporting; the head of Investor Relations; the head of Compliance; and the head of Corporate Assurance.

**Closure committee**

This Committee oversees the closure management programme to manage the significant financial, reputational and operational risk of site closures. The members of the Committee are: the global head of Planning & Reporting (chair); the global head of Health, Safety, Environment & Communities; the Group executive, Legal & External Affairs; the global practice leader, Communities; the vice president, Human Resources, Functions; and the Group executive, Technology & Innovation. The activities of the Committee are supported by a sub-committee to implement the closure management programme.

**Risk management committee**

The Risk management committee assists the Executive committee and the board in ensuring that robust risk management exists across Rio Tinto. The Committee ensures that a sufficient level of risk analysis is applied to critical decisions and provides assurance to the Executive committee and the board that risk processes at all levels are effective and compliant with overall risk policy.

The members of the Committee are: the chief executive (chair); the chief financial officer; the Group executive, Business Support & Operations; the Group executive, Technology & Innovation; the Group executive, People & Organisation and the Group executive, Legal and External Affairs. In addition, a product group chief executive officer attends the Committee on a rotating basis.

**Global code of conduct**

Rio Tinto's commitment to integrity and compliance is set out in *The way we work*, our global code of business conduct and one of the Group's most important documents. See page 16 for more information.

*The way we work* contains principles and standards of conduct which reaffirm the Group's commitment to corporate responsibility. 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.

**Table of Contents**

## Corporate governance continued

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, antibribery, 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 whistleblowing programme called *Speak-OUT*. Employees may report concerns, including suspicion of violations of the Group's financial reporting or environmental procedures. The *Speak-OUT* programme is independently administered, confidential, and our employees can use this programme without fear of recrimination. A process has been established for the investigation of any matters reported. Details of *Speak-OUT* call activity are set out on page 39.

## 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. The Rules for dealing in Rio Tinto securities comply with the new requirements of the ASX Listing Rules effective from 1 January 2011 and can be viewed in the corporate governance section of the website.

## Communication

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 (see page 123). 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, as well as general investor information, publications and policies and guidance. Full 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. Rio Tinto's external auditor, PricewaterhouseCoopers, attends the annual general meetings and is available to answer questions about the conduct of the audit and the preparation and content of the auditor's report. Any questions received and answers provided are made available at that meeting, and shareholders have the

opportunity to meet informally with directors after the meeting.

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, chairmen of board committees, and other 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 2010, these meetings with the investment community focused on the issues of strategy, board succession; corporate governance; executive remuneration; and the operational and financial platform of the Group. Further information on these issues is set out on pages 18, 120, 114, 128 and 42 respectively.

The Group also organises regular investor seminars which provide a two way communication opportunity with investors and analysts. Feedback is communicated to the board. Surveys of major shareholders' opinions and perceptions of the Group are presented to the board by the Group's investor relations advisers on a regular basis.



## **Table of Contents**

### **Risk management**

Rio Tinto's overriding objective is to maximise the return to shareholders through a strategy of investing in large, long term, cost competitive 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 some of the principal risks and uncertainties that could affect Rio Tinto are found on pages 25 to 28.

### **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 in the corporate governance section of the website.

### **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 makes up the Rio Tinto approach to identifying, evaluating and managing the material business 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 responsibility for identifying and managing risks lies with Rio Tinto's managers and business leaders at all levels, but a number of specific roles have been defined to support the implementation of the framework. The top level process has been strengthened during 2010 by a review of the Group's approach to managing its risk, the appointment of a head of Group risk to this new role, and the introduction of a risk management committee that reports to the Executive 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 2010. 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 Disclosures 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 Code and US legislation. Each year, the leaders of the Group's businesses and administrative offices 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. Assurance functions, including internal auditors and sustainable development auditors, perform reviews of the integrity and effectiveness of control activities and provide regular written and oral reports to the Audit committee, Committee on social and environmental accountability and management committees.

In 2010, 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. Accordingly, the review of their internal controls is less comprehensive than that of the Group's managed operations.

Auditors and internal assurance

**Auditor independence**

As indicated in the report of the Audit committee on pages 119 to 120, Rio Tinto has adopted policies designed to uphold the independence of the Group's principal 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 Group's principal auditors to provide statutory audit services, other services pursuant to legislation, taxation services and certain other services are pre-approved. Any engagement of the Group's principal auditors to provide other permitted services is subject to the specific approval of the Audit committee or its chairman.

**Table of Contents**

## Corporate governance continued

Prior to the commencement of each financial year the Group's chief financial officer and its principal auditors submit to the Audit committee a schedule of the types of services that are expected to be performed during the following year for its approval. 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 Group's principal 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 Group's principal 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 as well as remuneration payable to other accounting firms, is set out in note 43 to the financial statements.

PricewaterhouseCoopers have been the Group's auditors for a number of years. Each year, the Committee reviews the effectiveness of the external audit process and the independence of the auditors. Based upon its 2010 review, the Committee was satisfied with the external audit process that was conducted and that the independence of the auditors was in no way compromised. The Committee does not consider it necessary to undertake a tender process for the auditors. In accordance with rotation rules, the principal auditors' engagement partners will rotate every five years. The UK audit partner will rotate at the end of the 2010 audit and the Australian audit partner is due to rotate at the end of the 2011 audit.

**Corporate Assurance**

The Corporate Assurance function 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 Committee on social and environmental accountability (CSEA) and has full access to all functions, records, property and personnel of the Group. The head of Corporate Assurance reports functionally to both the Audit committee and CSEA, 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 CSEA 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 Corporate 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 of 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 the UK Companies Act 2006 and the Australian Corporations Act 2001. 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 other jurisdictions. The work carried out by the auditors does not involve consideration of such developments and, accordingly, the 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 business.

The directors consider that the *2010 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 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.

**Table of Contents**

**Management's report on internal control over financial reporting**

The common management of each 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 finance 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 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 2010, 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 2010. Their audit report on internal control over financial reporting is included on page 257 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.

Statement of compliance with governance codes and standards in 2010

In compiling this report, the directors have referred to The Combined Code on Corporate Governance, published by the UK Financial Reporting Council (the Code), the Australian Securities Exchange (ASX) Corporate Governance Principles and Recommendations 2nd edition (the ASX Principles), and the New York Stock Exchange (NYSE) Corporate Governance Standards (the NYSE Standards).

In accordance with the Listing Rules of the UK Listing Authority and the ASX, Rio Tinto confirms that throughout 2010 and at the date of this document the Group applied the principles of, and was compliant with, the provisions of Section 1 of the Code and was also fully compliant 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, with written terms of reference 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 120. 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.

Rio Tinto's website contains further information about the corporate governance framework.



**Table of Contents**

Remuneration report

About the report and committee

This report explains the roles, responsibilities and activities of the Remuneration committee and includes detailed disclosures on director and executive remuneration. It outlines how Rio Tinto ensures that its people are appropriately focused on driving continuous, sustainable improvements in performance to maximise total shareholder return by sustainably finding, developing, mining and processing natural resources in order to achieve our vision of becoming the sector leading global mining and metals company.

Following the outcome of the shareholder vote on the Remuneration report at the 2010 annual general meetings, the chairman led a consultation process with a range of shareholders to more fully understand any concerns that they have with the Group's executive remuneration policy and practice and to discuss the Committee's review of the Group's long term incentive plans (LTIPs). The feedback provided was discussed by the Committee and has been taken into account in further developing the executive remuneration policy. During 2010, the Committee conducted a detailed review of its competitive benchmarking policy for members of the Executive committee. The conclusions are set out below, and have informed the remuneration decisions made by the Committee for the Executive committee. The Committee is proposing to review the LTIPs and commence a further round of consultation with shareholders on the form of any new plans before the plans expire in 2014.

Based upon the support expressed by shareholders during the earlier consultation exercise, the Committee is recommending to shareholders for approval at the 2011 annual general meetings amendments to the LTIPs to mitigate any unintended consequences from recent legislative changes in Australia. To ensure that Australian participants are not adversely impacted by the change in tax treatment of share options in Australia, the Committee has concluded that certain amendments are required to the rules of the Group's Performance Share Plan (PSP), formerly the Mining Companies Comparative Plan (MCCP). The proposed changes mean that, participants in the Performance Share Plan and Share Option Plan will be given the opportunity to express their preference as to whether they receive their entire award in the form of Performance Shares as opposed to the current mix of Performance Shares and Performance Options. In order to implement these changes, a resolution to amend the rules of the PSP is being submitted to shareholders for approval at the 2011 annual general meetings. The notices of meeting for the 2011 annual general meetings contain further detailed information.

This report has been drawn up in accordance with applicable legislation and corporate governance guidance in the UK and Australia, which are the UK Combined Code on Corporate Governance, Schedule 8 of the Large and Medium sized Companies and Groups (Accounts and Reports) Regulations 2008, the UK Listing Authority Listing Rules, the Australian Corporations Act 2001 and Principle 8 of the revised Australian Securities Exchange Corporate Governance Principles and Recommendations 2nd edition (the ASX Principles).

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, including the directors. For the purposes of this report, the Committee has determined that the key management personnel are, in addition to the directors, members of the Executive committee. 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, including the executive directors, are collectively referred to as

executives. The executives are listed on page 139 together with the positions held during the year and dates of appointment.

Australian legislation further requires disclosures in respect of the five highest paid executives below board level selected from the senior managers who make, or participate in making, decisions that affect the whole, or a substantial part, of the business of the Group, or have the capacity to significantly affect the Group's financial standing. The Committee has determined that below board level, only members of the Executive committee constitute the group of senior managers that make decisions that affect the whole, or a substantial part, of the business of the Group.

In addition to executive remuneration, this report covers the chairman's and the non-executive directors' remuneration, see page 140.

### Remuneration committee responsibilities

The Committee's role is to ensure that remuneration policy and practices reward employees fairly and responsibly with a clear link to corporate and individual performance, and are aligned with shareholders' interests in maximising shareholder return. 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.

These responsibilities include:

- monitoring the effectiveness and appropriateness of executive remuneration policy and practice;

- reviewing and determining the terms of service, including remuneration and any termination arrangements, for the chairman, executive directors, PGCEOs, Group executives and the company secretary of Rio Tinto plc;

- reviewing and confirming the remuneration framework and policies for other senior managers; and

- approving the use of share and cash based short and long term incentive plans for the Group, taking into account their alignment with the Group strategy.

The Committee considers the level of pay and conditions throughout the Group when determining executive remuneration and ensures the same principles are used when designing the broader employee remuneration policies. The Committee takes into account aggregate remuneration levels and the mix between the executives and professional staff. This ensures the comparative ratios are reasonable given differences in scope and responsibilities. The Committee is committed to ensuring that remuneration policy and practices reward people fairly and responsibly with a clear link to corporate and individual performance and reflecting, to the extent practicable, global corporate governance guidance on executive remuneration.

During 2010, the Committee met three times. The membership and meeting attendances are detailed in the corporate governance section on page 118. The Committee reviewed its terms of reference in 2010 and concluded that its responsibilities had been met and that its terms of reference remain appropriate. The Committee also undertook its annual performance evaluation and reported the results to the board.

The chairman and chief executive participated in meetings at the invitation of the Committee during 2010. The members of the Committee are all independent and free of any relationship that would affect their impartiality in carrying out their responsibilities. The Committee is supported by members of senior management who regularly attend meetings to provide information as requested by the Committee. These included Hugo Bague (Group executive, People & Organisation), Jane Craighead (Global practice leader, Total Rewards) and Ben Mathews



**Table of Contents**

(company secretary, Rio Tinto plc). None of the attendees mentioned above were present when matters associated with their own remuneration were considered.

**Remuneration committee advisers**

The independent advisers engaged by and reporting to the Committee during 2010 were Deloitte LLP. In addition to specialist

remuneration advice, Deloitte LLP provided unrelated taxation advice and advisory services to Rio Tinto. Deloitte LLP did not provide advice on executive remuneration matters other than to the Committee. The Committee has also drawn on the services and publications of a range of external service providers and remuneration consultants such as Towers Watson, Hay Group and Mercer in relation to market data and external validation of total shareholder return (TSR) performance.

**Executive remuneration**

**Remuneration strategy**

Rio Tinto operates in global and local markets where it competes for a limited pool of talented executives. To support its strategic drivers, the Group needs high quality, committed people. The executive remuneration strategy, and underlying policy, provides this support by enabling the Group to attract and retain talent that will maximise shareholder value.

The remuneration strategy (summarised below) is guided by our B-E-S-T approach, which is based on the principles of aligning remuneration arrangements with strategic Business objectives, Empowering employees by differentiating top performers, whilst fostering Simplicity and Transparency in the design and communication of these arrangements. The components of this strategy, and how it supports our overall business strategy for achieving our vision of global sector leadership, are set out below:

**Remuneration strategy**

**Shareholder alignment**

We aim to incentivise management to deliver shareholder value, for example, by having relative TSR as the metric for our performance based long term incentive plans.

**Long term focus**

We aim to provide incentive plans that focus on longer term performance.

**Supporting our business strategy**

Delivering rewards based on the relative standing of our performance against both the HSBC Global Mining Index and the broader market of large global companies as measured through the Morgan Stanley Capital Index (MSCI) helps drive superior performance, by providing greater upside potential and rewarding high wealth creation for our shareholders in growth periods.

Our incentive plans are designed to promote and reward decision making with a positive long term impact so that our executives successfully contribute to our business of focusing on investing in and operating large, long term, cost competitive mines and businesses. The Performance Options and Performance Shares have a three and four year time horizon, respectively. The Committee has also introduced a deferral of a proportion of the annual

bonus, payable in shares after three years.

### Health and safety

We aim to promote and reward sustainable development, with a strong focus on health and safety in the annual bonus 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 commitment to operational excellence and licence to operate, two of the Group's strategic drivers. This is why we have health and safety as key performance indicators in the Short Term Incentive Plan (measured in relation to all injury frequency rates, significant potential incidents rate and semi quantitative risk assessment).

### Competitive, performance related packages

We aim to provide remuneration levels necessary to recruit and retain executives of the high calibre required to deliver our strategy. We benchmark our remuneration against our key peers to ensure we offer packages that are appropriate, with due regard for performance, without being excessive.

High quality people, who are capable of achieving stretching performance targets, are essential in generating superior returns for the Group. By providing competitive and performance related remuneration, we can attract the talent needed to further solidify our strategic advantage and respond quickly and strategically to changing market opportunities and challenges.

### Remuneration policy

The Committee has recently conducted a review of the comparator groups which should be used for remuneration benchmarking comparisons. It has concluded that, for the purposes of assessing the appropriate level of executive remuneration, the FTSE 30, (excluding financial services companies, and with due regard for size and complexity) will be an initial comparator group. Additional references will be made to a supplementary comparator group, composed of a cross section of international industrial organisations (broadly comparable to Rio Tinto in terms of global reach, revenue, market capitalisation and complexity) for which the Company competes for talent. Specific comparisons will also be made against other international mining companies where appropriate.

Typically, base salaries will be positioned at the median of these comparator groups, with total remuneration positioned across the full market range according to performance.

**Table of Contents**

Remuneration report continued

A summary of the current remuneration arrangements is set out below:

	Objective of component	Remuneration arrangements
Base Salary (fixed)	<p>Provides the fixed element of the remuneration package</p> <p>Typically, base salaries will be positioned at the median of the identified comparator groups, with total remuneration positioned across the full market range according to performance</p>	<p>Salary adjustments effective 1 March 2011</p> <p>Any increases are determined with reference to underlying Group performance and global economic conditions</p>
Short Term Incentive Plan ( STIP ) (at risk)	<p>Focuses participants on achieving annual performance goals, which are based on the Group s KPIs, to create sustainable shareholder value</p> <p>50 per cent of the bonus delivered in cash and 50 per cent delivered in deferred shares under the Rio Tinto Bonus Deferral Plan (BDP), vests in the December of the third year after the end of performance year to which they relate (generally subject to continued employment) to ensure ongoing alignment between the executives and shareholders</p>	<p>Target STIP opportunity 100 per cent for PGCEOs and Group executives to 120 per cent of base salary for executive directors</p> <p>Maximum STIP opportunity of 200 per cent of base salary</p> <p>Performance targets include earnings, cash flow, safety and individual performance objectives</p>
Performance Options Share Option Plan ( SOP ) (at risk)	<p>Rewards participants for increasing the share price and delivering superior TSR performance against other companies over a long term horizon</p> <p>Three year performance period to provide long term alignment with shareholders</p> <p>How performance is generated is as important as</p>	<p>Market value Performance Options vest based on the TSR performance against the HSBC Global Mining Index</p> <p>Target (and maximum) face value of 300 per cent of base salary</p>

what level of performance is delivered. Therefore, before awards vest, the Committee must also satisfy itself that TSR performance is an appropriate reflection of the underlying performance of the business and can adjust vesting accordingly

<p>Performance Shares Performance Share Plan ( PSP ) (formerly the Mining Companies Comparative Plan) (at risk)</p>	<p>Rewards participants for increasing the share price and delivering superior TSR performance against other companies over a long term horizon</p> <p>Four year performance period to provide long term alignment with shareholders</p> <p>As with Performance Options, before vesting the Committee must also satisfy itself that TSR performance is an appropriate reflection of the underlying performance of the business and can adjust vesting accordingly</p>	<p>Conditional share awards vest based on TSR performance relative to 50 per cent the HSBC Global Mining Index; 50 per cent the Morgan Stanley Capital World Index (MSCI)</p> <p>Target award equal to face value of 200 per cent of base salary</p> <p>1.5 times target award vesting for outperformance of the relevant index</p> <p>Subject to shareholder approval at the 2011 annual general meetings, from 2011 executives allowed to express a preference regarding the mix of the long term incentive opportunity between:</p> <ul style="list-style-type: none"> <li>Keeping the current mix of Performance Shares/Performance Options</li> <li>Receiving their full opportunity in Performance Shares</li> </ul> <p>Overall the expected value of the total compensation opportunity will remain the same. In order to facilitate this choice it is proposed that the individual grant limits under the PSP be increased</p>
<p>Management Share Plan ( MSP ) (usually time based)</p>	<p>Enhance the Group s ability to attract and retain key staff in an increasingly tight and competitive labour market</p>	<p>Conditional share awards generally vest based on continued service with the company until the date of vesting</p> <p>Members of the Executive committee are not eligible to participate in awards under this plan</p> <p>Shares to satisfy the awards are purchased in the market and no new shares are issued to satisfy awards</p>
<p>Post employment Benefits (fixed)</p>	<p>Provides locally competitive post employment benefits for participants in a cost efficient manner</p>	<p>Post employment benefit arrangements offered</p>

Shareholding requirement

Provides alignment with  
shareholders' interests

Executive directors Two times base salary  
over a three year period from appointment

Other members of the Executive committee  
Two times base salary over a five year period  
from appointment

130 Rio Tinto 2010 Annual report

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**Table of Contents****Remuneration mix**

Consistent with the Group's strategy, the Committee seeks to achieve a remuneration mix which best reflects the long term nature of the business. As such, the total remuneration package is designed to provide an appropriate balance between fixed and variable components with a focus on long term variable pay.

The remuneration mix assuming target STIP and LTIP awards with the current mix of Performance Shares and Performance Options is set out below and is identical for each group.

**Remuneration components****Base salary**

The Committee has completed a comprehensive review of the remuneration levels of the chief executive, executive directors, PGCEOs and Group executives.

This review took into account:

Rio Tinto's strong performance in 2010 and the Group's growth ambitions for the future

an assessment of individual performance

the motivation of people with critical skills, at a time of a highly competitive market for talent in the industry

the retention of individuals within the Group's succession planning processes who are vital to the creation of long term shareholder value, and

that salaries have remained at March 2008 levels for the chief executive and members of the Executive committee.

These factors were viewed in light of the results of a full, independent review of base salary and total compensation, which was commissioned by the Committee to enable it to make fully informed decisions around pay. This made reference to the Company's benchmarking comparator groups, namely the FTSE 30, excluding financial services, and additional references to global industrial companies that the Company competes with for talent. The conclusion from this review was that it was considered in the best interests of our shareholders to restore pay to a more competitive market position. The Committee therefore approved adjustments in base salaries, which take effect on 1 March 2011, as shown in the table below.

The Committee was aware, when making this decision, that these adjustments were outside the range of a typical annual salary review in its major markets. However, it is equally aware that this still leaves the remuneration of the majority of executives below market rate, within a highly competitive global market for talent.

Name	2011 Base salary	2010 Base salary	2009 Base salary
<b>Executive directors</b>			
Tom Albanese	£1,030,000	£907,500	£907,500
Guy Elliott	£720,000	£675,500	£675,500
Sam Walsh	A\$1,590,000	A\$1,475,000	A\$1,475,000
<b>Other members of executive committee</b>			
Hugo Bague	£415,000	£360,000	£360,000
Preston Chiaro	US\$770,000	US\$725,000	US\$725,000
Bret Clayton	US\$745,000	US\$700,000	US\$700,000

Jacynthe Côté	US\$885,000	US\$825,000	US\$825,000
Andrew Harding <sup>(a)</sup>	£420,000	US\$650,000	US\$650,000
Harry Kenyon-Slaney	£420,000	£360,000	£360,000
Doug Ritchie	A\$930,000	A\$850,000	A\$850,000
Debra Valentine	US\$630,000	US\$570,000	US\$570,000

(a) Andrew Harding was paid in US\$ until his relocation to the UK

**Table of Contents**

## Remuneration report continued

**Short Term Incentive Plan ( STIP )**

Awards made under the STIP are based on performance against financial, safety and individual business objectives. The financial objectives are balanced equally between earnings performance and cash flow performance. The Committee selected these measures as they are key performance indicators (KPIs) used in managing the business. As the potential impact of fluctuations in exchange rates and some prices are outside the control of the Group, for earnings and cash flow metrics, the Committee compares on an equal weighting the actual results (unflexed) and underlying performance (flexed) for prices and exchange rates.

Safety performance is a priority for Rio Tinto. Its inclusion in the STIP (measured in relation to all injury frequency rates, significant potential incidents rate and semi-quantitative risk assessment) is a strong reminder that the safety of our employees is paramount and should not be compromised when targeting superior financial results.

Individual performance metrics for executives are calibrated to be specific, measurable objectives which are aligned with Rio Tinto's strategy. Seventy per cent of the STIP awards are based on business measures (earnings, cash flow and safety) and 30 per cent on individual measures. For PGCEOs, the business measures of the relevant product group contribute to nearly half of the 70 per cent weighting.

The maximum annual bonus opportunity under the STIP for the executives is 200 per cent of salary (target opportunity of 120 per cent of salary for executive directors and 100 per cent of salary for PGCEOs and Group executives). Half of any bonus earned will be payable in cash with the remaining 50 per cent being deferred into shares, under the Rio Tinto Bonus Deferral Plan. These shares vest, generally subject to continued employment, in December of the third year after the end of the performance year to which they relate.

The Committee continues to review the appropriateness of using STIP to incentivise both environmental as well as health performance.

*STIP measures for 2010*

	Weighting for Executive directors and Group executives %	Weighting for PGCEOs <sup>(b)</sup> %
<b>Business measures</b>		
<b>Rio Tinto Group<sup>(a)</sup></b>		
Earnings	26.25	10.50
Cash flow	26.25	10.50
<b>Product group<sup>(a)(b)</sup></b>		
Earnings		15.75
Cash flow		15.75
<b>Safety<sup>(c)</sup></b>	17.50	17.50
<b>Individual objectives</b>		
Individual objectives are tailored to each executive but are generally based on the achievement of strategic initiatives, key project deliverables and leadership competencies	30.00	30.00



- (a) The earnings and cash flow measures are weighted 50:50 between flexed and unflexed performance respectively
- (b) Sam Walsh is considered a PGCEO with regard to STIP performance measures
- (c) Safety measures included All Injury Free Rate (AIFR), Semi Quantitative Risk Assessment (SQRA) and Significant Potential Incidents (SPI) which make up 50 per cent, 30 per cent and 20 per cent of overall safety weighting respectively

The same weightings for the STIP will apply for 2011.

***STIP business performance outcomes***

Rio Tinto had both strong earnings and cash flow results in 2010 which resulted in the Group and product groups achieving above target outcomes for the STIP financial measures.

Rio Tinto met or exceeded the Group's and product group's safety targets across all three measures including an 18 per cent reduction in the AIFR. However, three fatalities in 2010 necessitated a downward adjustment of the overall Group's safety results. The safety scores for Tom Albanese, Sam Walsh, and Hugo Bague were capped at 100 per cent of target and Bret Clayton's score was further reduced as a result of the fatalities.

***Performance evaluation process for individual executives***

Rio Tinto conducts an annual performance management process for all of its senior executives. In the case of members of the Executive committee, the chief executive conducts the review. In the case of the chief executive, the chairman of the Committee conducts the review in conjunction with the chairman of the board.

The key objectives of the performance 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. Annual individual objectives are set with the Committee in the first quarter of each year. Annual performance reviews are completed during early January of the following year. Performance evaluations for each executive took place in January 2011 in accordance with the process described. Individual objectives and awards for 2010 for the executives are set out opposite.

**Table of Contents***STIP outcomes by executive for 2010*

Name	Business / Individual objectives (% of target)		Summary of individual objectives
<b>Executive directors</b>			
Tom Albanese	Group Financial	159.8	Provide effective leadership across the Group Deliver operational improvements Ensure Rio Tinto's portfolio remains strong Strengthen Rio Tinto's licence to operate
	Individual	150.0	
	Safety	100.0	
Guy Elliott	Group Financial	159.8	Provide effective leadership of the finance function Ensure continued primacy in strategic formation and development Complete the Group's divestment programme
	Individual	150.0	
	Safety	154.4	
Sam Walsh	Group Financial	159.8	Provide effective leadership of Rio Tinto Iron Ore. Provide successful leadership of the design and implementation of the Western Australian Iron Ore Production Joint Venture with BHP Billiton Gain approval for strategic initiatives Target new global growth opportunities
	PG Financial	188.3	
	Individual	165.5	
	PG Safety	100.0	
<b>Other members of the Executive committee</b>			
Hugo Bague	Group Financial	159.8	Provide effective leadership across health, safety, environment & communities and human resource streams Foster employee engagement for operational improvement Ensure organisational agility and workforce flexibility through functional optimisation and business partnering
	Individual	130.0	
	Safety	100.0	
Preston Chiaro	Group Financial	159.8	Provide effective leadership of the Technology & Innovation function Create value through effective engagement with business units Demonstrate progression of the climate and energy strategy Broaden strategic production planning across Rio Tinto
	Individual	134.5	
	T&I Safety	177.3	
Bret Clayton			

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	Group Financial	159.8	Provide effective leadership of the Business Support & Operations function
	Individual	125.0	
	BS&O Safety	83.4	Expand corporate risk management to drive a cultural shift in risk management over the longer term
			Establish additional evaluation techniques for large, long term assets, where appropriate, and consistent with the Group strategy
			Progress the long term business model to reflect business and geographical diversity
Jacynthe Côté	Group Financial	159.8	Provide effective leadership of Rio Tinto Alcan
	PG Financial	144.5	Drive further sustainable cost reduction
	Individual	133.3	Continue the divestment programme of selected assets
	PG Safety	200.0	Drive value improvement on key growth projects to reduce capital expenditure intensity
Andrew Harding	Group Financial	159.8	Provide effective leadership of Copper
	PG Financial	148.8	Ensure appropriate resources, structure and support to deliver sustainable value in key strategic locations
	Individual	143.0	Pursue growth opportunities
	PG Safety	180.0	Establish relationships with key partners, governments and NGOs
Harry Kenyon-Slaney	Group Financial	159.8	Provide effective leadership of Diamonds & Minerals
	PG Financial	171.5	Develop and communicate a clear vision, growth strategy and structure
	Individual	143.0	Develop product group wide collaborative structures and provide active guidance and coaching to ensure the development of talent
	PG Safety	200.0	Ensure effective management of new strategic joint ventures
Doug Ritchie	Group Financial	159.8	Provide effective leadership of Energy
	PG Financial	154.8	Develop clear and deliverable plans for volume delivery and economic expansion in a sustainable manner
	Individual	139.0	Conduct a global energy study to gain insights into the development and changes to the global energy market and its impact on our existing and future strategy
	PG Safety	103.3	
Debra Valentine	Group Financial	159.8	Provide effective leadership to the legal, external relations, media, security and compliance functions
	Individual	137.0	Deliver key corporate projects and support for business needs
	Safety	154.4	Focus on developing government relations capabilities across key countries



**Table of Contents**

Remuneration report continued

*STIP awards by executive for 2010*

Stated in 000	Cash	2010 STIP Deferred Shares	% of maximum STIP awarded	% of maximum STIP forfeited	% of target STIP awarded
<b>Executive directors</b>					
Tom Albanese	£797	£797	73.2	26.8	146.4
Guy Elliott	£632	£632	78.0	22.0	155.9
Sam Walsh	A\$1,416	A\$1,416	80.0	20.0	160.0
<b>Other members of Executive committee</b>					
Hugo Bague	£253	£253	70.2	29.8	140.4
Preston Chiaro	US\$563	US\$563	77.6	22.4	155.2
Bret Clayton	US\$476	US\$476	68.0	32.0	136.0
Jacynthe Côté	US\$636	US\$636	77.0	23.0	154.1
Andrew Harding	US\$249 £140	US\$249 £140	77.4	22.6	154.8
Harry Kenyon-Slaney	£298	£298	82.8	17.2	165.5
Doug Ritchie	A\$604	A\$604	71.0	29.0	142.1
Debra Valentine	US\$433	US\$433	76.0	24.0	152.0

**Long term incentives**

The Group operates the following long term incentive plans:

The Share Option Plan - a market value share option plan which is subject to TSR performance and has been approved by shareholders.

Performance Share Plan (formerly the Mining Companies Comparative Plan) - a performance share plan which is subject to TSR performance and has also been approved by shareholders. The name changed from MCCP to PSP and all references to the MCCP have been changed to the PSP.

The Management Share Plan - a plan which generally provides time based awards.

*Share Option Plan ( SOP )*

Under the SOP, options are granted to purchase shares at an exercise price based on the share price at the date of grant. The maximum face value of grants under the SOP is 300 per cent of base salary.

The vesting of options is subject to the achievement of a stretching total shareholder return (TSR) performance condition, comparing Rio Tinto's TSR performance to that of the HSBC Global Mining Index as at 31 December of the third year after grant. If Rio Tinto's TSR performance is equal to the performance of the index, the higher of one third of the actual grant or 20,000 options may vest. No options will vest if Rio Tinto's TSR performance is less than the index's performance. The full award will only vest if TSR performance is equal to or greater than the HSBC Global Mining Index plus five per cent per annum. Between these points, options will become exercisable on a sliding scale.

*Performance Share Plan (PSP)*

Rio Tinto's performance share plan, the PSP, is designed to incentivise management to drive business performance. Target awards under the plan can be made with a face value of up to 200 per cent of base salary.

Vesting of PSP awards, made since 2010, are subject to Rio Tinto TSR performance compared against:

50 per cent - the performance of the HSBC Global Mining Index;

50 per cent - the performance of the Morgan Stanley Capital World Index (MSCI).

The use of both the HSBC Global Mining Index and MSCI reflects the fact that Rio Tinto competes against 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 as well as the mining sector.

Vesting for awards is as follows:

Outperformance of the index by 8% per annum	1.5 times target award vests
Performance between index and 8% out performance	Straight line vesting
Performance equal to index	0.35 times target award
Performance less than index	Nil vesting

The outperformance required for maximum vesting has been calibrated to be equivalent to the upper quartile performance against these indices and, as such, is considered by the Committee to be particularly stretching. The Committee considers that TSR is an appropriate performance measure for the SOP and PSP as it captures objectively the return Rio Tinto delivers to its shareholders over the long term and rewards executives for the extent to which the Group's TSR has outperformed its comparators.

The Committee recognises the importance of ensuring that the level of vesting is commensurate with the underlying performance of the business. Therefore, when approving vesting under the SOP and PSP, the Committee will ensure it is satisfied that TSR performance is a genuine reflection of the value available to shareholders and the underlying performance of the Group and will adjust levels accordingly, if required.

**Table of Contents**

*Proposed changes to the Performance Share Plan from 2011*

As referred to on page 128 in relation to the shareholder consultation exercise conducted in 2010, the Committee is recommending to shareholders for approval at the 2011 annual general meetings certain changes to the PSP rules. These changes ensure that participants are not adversely impacted by the recent change in the tax treatment of options in Australia. As set out above, the Committee currently grants Performance Shares under the PSP with a face value of up to 200 per cent of base salary and Performance Options with a face value of up to 300 per cent of base salary. The Committee believes that Performance Options continue to be an appropriate incentive tool for senior executives as they create a strong degree of alignment with shareholders. However, following the tax changes in Australia, the Committee intends that, for LTIP awards granted from 2011 onwards, executives will be given an opportunity to indicate their preference regarding the mix of their LTIPs. The alternative approaches will be to:

- retain the current mix of Performance Shares and Performance Options, which is determined annually by the Remuneration committee; or
- receive their full long term incentive opportunity in Performance Shares.

To allow Rio Tinto the flexibility to grant participants their full LTIP award in the form of Performance Shares (where they choose to do so), the individual limits under the rules of the PSP will need to be increased to a face value award of up to 300 per cent of base salary. Participants would have the opportunity to earn up to one and half times this amount based on the extent to which the performance condition is met. This amount has been calibrated to be broadly equivalent in expected value terms to the value of the LTIP awards under the current mix of shares and options. Therefore, the increase in face value terms of Performance Shares is not on a one-for-one basis to Performance Options.

The Company will seek shareholder approval at the 2011 annual general meetings to increase the individual PSP limits so that annual maximum face value of Performance Shares that may be awarded is increased from of 200 per cent to 300 per cent of base salary.

*Management Share Plan ( MSP )*

The primary focus of the MSP is to support the Group's ability to attract and retain key staff in an increasingly tight and competitive labour market. MSP awards are conditional awards not subject to a performance condition as they vest subject to continued employment, at the end of three years, and thus act as a strong retention tool. Executive committee members do not participate in the MSP and no awards were made to any executives in 2010.

Jacynthe Côté, Andrew Harding, Harry Kenyon-Slaney and Doug Ritchie received grants under the MSP prior to becoming PGCEOs. Hugo Bague and Debra Valentine received grants prior to Group executives being excluded from participation in the plan in 2010. These previous grants vested in part in 2010 and the remainder will vest during 2011 as set out in Table 4a.



**Table of Contents**

Remuneration report continued

**Long term incentives granted in 2010**

Options over either Rio Tinto plc or Rio Tinto Limited shares, as appropriate, were granted to each executive under the SOP on 22 March 2010.

A conditional award of performance shares in either Rio Tinto plc or Rio Tinto Limited shares was also made to each executive under the PSP on 22 March 2010.

The LTIP awards for each executive are set out below.

Stated in '000	2009 LTIP Expected value of awards granted	2010 LTIP Expected value of awards granted	% change
<b>Executive directors</b>			
Tom Albanese	£1,723	£1,723	
Guy Elliott	£1,283	£1,283	
Sam Walsh	A\$2,803	A\$2,803	
<b>Other members of Executive committee</b>			
Hugo Bague	£684	£684	
Preston Chiaro	US\$1,378	US\$1,378	
Bret Clayton	US\$1,092	US\$1,092	
Jacynthe Côté	US\$1,287	US\$1,287	
Andrew Harding <sup>(a)</sup>	US\$386	US\$618	60.1
Harry Kenyon-Slaney <sup>(a)</sup>	£175	£684	290.9
Doug Ritchie <sup>(a)</sup>	A\$607	A\$1,615	166.1
Debra Valentine	US\$1,083	US\$1,083	

(a) 2009 LTIP awards were granted prior to Messrs Harding, Kenyon-Slaney and Ritchie on

becoming  
PGCEOs and  
reflect the award  
made to them in  
their former  
role.

***Long term performance indicators and outcomes***

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 have been selected as they are the broad equity indices against which Rio Tinto's TSR performance is assessed under the PSP and SOP, and they reflect the fact that Rio Tinto competes against a global market for investors as well as within the mining sector.

**Table of Contents**

In 2010, Rio Tinto achieved strong earnings and share price performance. This strong performance has a direct impact on the LTIP. The effect of this performance on shareholder wealth, as measured by TSR delivered during the relevant calendar year, is detailed in the table below.

**Rio Tinto shareholder return 2006-2010**

Year	Dividends paid during the year US cents per share	Share price		Share price		Total shareholder return (TSR) Group		
		Rio Tinto plc pence 1 Jan	31 Dec	Rio Tinto Limited A\$ 1 Jan	31 Dec	RTP%	RTL %	%
2010	90.0	3,390	4,487	74.89	85.47	34.6	15.3	32.6
2009	68.0	1,231	3,390	29.97	74.89	182.2	156.7	172.8
2008	152.0	4,392	1,231	105.65	29.97	(71.5)	(71.1)	(71.5)
2007	116.0	2,245	4,392	58.60	105.65	99.5	82.9	92.8
2006	191.5	2,193	2,245	54.42	58.60	6.2	9.2	7.4

**Long term incentive outcomes for 2010**

Despite continued strong share price performance in 2010, the share price for the performance period included baseline prices from periods of very strong commodity markets that existed prior to the 2008-2009 downturn. Therefore share options granted in 2008 did not vest and were cancelled and awards under the PSP only partially vested.

**SOP**

Plan performance period that ended 31 December 2010

Comparator group	HSBC Global Mining Index
Index TSR %	6.9
Rio Tinto TSR %	0.3
% of shares vested	
% of shares forfeited	100

**PSP**

Plan performance period that ended 31 December 2010

Comparator companies	Alcoa, Anglo American, Barrick Gold, BHP Billiton, Cameco, Freeport-McMoRan, Gmexico B, Impala Newmont Mining, Peabody Energy, Potash, Teck Cominco, Vale do Rio Dolce, Xstrata
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TSR Ranking <sup>(a)</sup>	7 <sup>th</sup> (49% TSR)
% of shares vested	Executive directors and PGCEOs: 36.4 Group executives: 55.6
% of shares forfeited	Executive directors and PGCEOs: 63.6 Group executives: 44.4

(a) Rio Tinto must achieve a ranking of 5<sup>th</sup> for vesting to begin at 35%. No awards vest below this level.

### **MSP**

Plan period	Plan period that ended 31 December 2010
% of shares vested	100
% of shares forfeited	

### **All employee share plans**

Executives may participate in broad based share and share option plans which are available to Group employees generally and for which performance conditions do not apply. These plans form part of standard remuneration practice whereby employees are offered participation in plans to encourage alignment with the long term performance of the Group. Executives may participate in the Rio Tinto plc Share Savings Plan or the Rio Tinto Limited Share Savings Plan depending on whether they are employed by Rio Tinto plc or Rio Tinto Limited. The plans allow the participant to save up to £250 per month (or equivalent in local currency) for a defined period, not exceeding five years, before exercising options granted at a discount of up to 20 per cent to the market value at the time of grant. Grants made to executives under these plans are set out in Table 5 on pages 152 to 155.

The Share Ownership Plan is available to eligible employees in the UK who may receive an annual award of shares up to five per cent of salary, subject to a cap of £3,000. Under this plan, employees may also make contributions from salary each month to purchase shares at the prevailing market price subject to a cap of £1,500 per annum. The Company matches the shares purchased on a one for one basis. This plan was first approved by shareholders in 2001 and in line with the rules of the plan, after being in operation for ten years, it will be submitted to shareholders for renewal at the Rio Tinto plc 2011 annual general meeting.

Where, under an employee share plan operated by the Company, participants are the beneficial owners of the shares, but not the registered owner, the voting rights are normally exercised by the registered owner at the direction of the participant.

### **Dilution**

Awards under the SOP and PSP may be satisfied by treasury shares, the issuance of new shares or the purchase of shares in the market. Currently, Rio Tinto plc satisfies awards by the issuance of new shares or the transfer of shares from treasury. Rio Tinto Limited satisfies awards by the market purchase and delivery of shares to plan participants. Rio Tinto plc complies with the ABI guidelines in relation to the issuance of new shares. All other share awards are satisfied by the use of shares which are purchased in the market. Further information in respect of the number of shares issued under plan arrangements can be found in note 49 to the financial statements.

**Table of Contents**

Remuneration report continued

**Post employment benefits**

Executives may participate in post employment benefit arrangements offered by the Group. No post employment benefits are provided to non executive directors. The following table details the post employment benefit components for Rio Tinto's executive directors.

Details of executive directors' pension entitlements are set out in Table 2 on pages 146 and 147.

Country/Executive director	Post employment benefit
<b>UK</b>	Plan membership – UK employer pension plans as provided to other UK based employees. Pension is indexed to UK price inflation to a maximum of ten per cent per annum
Tom Albanese	Tom Albanese specific provision:  Target defined benefit of 2/3rds of basic salary at age 60, inclusive of benefits accrued in the US
Guy Elliott	Guy Elliott specific provision: Target defined benefit of 2.3 per cent of basic salary for each year of service with the Company to age 60
<b>Australia</b>	Plan membership – Australian employer funded superannuation plan as provided to other Australian based employees
Sam Walsh	Target defined benefit is a lump sum multiple of 4.05 times final basic salary at age 62 Additional Company contribution on a defined contribution basis of 20 per cent of the lesser of 50 per cent of the annual STIP award or 20 per cent of basic salary. This is in line with typical market practice in Australia

**Other payments during 2010**

This section provides information on any one-time payments made during the year which are not a core element of the remuneration package.

*Bonus Deferral Plan ( BDP ) / Company Contributed Awards ( CCA )*

During the global and industry downturn in 2009, the Committee decided to defer the 2008 STIP payments into shares in order to conserve cash. Executive directors and PGCEOs were required to defer 100 per cent, and all other executives were required to defer 50 per cent, of any bonus due in respect of 2008. The bonus deferral for executive directors and PGCEOs vest 100 per cent based on service at the end of 2011. In the case of the other executives, an amount equal to 25 per cent of salary was added to the amount of the bonus deferral to provide enhanced retention in a challenging period. The shares vest on the basis of 50 per cent vesting at the end of 2010 and 50 per cent at the end of 2011. Fifty per cent of the shares awarded under the BDP and CCA vested for Jacynthe Côté, Hugo Bague, Andrew Harding, Harry Kenyon-Slaney, Doug Ritchie and Debra Valentine on 1 December 2010. These shares were conditionally awarded prior to the named executives becoming PGCEOs or Group executives. The payments made under these awards are detailed in Table 1a.

*One-off long term incentive grant*

Upon promotion to the role of CEO Rio Tinto Alcan, and based on the terms of her legacy Alcan Inc. contract, Jacynthe Côté was granted a one-time conditional award of shares equal to 25 per cent of her current annual base salary to incentivise her to deliver synergy savings and to promote the effective integration of Rio Tinto Alcan from an organisational and cultural perspective. The award was subject to performance conditions which provided for 50 per cent of the award that vested on 1 February 2010 and a further 50 per cent that vested on 1 February 2011 as the performance conditions were met. The performance conditions attached to vesting related to the full achievement of objectives based on the integration and re-organisation of Rio Tinto Alcan. Effective from October 2007, Jacynthe Côté was also granted a one-off time based, special retention grant as part of her legacy Alcan Inc. arrangements on assuming the role of president and CEO Primary Metals, Rio Tinto Alcan. The remaining 60 per cent of this grant vested on 25 October 2010. The payments made under these awards are detailed in Table 1a.

*Relocation payment*

Andrew Harding relocated from the US to the UK in 2010 as part of the terms of his promotion to PGCEO Copper. As part of the relocation, the Company paid Andrew Harding a one time payment, net of taxes, to compensate him for the loss on sale he incurred when selling his residence in Salt Lake City, Utah as determined by two independent appraisers. The payment is detailed in Table 1a.

*Future tax payment*

In 2011, Rio Tinto will be responsible for a tax payment, the amount of which is not yet determined, on behalf of Dick Evans, a former executive director who retired on 31 December 2009. These payments are in accordance with Rio Tinto's contractual obligations relating to his service for Rio Tinto and will be disclosed when known and paid.

Other remuneration and statutory disclosures

**Executives' service contracts**

The executives 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. Debra Valentine's service contract can be terminated by either party with six months' notice in writing. For Jacynthe Côté, the 12 months' notice includes salary and target bonus opportunity, in line with typical market practice in Canada and her legacy Alcan Inc. contract.

If termination is a result of a redundancy, the terms of the relevant policy would apply in the same way as for other local employees. In the case of involuntary termination, Jacynthe Côté would receive 24 months' salary and target bonus opportunity inclusive of notice in line with entitlements under her legacy Alcan Inc. contract.

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. Bonus and outstanding awards under the LTIP are forfeited in these circumstances.

**Table of Contents**

STIP and LTIP rules cover any entitlements that participants may have upon termination. If termination is due to any reason besides cause or resignation, participants are eligible to receive a pro rata STIP based on the portion of the performance period worked. Any outstanding deferred shares normally vest in full upon termination. Outstanding Performance Options or Performance Shares will vest at the normal vesting date subject to performance against the performance conditions, with any awards held for less than 12 months at the date of termination reduced pro rata. MSP awards generally vest pro rata upon termination.

Contractual entitlements to severance are not triggered by a change of control. All of the Company's share plans contain provisions relating to a change of control. Outstanding deferred shares would normally vest in full and outstanding Performance Shares and Performance Options would normally vest and become exercisable on a change of control on a pro rata basis, subject to the satisfaction of any performance conditions at that time.

Name	Position(s) held during 2010	Date of appointment to current position	Notice period
<b>Executive directors</b>			
Tom Albanese	Chief executive	1 May 2007	12 months
Guy Elliott	Chief financial officer	19 June 2002	12 months
Sam Walsh	CEO Iron Ore and Australia	5 June 2009	12 months
<b>Other members of executive committee</b>			
Hugo Bague	Group executive, People & Organisation	1 August 2007	12 months
Preston Chiaro	Group executive, Technology & Innovation	1 November 2009	12 months
Bret Clayton	Group executive, Business Support & Operations	1 November 2009	12 months
Jacynthe Côté	CEO Rio Tinto Alcan	1 February 2009	12 months
Andrew Harding	CEO Copper	1 November 2009	12 months
Harry Kenyon-Slaney	CEO Diamonds & Minerals	1 November 2009	12 months
Doug Ritchie	CEO Energy	1 November 2009	12 months
Debra Valentine	Group executive, Legal & External Affairs	15 January 2008	6 months

Shareholding policy for executives

The Company recognises the importance of aligning executives' interests with those of shareholders and they are therefore expected to build up a shareholding. The Committee determined that executive directors should aim to reach a holding equivalent in value to two times their base salary over three years, with PGCEOs and Group executives aiming to achieve this holding over five years.

#### Share dealing policy

Key management personnel 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 closed periods before results announcements as well as other periods during which key management personnel are prohibited from trading Rio Tinto securities. Directors and executives are required to certify that they do not hold any inside information when seeking clearance to deal in Rio Tinto securities.

Executives participate in long term incentive plans which involve the award of Rio Tinto securities at a future date and are dependent upon the satisfaction of performance conditions. Therefore, the rules contain a provision prohibiting an executive from limiting his or her exposure to risk in relation to the securities. The award of shares and options under the incentive plans is conditional upon compliance with the rules. All employees subject to the rules receive regular training and information.

#### 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 their experience and knowledge, to the benefit of the Group. This policy limits each executive's external directorships to one FTSE 100 company or equivalent. Consequently, where there is no likelihood that such a directorship will give rise to a conflict of interest, the boards will normally give their consent to the appointment. The executive is permitted to retain the fees earned.

In 2010, the following executives received fees from external appointments: Guy Elliott received US\$100,537 (2009: US\$124,000) and Sam Walsh A\$120,690 (2009: A\$120,000).

Details of all board members' and executives' external appointments can be found on pages 102 to 105.

#### Company secretary remuneration

The executive remuneration policy applies to the company secretary of each of Rio Tinto plc and Rio Tinto Limited. They participate in the same performance-based remuneration arrangements as the executives. 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, oversight of good corporate governance practice and the provision of corporate secretarial services.



**Table of Contents**

## Remuneration report continued

Chairman and non executive  
directors remuneration

Remuneration policy

**Chairman**

The Remuneration committee determines the terms of service, including remuneration, of the chairman. The chairman receives a fixed annual fee and does not receive any additional fee or allowance for either committee membership or for overseas travel. He is provided with a car and driver for business purposes, private medical insurance and he participates in the Rio Tinto Medical Expenses Plan which Group employees are eligible to join. He is also covered under the Group's accident policy. These are disclosed as benefits in Table 1b on page 146. He does not participate in the Group's incentive plans or pension arrangements.

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.

**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 benefits to non executive directors, nor do any of them participate in any of the Group's incentive plans.

The fees payable to non executive directors are subject to review by the chairman's committee. During 2010, the review took into account market and related developments. In light of Rio Tinto's size, the complexity of its Dual Listed Companies' structure and the resulting demands on directors as well as market developments, the base fee for non executive directors was increased to £80,000 from 1 January 2011. Committee fees were also increased, as indicated in the table below, with effect from 1 January 2011. Fees were last increased in November 2007.

Allowances for overseas meetings involving long and medium distance flights were increased for the first time since 2005 effective 1 January 2010 to take into account market developments.

**Remuneration components**

The table below sets out the annual fees payable to the chairman and the non executive directors in £/A\$, as appropriate.

	2011	2010 (a)	2009
<b>Director fees</b>			
Chairman's fee	£700,000	<b>£700,000</b>	£700,000
Non executive director base fee	£80,000	<b>£70,000</b>	£ 70,000/A\$160,000
Senior independent director	£35,000	<b>£35,000</b>	£35,000
<b>Committee fees</b>			
Audit committee chairman	£35,000	<b>£30,000</b>	£30,000
Audit committee member	£15,000	<b>£15,000</b>	£15,000/A\$37,500
Remuneration committee chairman	£30,000	<b>£20,000</b>	£20,000
Remuneration committee member	£10,000	<b>£10,000</b>	£10,000/A\$25,000

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Nominations committee member	£7,500	<b>£7,500</b>	£7,500
Committee on social and environmental accountability chairman	£25,000	<b>£20,000</b>	£20,000
Committee on social and environmental accountability member	£10,000	<b>£7,500</b>	£7,500/A\$18,750
<b>Overseas meeting allowances</b>			
Long distance (flights over 10 hours per journey)	£7,500	<b>£7,500</b>	£4,000/A\$10,000
Medium distance (flights of 5-10 hours per journey)	£3,500	<b>£3,500</b>	£2,000/A\$5,000

(a) From 1 January 2010, fees were set in £ only.

**Table of Contents**

Remuneration paid during 2010

Details of each element of remuneration paid to the chairman and non executive directors during 2010 is set out in Table 1b. No post employment, long term or termination payments were paid and no share based payments were made. The total payments made to the chairman and non executive directors in 2010 are within the maximum aggregate annual amount of £3 million set out in the Group's constitutional documents approved by shareholders at the 2009 annual general meetings.

Shareholding policy

In 2006, the board recommended that non executive directors be 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 147.

Letters of appointment

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 the annual general meeting. Each non executive director is appointed by the board subject to their election and periodic re-election by shareholders as detailed on page 116. Non executive directors' appointments may be terminated by giving three months notice. There are no provisions for compensation payable on termination of their 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.

Audited information

Under Schedule 8 of the Large and Medium sized Companies and Groups (Accounts and Reports) Regulations 2008, the information included in respect of the non executive directors and the directors' short term employee benefits and termination benefits in Tables 1a and 1b, and the information included in respect of the directors accrued benefits, transfer values and defined contribution pension in Table 2, Tables 4a and 4b and Table 5 are all auditable.

The information provided in this Remuneration report has been audited as required by section 308(c) of the Corporations Act 2001.

The Australian Securities and Investments Commission issued an order dated 22 December 2010 under which the information included in the Remuneration report to comply with paragraph 25 of Australian Accounting Standard AASB 124 Related Party Disclosures (relating to key management personnel compensation) is also auditable. This information comprises Tables 1 (executive and non executive directors set out in Table 1a and 1b respectively), 3, 4 and 5 and the disclosures provided under the headings Executive remuneration and Chairman and non executive director remuneration.

Annual general meetings

Shareholders will be asked to vote on this Remuneration report at the Companies' 2011 annual general meetings.

By order of the board

**Ben Mathews**

Secretary

Remuneration committee

4 March 2011



**Table of Contents**

## Remuneration report continued

## Remuneration tables

## Remuneration received in 2010

The table below provides a summary of the executives' actual remuneration in 2009 and 2010 stated in the relevant currency. This is in addition to statutory disclosure requirements. 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 Tables 1a and 1b on pages 144 and 146, include theoretical accounting values relating to various parts of the remuneration packages, most notably LTIP arrangements.

**Actual remuneration received in 2010**

Stated in '000	Year	Base salary paid	Other payments and benefits (a)	STIP payment (b)	Total short term pay	Value of LTIP awards granted (c)	Value of LTIP remuneration received	% change from 2009 to 2010
<b>Executive directors</b>								
Tom Albanese	2010	£907	£1,313	£1,594	£3,814	£1,723	£5,537	31.4%
	2009	£907	£995	£589	£2,491	£1,723	£4,214	
Guy Elliott	2010	£675	£504	£1,264	£2,443	£1,283	£3,726	29.4%
	2009	£675	£370	£552	£1,597	£1,283	£2,880	
Sam Walsh	2010	A\$1,475	A\$477	A\$2,832	A\$4,784	A\$2,803	A\$7,587	24.4%
	2009	A\$1,475	A\$511	A\$1,308	A\$3,294	A\$2,803	A\$6,097	
<b>Other key management personnel</b>								
Hugo Bague	2010	£360	£220	£505	£1,085	£684	£1,769	0.2%
	2009	£360	£437	£284	£1,081	£684	£1,765	
Preston Chiaro (d)	2010	US\$725	US\$1,098	US\$1,126	US\$2,949	US\$1,378	US\$4,327	31.7%
	2009	US\$725	US\$792	US\$390	US\$1,907	US\$1,378	US\$3,285	
Bret Clayton (d)	2010	US\$700	US\$1,270	US\$952	US\$2,922	US\$1,092	US\$4,014	38.4%
	2009	US\$700	US\$574	US\$534	US\$1,808	US\$1,092	US\$2,900	
Jacynthe Côté (e)	2010	US\$825		US\$1,271	US\$2,096	US\$1,287	US\$3,383	21.4%
	2009	US\$813		US\$686	US\$1,499	US\$1,287	US\$2,786	
	2010		C\$2,094		C\$2,094		C\$2,094	-4.8%
	2009		C\$2,200		C\$2,200		C\$2,200	
Andrew Harding (f)	2010	£180	£255	£281	£716		£716	NA
	2010		A\$143		A\$143		A\$143	
	2010	US\$325	US\$113	US\$499	US\$937	US\$618	US\$1,555	NA

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	2009	US\$421	US\$556	US\$402	US\$1,379	US\$386	US\$1,765	
Harry Kenyon-Slaney (g)	2010	£360	£173	£596	£1,129	£684	£1,813	122.7%
	2009	£267	£258	£114	£639	£175	£814	
Doug Ritchie (h)	2010	A\$850	A\$360	A\$1,208	A\$2,418	A\$1,615	A\$4,033	46.4%
	2009	A\$734	A\$873	A\$540	A\$2,147	A\$607	A\$2,754	
Debra Valentine (d)	2010	US\$570	US\$1,100	US\$866	US\$2,536	US\$1,083	US\$3,619	27.7%
	2009	US\$570	US\$713	US\$468	US\$1,751	US\$1,083	US\$2,834	

- (a) Includes superannuation, pension, health care, expatriate payments, car allowances or cars, and other contractual payments.
- (b) The increase in STIP payments is attributable to improved performance and the change in STIP structure compared to 2009.
- (c) The LTIP value is the current expected value of the LTIP awards granted. The expected value of the awards was recalibrated in 2010 to reflect updated assumptions used in the valuation model.
- (d) Tax equalisation costs are significantly higher in 2010 based on higher earnings on STIP and equity income.
- (e) The 2009 values are based on pay received in US\$ for time as both CEO Rio Tinto Alcan Primary Metal and PGCEO Rio Tinto Alcan. Other payment and benefits includes a one time special bonus.
- (f) The 2009 values are based on pay received in US\$ for time as both CEO KUCC and PGCEO Copper. In 2010 Andrew Harding relocated to the UK. The payment in A\$ is for the payment of his long service leave balance in Australia.
- (g) The 2009 values are based on pay received for time as both CEO RTI&T and PGCEO Diamonds and Minerals.
- (h) The 2009 values are based on pay received for time as both Managing Director Strategy within Rio Tinto Australia and PGCEO Energy.

**Table of Contents****2011 performance payment potential**

Executives are eligible for bonuses and grants in respect of 2011 if they meet service and performance criteria. Provided below is the minimum and maximum performance payment potential for each current executive based on the remuneration framework.

Executive	Annual bonus		Annual bonus		Election 1				Election 2			
	Min	Max	Min	Max	Performance options (SOP)		Performance shares (PSP)		Performance options (SOP)		Performance shares (PSP)	
	Potential range of cash bonus payments in March 2012		Potential range of bonus deferral in March 2012		(% of March 2011 salary)		(% of March 2011 salary)		(% of March 2011 salary)		(% of March 2011 salary)	
	in respect of 2011		in respect of 2011		Min	Max <sup>(b)</sup>	Min	Max <sup>(b)</sup>	Min	Max <sup>(c)</sup>	Min	Max <sup>(c)</sup>
Tom Albanese	0	£1,030,000	0	£1,030,000	0	0	0	450	0	300	0	200
Guy Elliott	0	£720,000	0	£720,000	0	0	0	450	0	300	0	200
Sam Walsh	0	A\$1,590,000	0	A\$1,590,000	0	0	0	450	0	300	0	200
Hugo Bague	0	£415,000	0	£415,000	0	0	0	450	0	300	0	200
Preston Chiaro	0	US\$770,000	0	US\$770,000	0	0	0	450	0	300	0	200
Bret Clayton	0	US\$745,000	0	US\$745,000	0	0	0	450	0	300	0	200
Jacynthe Côté <sup>(a)</sup>	0	US\$885,000	0	US\$885,000	0	0	0	450	0	300	0	200
Andrew Harding	0	£420,000	0	£420,000	0	0	0	450	0	300	0	200
Harry Kenyon-Slaney	0	£420,000	0	£420,000	0	0	0	450	0	300	0	200
Doug Ritchie	0	A\$930,000	0	A\$930,000	0	0	0	450	0	300	0	200
Debra Valentine	0	US\$630,000	0	US\$630,000	0	0	0	450	0	300	0	200

(a) In addition, Jacynthe Côté's remaining MSP award vested on 1 February 2011. See page 135.

(b) Maximum reflects potential under the plan to vest one and a half times the original award for outstanding performance if the participant elects their full long-term incentive opportunity in Performance Shares. This assumes the amendments to the PSP are approved by shareholders at the 2011 annual general meetings.

- (c) Maximum reflects the potential under the plans to vest if the participants elect for a mix of Performance Options and Performance Shares.



**Table of Contents**

Remuneration report continued

**Table 1a Executives remuneration**

		Base salary	Short term benefits			Total short term long term benefits	Long term benefits Value of share based awards <sup>(f)</sup>		
			Cash bonus <sup>(b)</sup>	Other cash based benefits <sup>(c)</sup>	Non monetary benefits <sup>(d)</sup>		BDP <sup>(g)</sup>	CCA <sup>(h)</sup>	PSP
Stated in US\$ 000 <sup>(a)</sup>									
<b>Executive director</b>									
Tom Albanese	2010	1,403	1,248	3	318	2,972	487		1,522
	2009	1,421	947	8	323	2,699	186		3,915
Guy Elliott	2010	1,044	989	23	244	2,300	359		1,061
	2009	1,057	888	24	168	2,137	122		2,862
Dick Evans	2009	1,500	5,491		422	7,413	505		4,013
Sam Walsh	2010	1,354	1,391	83	9	2,837	552		1,220
	2009	1,167	1,170	71	20	2,428	184		2,697
<b>Other key management personnel</b>									
Hugo Bague	2010	557	396	103	196	1,252	130	62	354
	2009	564	752	139	210	1,665	36	59	344
Preston Chiaro	2010	725	563		888	2,176	262		708
	2009	725	390	83	492	1,690	125		2,265
Bret Clayton	2010	700	476		1,106	2,282	147		705
	2009	700	534		444	1,678	34		1,486
Jacynthe Côté	2010	907	2,214		40	3,161	213	102	643
	2009	813	2,226		27	3,066	60	97	556
Andrew Harding	2010	603	469	168	413	1,653	141	59	408
	2009	421	596		298	1,315	26	47	415
Keith Johnson	2009	383	287	78	19	767			2,340
Harry Kenyon-Slaney	2010	557	466	112	25	1,160	148	43	336
	2009	418	362	77	61	918	37	41	455

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Doug Ritchie	2010	780	593	32	92	1,497	178	71	522
	2009	581	986	23	2	1,592	31	57	756
Grant Thorne	2009	728	593	4	1	1,326	60	74	1,232
Debra Valentine	2010	570	433		906	1,909	153	70	286
	2009	570	468		543	1,581	50	67	203

**Notes to Table 1a**

(a) The total remuneration is reported in US dollars. The amounts have been converted using the relevant 2010 average exchange rates of £1= US\$1.5459, A\$1= US\$0.9178, 1= US\$1.3262 and C\$1= US\$0.9704. The annual cash bonus payable under the STIP has been converted using the relevant 2010 year end exchange rates of £1= US\$1.5660, A\$1= US\$0.9825 and C\$1= US\$0.9886.

(b) Cash bonus relates to the cash portion of the STIP. For Jacynthe Côté, it also includes a special one-off bonus as described in the

Remuneration  
report on page  
138.

- (c) Other cash based benefits include cash in lieu of a car and fuel. For Hugo Bague, Harry Kenyon-Slaney and Andrew Harding, it includes a cash supplement equal to 20 per cent of the amount by which their

Contributory Salary exceeds the Earning Cap as defined in the Rio Tinto Pension Fund. For Andrew Harding, it also includes a Long Service Leave payment for his service in Australia.

- (d) Non monetary benefits for executives include healthcare. The provision of a car, professional advice, and secondment costs comprising housing, tax equalisation and relocation payments made to and on behalf of executives living outside their home

country. Preston  
Chiaro, Bret  
Clayton and  
Debra  
Valentine's 2010  
tax equalisation  
costs are higher  
than their 2009  
figures. This is a  
result of higher  
earnings on their  
STIP and share  
based income in  
2010. For  
Andrew  
Harding, as  
described in the  
Remuneration  
report on page  
138, it also  
includes a one  
time payment,  
net of taxes, to  
compensate him  
for the loss on  
sale he incurred  
when selling his  
residence in Salt  
Lake City, Utah  
in the amount of  
US\$109,425. For  
Doug Ritchie, it  
includes tax  
equalisation  
costs in respect  
of his expatriate  
arrangements in  
2006. For Tom  
Albanese and  
Guy Elliott, it  
includes the  
value of  
Company  
provided  
transport. Rio  
Tinto provides  
accident cover  
for employee  
members of the  
Rio Tinto  
Pension Fund.

The accident cover for executive members of the Rio Tinto Pension Fund in 2010 was US\$7,537.

- (e) Total short term benefits represent the short term benefits total required under regulations made under the UK Companies Act 2006 and total remuneration under the Australian Corporations Act 2001 and applicable accounting standards.
- (f) The value of share based awards has been determined in accordance with the recognition and measurement requirements of IFRS2 Share-based Payment . The fair value of awards granted under the SOP, the MSP, the BDP and the SSP have been calculated at their dates of grant using an independent lattice-based

option valuation model provided by external consultants, Lane Clark and Peacock LLP. Some of these awards will be settled in cash, rather than the transfer of shares, and so the fair value of these cash settled awards has been calculated based on Rio Tinto's share price at 31 December 2010. With effect from 2010, the Group's policy for settling awards granted under the Performance Share Plan (the PSP) changed. For settlement of all future awards under this plan, participants will be assigned shares and offered a third party facility to realise these shares for cash and/or to meet any tax liabilities. Accordingly, the fair values of the awards granted prior to this change were re-measured at 1 July 2010 and from that date treated as equity-settled awards. This

re-measurement was calculated using a Monte Carlo valuation model based on the market price of shares and their relative TSR performance at 30 June 2010.

The fair value of awards granted after July 2010 is measured at date of grant. Further details of the valuation methods and assumptions used for these awards are included in note 49 (Share Based Payments) in the 2010 Full financial statements. The fair value of other share based awards is measured at the purchase cost of the shares from the market. The non executive directors do not participate in the long term incentive share schemes.

- (g) BDP (Bonus Deferral Plan) represents the accounting value in note f above of the deferral of the 2008 and 2010 bonus under STIP into

Rio Tinto  
Shares. The  
shares granted  
under the BDP  
are shown in  
Table 4a. The  
number of shares  
awarded in 2010  
have not been  
approved and  
granted and are  
therefore not  
shown in Table  
4b.



**Table of Contents****Table 1a Executives remuneration continued**

		Long term benefits			Post employment benefits <sup>(l)</sup>			Currency of actual payment <sup>(m)</sup>
		Value of share based awards <sup>(f)</sup>	Other post employment benefits		Pension annuities	Termination benefits	Total remuneration	
Stated in US\$ 000 <sup>(a)</sup>		MSP <sup>(i)</sup>	SOP <sup>(j)</sup>	Other post employment benefits				
<b>Executive director</b>								
Tom Albanese	2010		1,667	7	1,708		8,363	£
	2009		1,179	4	1,230		9,213	£
Guy Elliott	2010		1,059	7	512		5,298	£
	2009		691	5	389		6,206	£
Dick Evans	2009		1,838		342		14,111	US\$/C\$
Sam Walsh	2010		1,136	3	346		6,094	A\$
	2009		636		313		6,258	A\$
<b>Other key management personnel</b>								
Hugo Bague	2010	209	338	5	41		2,391	£
	2009	341	72	2	41		2,560	£
Preston Chiaro	2010		767	1	210		4,124	US\$
	2009		550	1	218		4,849	US\$
Bret Clayton	2010		739		163	1	4,037	US\$
	2009		494	1	129	1	3,823	US\$
Jacynthe Côté	2010	952	483		409	4	5,967	US\$/C\$
	2009	1,106	75		364	3	5,327	US\$/C\$
Andrew Harding	2010	178	330	2	58		2,829	US\$/A\$
	2009	144	36	3	64		2,050	US\$
Keith Johnson	2009		689	2	158	1,357	5,313	£
Harry Kenyon-Slaney	2010	96	290	9	131		2,213	£
	2009	114	44	1	88		1,698	£
Doug Ritchie	2010	424	354	1	207		3,254	A\$
	2009	247	69	3	164		2,919	A\$

Grant Thorne	2009	280	101	3	188		3,264	A\$
Debra Valentine	2010	515	307	1	187	7	3,435	US\$
	2009	427	29	1	163	8	2,529	US\$

- (h) CCA (Company Contributed Awards) represents the shares provided to employees below the executive directors and PGCEO level under the 2008 BDP to provide and enhance retention.
- (i) Jacynthe Côté's 2009 MSP award was granted with special terms. Subject to satisfying certain non-marker performance conditions, 50 per cent of her award vested on 1 February 2010 and the remaining 50 per cent vested on 1 February 2011. Allowance for these special terms has been made in the 2010 figure and the 2009 figure has been recalculated (previously stated in 2009: US\$990,000)
- (j) Hugo Bague's 2009 SOP award was previously omitted from the 2009 Annual report and has now been included in the restated 2009 figures.
- (k) Others include the Share Savings Plan and Share Ownership Plan as described in the Remuneration report on page 137.
- (l) The costs shown for defined benefit pension plans and post retirement medical benefits are the service costs attributable to the individual, calculated in accordance with IAS19. The cost for defined contribution plans is the amount contributed in the year by the Company. For Andrew Harding, the 2009 cost has been restated to remove US\$2,374 which were his own contributions. For Tom Albanese, the 2009 cost has been restated as an incorrect methodology was used in 2008 and 2009 to value future salary increases to retirement. The restated figure for 2008 is US\$1,702,000. The figure previously disclosed in 2009 was US\$1,056,00 and in 2008 was US\$1,443,000.
- (m) Jacynthe Côté's remuneration is stated in US dollars. To convert the base salary and service based retention to Canadian dollars, a fixed exchange rate of US\$1= C\$1.13740 was used during the year. All other short term benefits received are paid in Canadian dollars.

**Table of Contents**

Remuneration report continued

**Table 1b Non executive directors remuneration**

Stated in US\$ '000)		Fees	Short term benefits		Total remuneration <sup>(d)</sup>	Currency of actual payment
			Other cash based benefits <sup>(b)</sup>	Non monetary benefits <sup>(c)</sup>		
<b>Chairman</b>						
Jan du Plessis	2010	1,082		243	1,325	£
	2009	808		37	845	£
<b>Non executive directors</b>						
Robert Brown	2010	98	44		142	£
	2009	74		5	79	£
Sir David Clementi	2010	172	9		181	£
	2009	144	12		156	£
Vivienne Cox	2010	133	9		142	£
	2009	120	33		153	A\$
Sir Rod Eddington	2010	143	29		172	A\$
	2009	145	22		167	A\$
Michael Fitzpatrick	2010	162	29		191	A\$
	2009	131	41		172	£
Yves Fortier	2010	133	22		155	£
	2009	144	23		167	£
Ann Godbehere	2010	166	66		232	£
	2009	157	13	6	176	£
Richard Goodmanson	2010	197			197	£
	2009	200			200	£
Andrew Gould	2010	178	23		201	£
	2009	168	9		177	£
Lord Kerr	2009	37		13	50	£
	2010	58		6	64	£
Jim Leng	2010	197			197	£
	2009	197			197	£
David Mayhew	2010					
	2009					

Paul Skinner	2009	584	14	82	680	£
Paul Tellier	2010	158	59		217	£
	2009	149	22		171	£

**Notes to Table 1b**

- (a) The total remuneration is reported in US dollars. The amounts have been converted using the relevant 2010 average exchange rates of £1= US\$1.5459 and A\$1= US\$0.9178.
- (b) Other cash based benefits for non executive directors comprise overseas meeting allowances.
- (c) Non monetary benefits include for Jan du Plessis the value of Company provided transport and medical insurance premiums. Company provided transport was made available to Jan du Plessis with effect from his appointment as chairman on

20 April 2009. The cost of this facility was shared with his former principal employer until his retirement from that role on 31 October 2009. For Sir David Clementi and David Mayhew, it includes the value of a retirement gift. Rio Tinto plc provides accident cover for non executive directors; the total premium paid in 2010 was US\$5,092.

(d) Represents disclosure of total emoluments and compensation required by regulations made under the UK Companies Act 2006 and total remuneration under Australian Corporations Act 2001 and applicable accounting standards.

**Table 2 Directors pension entitlements (as at 31 December 2010)**  
*Defined benefit pensions*

	Accrued benefits	Transfer values	Transfer value

	Years of service completed	At 31 Dec 2009 £ 000 pa pension	At 31 Dec 2010 £ 000 pa pension	Change in accrued benefits during the year ended 31 Dec 2010 £ 000 pa pension	Change in accrued benefit net of inflation <sup>(a)</sup> £ 000 pa pension	At 31 Dec 2009 £ 000	At 31 Dec 2010 <sup>(e)</sup> £ 000	Change, net of personal contributions £ 000	of change in accrued benefit net of inflation <sup>(a)</sup> £ 000
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**UK directors**

Tom Albanese <sup>(b)</sup> (c) (d)	53	<b>29</b>	336	<b>395</b>	59	<b>47</b>	4,060	<b>5,561</b>	1,501	<b>862</b>
Guy Elliott (c)	55	<b>30</b>	456	<b>471</b>	15	<b>(6)</b>	7,706	<b>9,054</b>	1,348	<b>(119)</b>
			A\$ 000 lump sum	A\$ 000 lump sum	A\$ 000 lump sum	A\$ 000 lump sum	A\$ 000	A\$ 000	A\$ 000	A\$ 000

**Australian director**

Sam Walsh	61	<b>19</b>	5,203	<b>5,493</b>	290	<b>144</b>	5,203	<b>5,493</b>	209	<b>144</b>
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**Notes to Table 2**

- (a) Price inflation is calculated as the increase in the relevant retail or consumer price index over the year to 31 December 2010, except for Australia where a September to September change is used.
- (b) Tom Albanese accrued pension benefits in the US plans for service up to 30 June 2006 and is accruing benefits in the UK plans for subsequent service.
- (c) The transfer value of benefits in the UK plans is calculated in a manner consistent with Retirement Benefit Schemes - Transfer Values (GN11) published by the Institute of Actuaries and the Faculty of Actuaries.
- (d) The transfer value of benefits in the US plans is represented by the Accumulated Benefit Obligation calculated on the accounting assumptions used for the Group's post-retirement benefits disclosures.
- (e) The assumptions used to calculate cash equivalent transfer values for the UK directors changed with effect from 1 May 2010. The factors were updated following completion of the formal Trustee funding valuation of the Rio Tinto Pension Fund to reflect the Trustee's revised assumptions for calculating cash equivalent transfer values. This has resulted in a significant increase in the transfer value of Tom Albanese's and Guy Elliott's benefits over 2010.



**Table of Contents****Table 2 Directors pension entitlements (as at 31 December 2010) continued***Defined contribution pensions*

	Age	Years of service completed	Company contributions	
			Year to 31 Dec 2009 A\$ '000	Year to 31 Dec 2010 A\$ '000
Sam Walsh	61	19	59	59

**Australian director****Table 3 Directors and executives beneficial interests in Rio Tinto shares**

Provided below are the beneficial interests in Rio Tinto shares of directors and executives, including connected persons.

	Rio Tinto plc			Rio Tinto Limited			Movements		
	1 Jan 2010 (a)	31 Dec 2010 (b)	21 Feb 2011 (b)	1 Jan 2010 (a)	31 Dec 2010 (b)	21 Feb 2011 (b)	Exercise of options (c)	Compensation (d)	Other (e)
<b>Directors</b>									
Sam Albanese	129,438	227,955	237,094				276,059	41,102	(209,505)
Robert Brown		2,200	2,200						2,200
David Clementi	1,024	1,173	1,173						149
Christine Cox	2,912	2,912	2,912						
Michael du Plessis	30,000	30,000	30,000						
Rod Dington									
Michael Elliott	95,099	96,435	96,447				33,000	19,676	(51,328)
Michael									
Michael Patrick				6,252	6,252	6,252			
James Fortier	2,697	3,954	3,954						1,257
John Godbehere									
Richard									
Richard Godmanson	4,990	7,028	7,028						2,038
Andrew Gould	1,642	2,642	2,642						1,000
David Kerr	12,000	12,000	12,000						
David Mayhew	3,812	3,812	3,812						
Paul Tellier	10,396	12,093	12,093						1,697
Sam Walsh				66,950	46,950	46,950	113,223	27,192	(160,415)
<b>Executives</b>									



go Bague	<b>16,296</b>	<b>18,822</b>	21,665				11,132	(5,763)	
oston Chiaro	<b>79,776</b>	<b>91,012</b>	99,070			207,576	22,416	(210,698)	
et Clayton	<b>18,927</b>	<b>22,579</b>	27,079			30,281	17,384	(39,513)	
ynthe Côté		<b>7,045</b>	10,840				18,708	(7,868)	
drew Harding				<b>5,184</b>	<b>11,293</b>	11,293	21,786	8,392	(24,069)
erry									
nyon-Slaney <sup>(f)</sup>	<b>18,501</b>	<b>18,710</b>	18,722				16,815	(16,594)	
ug Ritchie				<b>6,825</b>	<b>19,469</b>	27,891	455	20,832	(221)
bra Valentine		<b>4,624</b>	4,991			367	6,369	(1,745)	

**Notes to Table 3**

- (a) Or date of appointment, if later.
- (b) Or date of retirement or resignation or at date no longer a KMP, if earlier.
- (c) Shares obtained through the exercise of options under the Rio Tinto Share Savings Plan or the Rio Tinto Share Option Plan. The number of shares retained may differ from the number of options exercised.
- (d) Shares obtained through the Rio Tinto Share Ownership Plan and/or vesting of awards under the Performance Share Plan, Management Share Plan and Bonus Deferral Plan.

- (e) Share movements due to sale or purchase of shares, shares received under the Dividend Reinvestment Plan, shares purchased/sold through the Rio Tinto America Savings Plan or non executive directors share purchase plan.
- (f) The balance as at 31 December 2009 for Harry Kenyon-Slaney was understated in the 2009 Remuneration report by 2,683 shares.
- (g) Interests in outstanding awards under option schemes and LTIPs are set out in Tables 4 and 5.

**Table of Contents**

Remuneration report continued

**Table 4a Executives with awards under long term incentive plans 2010**

Conditional award granted	Market price at award	<b>1 Jan 2010</b> <sup>(a)</sup>	Awarded	Cancelled	Lapsed	Dividend shares	Vested	<b>31 Dec 2010</b> <sup>(b)</sup>	Performance period concludes	Date of election	Market price at election	Monetary value of vested award US\$ '000
<b>Bonus Deferral Plan</b>												