

**RIO  
TINTO**

2006 Sustainable development review

**Access to  
resources**  
people, land, capital

# Introduction

This review provides an overview of Rio Tinto's economic, social and environmental contribution to sustainable development today and looks at the challenges and opportunities the Group expects to face in the future. A fuller account is available on the web at: [www.riotinto.com](http://www.riotinto.com)



## About Rio Tinto

Rio Tinto is a leading international mining group headquartered in the UK, combining Rio Tinto plc, a London listed public company, and Rio Tinto Limited, which is listed on the Australian Securities Exchange.

Rio Tinto's business is finding, mining and processing mineral resources. Major products are aluminium, copper, diamonds, energy (coal and uranium), gold, industrial minerals (borates, titanium dioxide, salt, talc), and iron ore. Activities span the world but are strongly represented in Australia and North America with significant businesses in South America, Asia, Europe and southern Africa.

The Group's objective is to maximise the overall long term return to shareholders through a strategy of investing in large, cost competitive mines, driven by the quality of each opportunity, not the choice of commodity.

Wherever Rio Tinto operates, the health and safety of its employees is the first priority. The Group seeks to contribute to sustainable development. It works as closely as possible with host countries and communities, respecting their laws and customs and ensuring a fair share of benefits and opportunities.

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## Message from the chairman

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Welcome to our eleventh review of Rio Tinto's progress in the important area of sustainable development.

We have called this *Review* "Access to resources" because securing access to financial, human and land resources is one of the key strategic benefits of the enhanced reputation that results from a responsible contribution to sustainable development.

Mining is a long term, capital intensive business in which assets are often situated in remote locations, and can last for 30 years or more. This extended timescale means that, if we are to deliver financial returns to host governments, local communities and our shareholders, we need economic, environmental and social stability.

By committing ourselves to implement the principles of sustainable development we can make this long term stability more likely. This approach also opens up new opportunities, enhances our business performance and helps make Rio Tinto a first choice of partners around the world.

Much depends, of course, on the inspiration and dedication of our own people, and I applaud the enthusiasm with which they have embraced the principle of acting sustainably in all that we do. This has been evident in all the Rio Tinto operations I visited in 2006.

As Rio Tinto moves into new geographical areas, our success in meeting economic, social and environmental challenges simultaneously will be an increasingly critical determinant of our business performance. I am pleased to say that our way of doing

business continues to receive positive recognition and support from our various stakeholders.

During the course of the year, our Sustainable Development Leadership Panel formulated a strategy that will shape our future action and priorities. Through initiatives such as this, we are charting a way forward that will increasingly create a competitive advantage.

We are also continuing to engage with our various stakeholders to ensure that we understand their views, concerns and ideas. We formed an external stakeholder reporting panel that helped us develop the content of this review.

I hope you will find *Access to resources* interesting and informative. We have divided the review into five main sections. The first puts sustainable development into a Group context – the next four look at our environmental, social and economic performance, and governance.

We would welcome your comments, either on the content or presentation of this *Review* so that we can shape future issues even more closely to your needs. You will find contact details on the inside back cover.

A handwritten signature in black ink, which appears to read "Paul Skinner". The signature is written in a cursive, slightly stylized font.

**Paul Skinner** Chairman

## Interview with the chief executive



### Why is sustainable development relevant to Rio Tinto and does it matter?

Metals and minerals are essential to life, and play an important part in economic activity. The way Rio Tinto extracts, rehabilitates and interacts with its neighbours and the country is vital to its ongoing success. I would like to think that our performance in these areas makes us a preferred developer.

### How did the Group perform in 2006 with regard to sustainable development?

Generally better than in 2005, but not as well as we would have liked. Many of our performance measures are moving in the right direction and broadly speaking we were on target. However, we will be redoubling our efforts on improving energy and greenhouse gas efficiency. On a more positive note, the year saw us gaining valuable external recognition for our programmes to tackle climate change and promote biodiversity. In the safety arena, we continued to reduce the frequency rate of lost time injuries and of all injuries. Regrettably, however, our 2006 safety record was marred by three fatalities at sites that we manage.

### What is the most important issue you face?

The connection between fossil fuel energy and climate change is gaining widespread recognition. This has been especially evident in Australia and the US, where the political mood is shifting towards the concept of carbon pricing. Rio Tinto believes the energy challenge can best be met by companies, governments and society working together on all fronts: fossil fuels, nuclear and the so-called “new energy” sources. The goal in each case should be to continually improve the cost-security-cleanness equation, by fully recognising and addressing the risks involved and benefits achievable. Technology development will be at the heart of improved energy solutions.

### What are you doing to make sustainable development a reality in Rio Tinto?

We make a fundamental contribution to sustainable development by producing metals and minerals such as aluminium and copper that are durable and can be recycled and re-used. However, we can and will do more. In 2006 we assessed the current status of sustainable development practice in the Group. We have set ourselves the goal of being a sustainable development leader. Our revised strategy pinpoints the areas we need to focus on to get us there, one of them being the creation of a culture among employees that mirrors our concern for safety. In 2006, we introduced training and awareness raising tools across the Group. We are also developing key performance indicators,

improving our communications channels and determining the role sustainable development plays in supply chain management, risk management and long term planning.

### Can you point to a practical example of your contribution?

After more than 20 years of research, Rio Tinto and its joint venture partners have developed a new iron making technology, Hismelt® that is revolutionary in concept and will make a contribution to sustainable development. It produces high quality pig iron in a way that addresses the global challenge of climate change, resulting in much reduced air pollution and greenhouse gases. The first commercial plant is now ramping up production in Australia.

### What are your links with the broader transition to sustainable development?

There are many, but one example is Rio Tinto's membership of the International Council on Mining and Metals, of which I am currently chairman. The council's members are committed to superior business practices in sustainable development. Or again, Rio Tinto has long been an active member of the World Business Council for Sustainable Development, an organisation whose members are drawn from all sectors of industry and commerce but who share a common belief in acting sustainably.

### What's new about this year's Review?

We have thought long and hard about what information we should provide and we have listened to what our stakeholders have been telling us about their needs and interests. The contents of this Review reflect this thinking. The most significant change is that we have aligned with Application Level A+ of the new generation (G3) of Global Reporting Initiative guidelines.

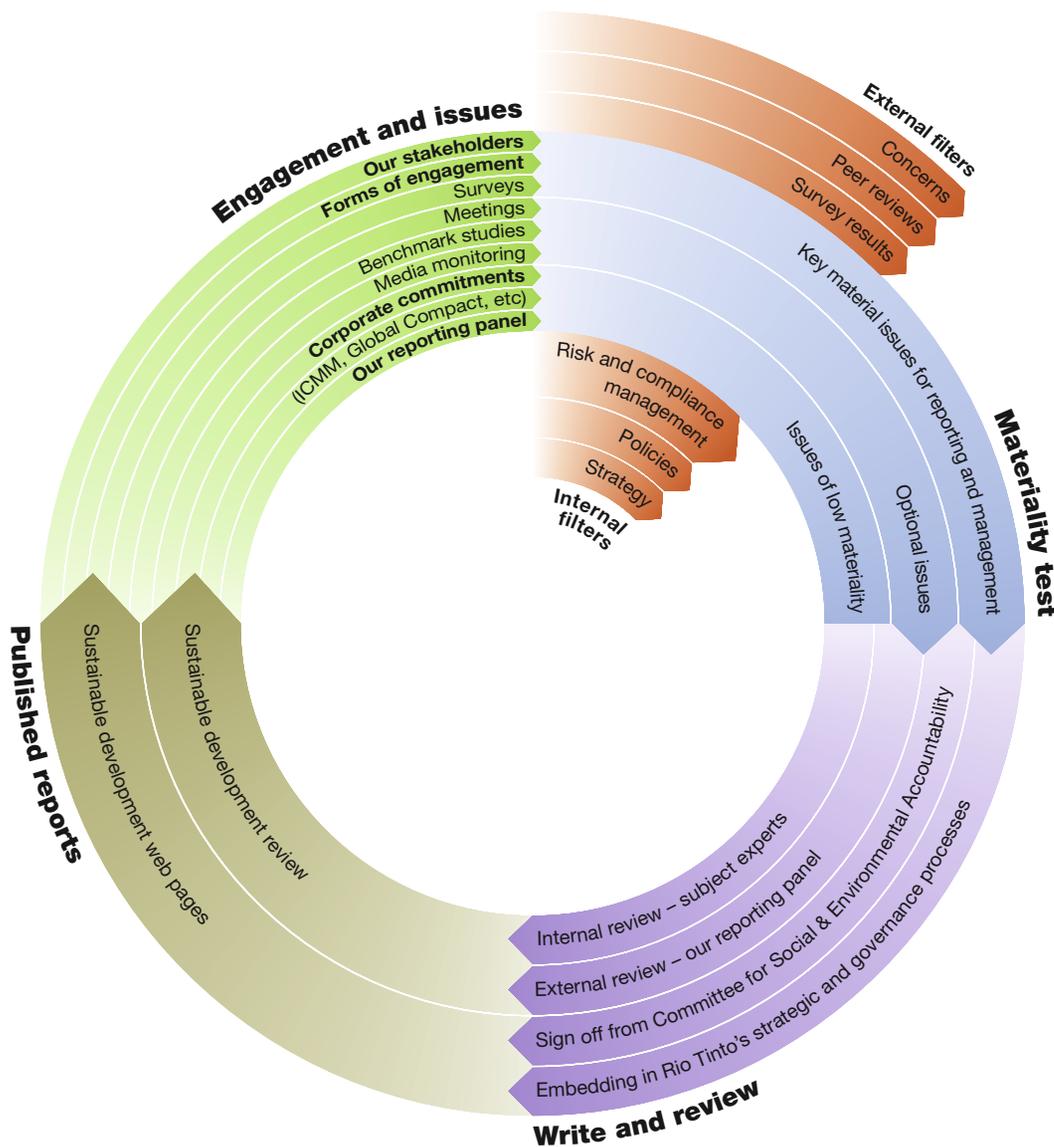
### How do you know what to report?

During the course of 2006, and following the GRI G3 requirements, we developed a new, more formal process to identify what we should report, the information being selected on the “materiality principle” – one that considers all the possible areas we could report on and selects those most significant to our business and stakeholders. As a result, we affirm that *Access to resources* presents a balanced and reasonable presentation of our social, environmental and economic performance.

A handwritten signature in black ink, appearing to read 'Leigh Clifford'. The signature is fluid and cursive, written over a white background.

**Leigh Clifford** Chief executive

# Rio Tinto's approach to reporting



## Our approach to reporting

This annual *Review* is intended to provide a summary of our social, environmental and economic programmes and results for 2006, and it identifies the challenges and opportunities for the future. A fuller account is available on the Rio Tinto website [www.riotinto.com](http://www.riotinto.com)

This year's *Review* is drawn up in-line with the Global Reporting Initiative's new generation (G3) guidelines. In accordance with those guidelines, we declare that the *Review*, in conjunction with our on-line report, is aligned with Application Level A+.

Employing the "materiality principle" of this requirement, we have, for example, included commentary on non managed operations, such as the Grasberg copper mine, where we have a significant financial interest.

Another innovation is our use of a panel of external stakeholders, who helped by reading

and commenting on the document in draft. The panel will also help us improve future reports.

The independent consulting firm, Environmental Resources Management (ERM), was used to verify the health, safety and environment (HSE) data used for this *Review*. A statement from ERM, as well as our response to last year's external assurance and verification recommendations, appears on pages 34-36.

Rio Tinto is a founding member of the International Council on Mining and Metals (ICMM), a body that provides sustainable development leadership for the industry. As a member of ICMM, we are committed to superior business practices in sustainable development. We have committed to implement the ICMM Sustainable Development Framework and comply with policy statements of the ICMM.

## Reporting at the Group level

This *Review*, and the fuller web based version, report on activities at the Group level.

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. This year's *Review* also includes commentary on non managed operations.

Each of our business units and the Exploration group produces its own sustainable development report. These 2006 reports will be available from the end of April on the Rio Tinto website.

# The relevance of sustainable development



## Challenges and opportunities

In addition to the current risk factors described on page 6 of Rio Tinto's *Annual report and financial statements* we identified the following issues as important because they may have a material influence on our business in the future:

- **Meeting demand** for our products, especially in light of China's current and India's projected growth, will take us into new territories and require new technologies.
- **Climate change** is a challenge and also an opportunity for Rio Tinto that will impose costs for greenhouse gas abatement and necessitate a change in the way the world uses energy. A full and comprehensive portfolio of policy and technology options is required to achieve the highest benefit and lowest overall cost for society.
- **Attracting talent** at a time of significant expansion in the mining sector. Rio Tinto needs to ensure that it can continue to attract the talented individuals it needs to carry forward its ambitious programmes.

## The business case for sustainable development

We are committed to sustainable development not just because it is the right, responsible and ethical approach to managing the earth's natural resources and to safeguarding the health of the planet for future generations, but also because it makes sound business sense.

If we earn a good reputation from our care for the environment, our social policies and our contribution to the economic prosperity of local communities, that enhanced reputation will give us improved access to the three things upon which our business success

is built – namely access to land, people and capital.

This improved access will in turn yield a range of other long term benefits such as:

- a better return for our shareholders
- the improved management of risks
- a reduction in our operating costs
- greater business opportunities
- attracting and retaining high calibre employees
- maintaining or improving the value and quality of our products but with less impact on the environment
- better development opportunities for and relations with local communities.

All of these factors will help to differentiate Rio Tinto from its competitors and contribute to our goal of being the undisputed sector leader in maximising value to our stakeholders.

## Managing sustainable development

We believe that sustainable development should be integrated into all aspects of our business and that a properly structured framework is needed to ensure that we accomplish this goal.

We begin with **policies**, which are laid down by the board of directors and apply across the entire organisation to drive our business culture. (Our statement of business practice is published in a booklet, *The way we work*.) These policies are supported by **standards**, which specify the minimum acceptable requirements for behaviour or operating conditions. As with policies, these standards apply universally, wherever we operate. **Strategies** are then formulated for reaching the policy and standards goals. These are in turn backed up by **guidance**

**notes** designed to help the achievement of the standards and strategies. Finally, **performance indicators** are used to measure how well we have done against the targets we have set ourselves.

During the course of 2006, our Sustainable Development Leadership Panel (SDLP), composed of senior executives from all six product groups and corporate functions, focused on Rio Tinto's sustainable development strategy. Input was sought from a wide range of sources, both within Rio Tinto and outside. The panel assessed the current status of sustainable development practice in the Group, decided that Rio Tinto should strive to be the sector leader in its contribution to sustainable development, and defined the areas on which we need to focus to achieve that goal.

The focus areas include developing:

- a sustainable development culture, similar to that already in place on safety
- key performance indicators
- effective communication
- supply chain management
- an approach to sustainable development in risk management and long term planning, including mines of the future.

To help explain the concepts of sustainable development, to existing employees and newcomers, we have introduced training and awareness raising tools throughout the Group. In addition, we are using another, more detailed programme for managers, based on the e-learning tool, Chronos, developed by the World Business Council for Sustainable Development and Cambridge University in the UK. By the end of 2006 more than 700 managers had signed up to the programme.

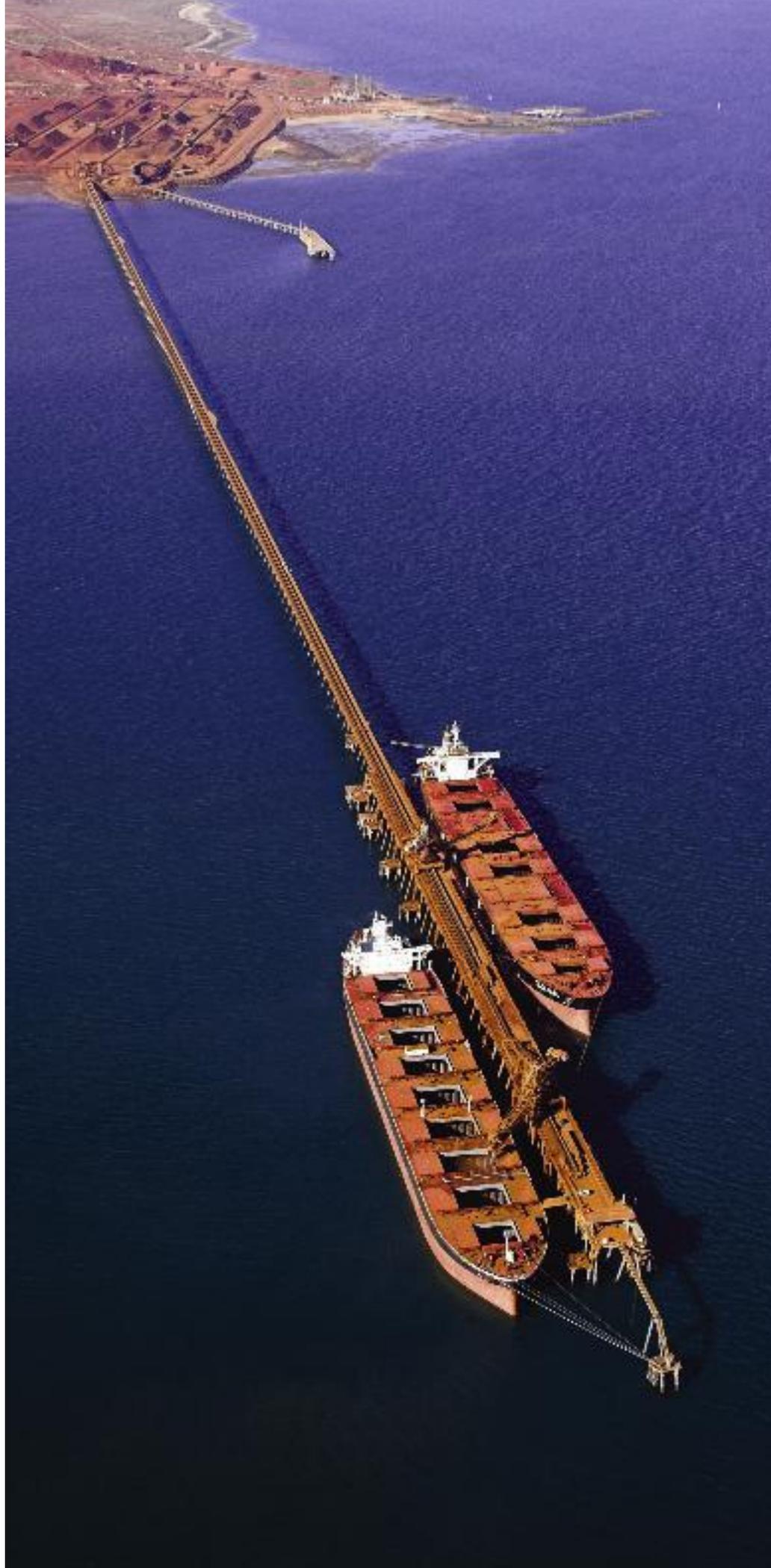
Far left: Kennecott Utah Copper's smelter is one of the cleanest in the world, capturing approximately 99.9 per cent of the sulphur dioxide generated during smelting.

Left: Safety is at the core of sustainable development.

Drill rigs at the Potasio Rio Colorado potash project in Argentina.



Right: We ship iron ore from Australia to steel makers around the world. Here, vessels are loaded at Cape Lambert in Western Australia.



## The environment: action not words

Respect for the environment is at the heart of Rio Tinto's approach to sustainable development. Unless we operate responsibly and can demonstrate leadership in all aspects of exploring, mining, transporting, processing and marketing we are unlikely to secure full access to people, land and capital. We want Rio Tinto to be viewed as the preferred developer – from exploration right through to mine closure.

For future access to resources we are looking beyond our current licence to operate and thinking about better ways of mining. We are developing a concept we call "Mine of the future", in which we are reviewing what we expect of ourselves in the 21st century. The future involves reducing our footprint through improved capability for underground operations, relying more on technology such as remote controlled equipment, and ensuring we are at the top of our game on environmental management.

We have devised and implemented a number of practical programmes covering the management of water, mineral and non mineral waste, air quality, land stewardship and biodiversity. These programmes include input from local communities as well as from experts in these fields.

### Land stewardship

Rio Tinto manages 35,000 square kilometres of land. Less than five per cent of this area was disturbed for mining purposes in 2006 and by the end of the year more than a quarter of the disturbed land had been rehabilitated. We always aim to rehabilitate land as it comes out of use, not wait until all operations at the site have ceased.

For us, land stewardship means understanding the current and potential uses of land we manage, its ecological and social value and community expectations regarding development.

Our performance standard for land stewardship requires all businesses to have a plan for current and potential uses of the land we manage.

Rio Tinto's leading policy and technical position on biodiversity has resulted in invitations to participate in a number of national and international policy development forums. Rio Tinto is also playing a significant role in bilateral initiatives with organisations such as the World Conservation Union.

As a member of the International Council on Mining and Metals, we help develop industry policies and practices on protected areas and long term access to land. We are working on the Ecosystems Services Review and on a project hosted by UNESCO on landscape planning. This is a difficult debate about taking a regional, rather than just

a local view of the land within a project area. The aims include identifying best practice in the assessment of land use options and how decisions about access are made.

### Biodiversity

We recognise the importance of conserving and responsibly managing biological diversity, both as an issue for our business and society.

Rio Tinto has committed to making a net positive impact on biodiversity at its operating sites around the world. We intend to leave as much, if not more, natural variety in place after our operations have closed than existed before. No other company in any sector has, we believe, made the same commitment.

We work in regions that are recognised and valued locally and globally for their biodiversity. While high profile sites such as those in Madagascar, Brazil or Guinea attract a great deal of our attention, we recognise that biodiversity values are important at every site. And their significance will grow, as human and natural pressures modify habitats and raise extinction rates.

Biodiversity also relates to communities, especially as many may depend on these natural resources for cultural and subsistence requirements.

Our biodiversity strategy therefore provides a framework for managing the interests and concerns of a wide range of groups, among them traditional land owners, local communities, NGOs, regulators and the scientific community. This is essential for achieving our twin goals of net positive impact on biodiversity and sustainable communities.

In 2006, surveys showed nearly 20 per cent of our operations are in close proximity to diverse and rich habitats. While this represents only about one per cent of our total land holding, it underscores the importance of this issue at some of our operations and also during project development.

A diagnostic tool was developed in 2006 to define all risks and opportunities on biodiversity and prioritise actions needed to address them. The first trial of the tool was successfully completed with Pilbara Iron Expansion Projects in Australia. Two further trials will be conducted in 2007, including one at our new ilmenite project in Madagascar.

In 2006, 14 per cent of our operations had biodiversity management plans that were well integrated into operational plans, a small increase from 2004 when the initiative started. Just over half of our operations had biodiversity management plans that include biological surveys and research programmes. Our focus in 2007 will be to formalise these through greater integration within our environmental management systems.



Saltwater channels carve through the mangrove flats near Rio Tinto Minerals' salt operations in Western Australia.

# Working with nature



Environmental specialist Yvonne Mupupa works on an indigenous plant conservation project at the Rössing Uranium mine in Namibia.



The distinctive red Pilbara landscape of Western Australia is home to many of our iron ore operations.



Protecting the natural habitat of local wildlife is a priority at all Rio Tinto's operations.

## Case study

# Madagascar: measuring our effect on biodiversity

For the last 20 years, QIT Madagascar Minerals (QMM), in which Rio Tinto has an 80 per cent interest, has been evaluating an area near Fort Dauphin prior to mining mineral sands from three deposits along the coast. The project development work has included detailed biodiversity research and conservation projects such as biological inventory studies, seed biology and conservation projects and the establishment of three conservation zones within the littoral forest. Degradation of the forest as a result of logging for fuel charcoal production is a major conservation issue in south east Madagascar. In response to this impact the mine plan allows for the use of fast growing tree species as part of the rehabilitation. The establishment of this

fuel source will help to remove some of the pressure on the forest from subsistence charcoal production.

The QMM biodiversity team is made up of Malagasy biologists, botanists and forest engineers. Since 1998, we have been working with external specialists and NGOs, such as representatives from the Royal Botanic Gardens, Kew, Fauna and Flora International, BirdLife International, Hamburg and Sussex Universities and Missouri Botanical Garden, to establish biodiversity research and conservation field projects. From 2001, an independent biodiversity committee has been advising the QMM biodiversity team on strategic and practical matters such as monitoring biodiversity, performance indicators and the establishment of biodiversity offsets at the site.

In July 2006, it was decided to use the QMM site as a pilot to help develop the methodologies and measures needed to assess the net positive impact on biodiversity from our Group's activities.

### In the pipeline

Following the launch of our "net positive impact" biodiversity strategy in 2004, we have now set up working groups with internal and external experts to develop performance indicators and better define biodiversity offsets. These are compensatory measures for unavoidable impacts.

The first "net positive impact" project is being piloted in Madagascar (see case study left). Over the course of 2007 and 2008 we intend to implement the framework in several different environments, including sites in Australia and the US.

### Greenhouse gas emissions and energy use

Controlling emissions that lead to climate change is one of our biggest challenges. This imposes costs for greenhouse gas abatement and necessitates changes to the way we and our customers generate and use energy. For this reason we are focusing on the seriousness of this issue from both an economic and an environmental perspective (see page 21 for further details).

Total energy used in 2006 increased five per cent, in line with production. Our target is a five per cent reduction in energy use per tonne of product by 2008, compared with 2003. We are half way to achieving our five year target, with a 2.6 per cent improvement since 2003.

In 2006 a new energy competence centre was established to focus on energy efficiency projects. We estimate that our improvement in energy efficiency has saved approximately US\$117 million since 2003.

Total greenhouse gas emissions increased 5.8 per cent in 2006 to 28.3 million tonnes, reflecting our increased energy use. Our greenhouse gas emissions per tonne of product were 0.3 per cent less than in 2003. This falls short of our expectations and means we have some way to go to reach our target of a four per cent reduction per tonne of product by 2008, compared with 2003.

Our emissions efficiency result is affected by both production interruptions and changes in the emission intensity of purchased electricity. The major scheduled maintenance shutdown of Kennecott Utah Copper's smelter significantly affected our performance per unit. Without the smelter shutdown our performance would have been one per cent better. In addition, an increase in the emission intensity of our purchased electricity, particularly in South Africa, also reduced our overall performance by over 0.6 per cent.

We have a number of initiatives under way to improve our greenhouse gas emissions performance and reduce energy use. We plan to spend US\$4 million on implementing



# The environment continued

additional projects over and above “business as usual”. Projects under way include fuel additive and biodiesel trials, improved metering and monitoring, and sequestration/ carbon fixing opportunities.

For a more comprehensive discussion see *Climate change* on page 21.

## In the pipeline

Rio Tinto is helping develop technology for carbon capture and storage in the US and Australia, and increasingly in other parts of the world. To help stabilise the volume of greenhouse gas emissions, the technology seeks to take carbon dioxide from the burning of coal and store it underground in permanent geological structures. The Group has invested in 13 enterprises and collaborative programmes to develop and commercialise this technology aimed at improving the environmental performance of coal.

## Air quality

Some of our activities emit sulphur dioxide, fluorides and dust. Given the potential impact of our emissions on people and the environment, we need to understand and control their effects. While meeting our legal requirements we are also looking ahead to address changing community expectations.

Sulphur dioxide emissions decreased by 11 per cent compared with 2005. This was mainly due to better capture of these emissions at the Palabora copper smelter in South Africa.

Fluoride emissions were ten per cent higher than in 2005, owing to increased aluminium smelting.

Dust is an increasingly important issue that cuts across many areas, including occupational health, environment, community concerns, processing and assets.

The number of community complaints about air quality, mainly dust related, was 20 per cent higher than in 2005 (87 complaints compared with 72 in 2005). While some of this can be attributed to drier weather conditions across the Group in 2006, we have also made it easier for local communities to contact us on this issue.

Our local sustainable development reports provide a more comprehensive discussion on regional dust management.

## Waste

When we extract minerals from rock, we create mineral and non mineral waste. This includes mined rock, tailings and slag, which have only limited value but can pose environmental hazards if poorly managed. Much of our mineral waste therefore goes back into mined areas or is stored in engineered piles.

One of the most serious environmental risks for the mining industry is “acid rock drainage” (ARD) from mineral waste. When sulphide containing rocks are disturbed and exposed to air and water, their acid generating potential increases and, over time, the acidic minerals may leach out of the rocks. Left unchecked, this can reduce water quality in the long term.

We minimise the potential for acid rock drainage generation by adopting leading practice in mine planning, operation and waste management. Six further ARD reviews were conducted in 2006 to assess the risk of ARD occurring at operating sites. Twenty one operations assessed as having high or moderate risk of ARD have now been reviewed since 2004.

The Rio Tinto ARD reviews are regarded as the industry benchmark in this key risk area. A tool was developed in 2006 to assist operations to improve their management of acid generating mineral waste, from initial exploration drilling, through mining and processing, to site closure. The tool is being tested at three operations in 2007. Rio Tinto continues to play a leading role in the International Network for Acid Prevention (INAP).

Non mineral waste includes materials that are used in mining and processing, such as tyres, oils, refractory lining and domestic rubbish. We re-use and recycle these materials, where possible. If recycling is not an option, we burn, store or dispose of waste in engineered landfills in an environmentally responsible way and in accordance with local regulations.

Total mineral waste produced in 2006 was 1,871 million tonnes, nearly seven per cent more than in 2005, owing to increased production and higher waste stripping ratios. To minimise haulage distances most waste rock and overburden is placed in engineered piles close to where it is extracted. Through improvements in mine planning (see *Improving performance together* on page 20) we are improving the efficiency with which we extract ore and manage our waste areas. These improvements are expected to increase productivity, reduce fuel costs and lower greenhouse gas emissions as mines develop.

## Water

Water is a resource with social, environmental and economic value at both the local and global level. Access to water resources is a key business risk that must be effectively managed. Our water requirements, particularly for fresh water, compete with the needs of others and the environment. This is particularly true in arid and semi-arid regions. Our operations also have the potential to affect the quality of water discharged into the environment.

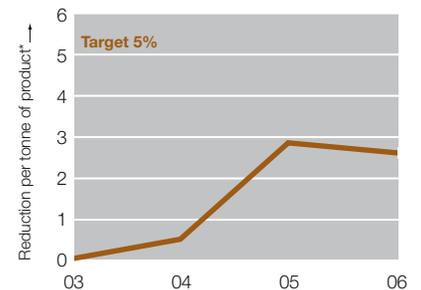
Rio Tinto’s water standard was launched in 2003 with a requirement that all our operating

## PERFORMANCE AGAINST GROUP ENVIRONMENT TARGETS

### Greenhouse gas emissions efficiency (%)



### Energy use efficiency (%)



### Freshwater withdrawal efficiency (%)



\*relative to a 2003 baseline



Cleaner  
water  
clear benefits



A water truck sprays water on a haul road to keep the dust levels down at Rio Tinto Coal Australia's Blair Athol mine.



Trials of various nozzles and chemicals have been carried out to reduce water use and control dust.

companies implement it by 2005. It is now implemented at 95 per cent of our operations. Our strategic approach to water aims at encouraging long term planning on water use, the identification of risks and opportunities, and the promotion of better performance. We are committed to minimising the amount of water we remove from the environment, to re-using it whenever we can, and to returning it to a state as similar as possible to its original purity when we discharge it.

In 2006 we reduced the amount of fresh water we withdrew, per tonne of product, by 11.5 per cent compared with 2003. We are on track to achieve our five year target of reducing the amount of fresh water withdrawn, per tonne of product, by ten per cent by 2008.

Several businesses have developed their own water strategies and have appointed water managers to design and implement specific water programmes. While this progress is positive, much of the gain in 2006 was the result of significant production increases over the last two years. Our challenge now is to sustain these gains to 2008 and beyond.

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**Safe drinking: clean fresh water by 2015**

The UN Millennium Development Goal on water is to reduce by half the proportion of people without sustainable access to safe drinking water by 2015.

Increasingly we work in developing countries where clean fresh water is a rare commodity, and this is an issue of growing importance for us.

For example, we are exploring a copper prospect in a developing country. The local villages, which might well provide the future workforce for our mine, have access only to contaminated drinking water. As an industry coming into a very poor rural area, it is our responsibility to contribute to cleaning up water sources and this may involve supporting and participating in local groups that are working on the issue.

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## Case study

### Saving water by running on recycled waste

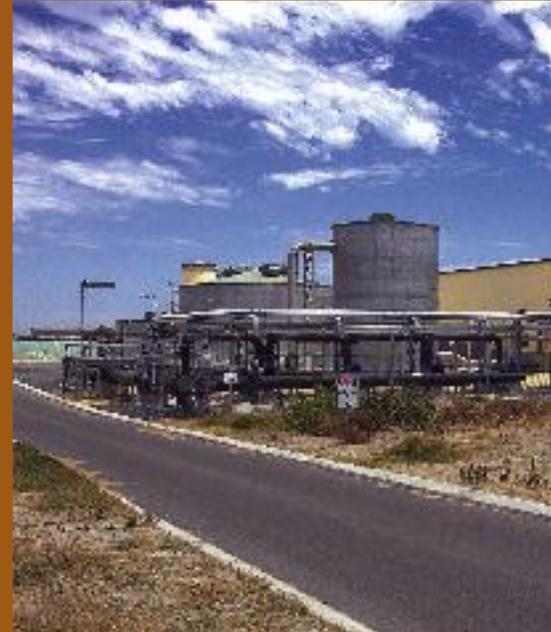
The recent drought in Australia has brought home to all Rio Tinto businesses the importance of saving water. Thanks to a novel partnership at Kwinana in Western Australia, the Group's HIs melt<sup>®</sup> operation is not only saving energy and reducing emissions but is also making no extra demands on the local water supply.

HIs melt<sup>®</sup> is a revolutionary iron smelting technology designed to make as little impact as possible on the environment – not least by processing iron ore much more energy efficiently than conventional methods. It does, however, need water for a series of cooling applications within the plant.

The HIs melt<sup>®</sup> site at Kwinana near Perth might have been expected to take its water from the underground aquifers which also supply the city's 1.5 million population. But rather than draw on this precious resource, HIs melt<sup>®</sup> entered into an agreement with the state Water Corporation to run on treated waste water.

At the time, the Water Corporation was considering the feasibility of building an effluent treatment plant at Kwinana. Rio Tinto's offer to buy the treated water for the HIs melt<sup>®</sup> facility – then under construction – ensured sufficient demand to make the treatment plant viable. As a result, the Water Corporation was able to go ahead and commission the project.

Today, the HIs melt<sup>®</sup> facility runs on the community's recycled waste and Perth's supplies of fresh water are conserved.



#### Innovation in practice

In mining and processing Rio Tinto is taking a lead in innovations that will reduce the imprint of its activities on the environment. Examples include block cave underground mining, and the exciting revolution in iron making started by HIs melt<sup>®</sup> in Australia.

Rio Tinto has laid the conceptual and technological foundations for mines of the future by employing a mining method called block caving. This applies the volume efficiencies of open pit mining to underground operations and avoids the effects of large surface excavations. The Group has been gaining block caving expertise at Northparkes in Australia and Palabora in South Africa.

Under suitable geological conditions block caving is well suited to large deep copper deposits such as the Rio Tinto managed Resolution project in Arizona, US. It involves the deliberate undercutting of the orebody at a carefully calculated depth, triggering progressive collapse of broken ore through a previously developed system of workings connected to a hoisting shaft.

From the isolation of a control room,

operators use viewing monitors and joysticks to operate ore loaders, rock breakers and conveyor belts. This remote controlled operation is safer and more cost effective than conventional mining methods. Block cave mining is likely to be the method used in 21st century copper mines like Oyu Tolgoi (Mongolia) and Pebble (Alaska), in which Rio Tinto made investments in 2006.

For centuries, industry has sought a better and cleaner way of making iron. With the HIs melt<sup>®</sup> technology developed by Rio Tinto and now in production in Western Australia, high quality pig iron is made straight from ore mixed with coal, without the preliminaries of sintering and coke ovens. The world's first direct reduction method results in reduced air pollution and greenhouse gases, and less waste material – desirable credentials in today's world.

International interest is high. Chinese Premier Wen Jiabao was among a stream of visitors to the HIs melt<sup>®</sup> plant outside Perth in 2006, inspecting at first hand this process that promises to supplant the blast furnace technique for iron making.



**Block cave mining at Palabora, South Africa helps reduce the mine's environmental footprint.**

## Society: the people dimension

We aim to build enduring relationships with all our stakeholders – relationships characterised by mutual respect, active partnership and long term commitment. In the long run, the trust that is engendered by solidly based relationships will reinforce Rio Tinto's ability to gain preferential access to the essential "people resource".

### Safety

Rio Tinto's activities involve working, both on the surface and underground, with large, heavy equipment and with explosives and chemicals, sometimes at extreme temperatures. We also face normal industrial hazards such as driving vehicles, working at heights and operating machinery with moving parts.

We believe that all injuries are preventable. While we have one of the best records in the industry, we have committed ourselves to creating an injury free workplace, one where everyone goes home safe and healthy each day. This includes all those who work on our sites – employees and contractors alike – as well as everyone with whom we come into contact while undertaking our business.

In 1998, the Group embarked on a new drive to improve its safety performance. Since then, the lost time injury rate has fallen by 86 per cent – a good record but not one to be complacent about. Indeed, we deeply regret that in 2006 there were three fatalities at Rio Tinto managed operations. We have thoroughly investigated these incidents and communicated and acted upon the lessons learned.

The lost time injury frequency rate (LTIFR) at the end of 2006 was 0.50 per 200,000 man hours, an improvement of 11 per cent over 2005. The all injuries frequency rate (AIFR) was 1.10, an 18 per cent improvement over 2005. We are on trajectory to achieve our 2008 targets in both areas.

However, people are still being injured at our sites. In 2006, we therefore asked ourselves the question: What else can we do to eliminate all injuries?

A starting point was to gather employees' opinions about the safety culture at our operating sites. The survey revealed that Rio Tinto is good at developing and implementing strong systems but the workforce needs to become more deeply convinced of their value.

We have therefore revised our safety strategy to reflect our better understanding of the culture within Rio Tinto. In order to embed the concept of zero injuries in the Rio Tinto culture, we must move from focusing solely on systems to focusing on individual intentions and behaviour, while ensuring our systems remain "fit for purpose".

We believe this will create a step change in our safety performance and move us to our goal of an incident and injury free workplace. Key priorities are:

- demonstrating real commitment to safety leadership
- reporting all near misses
- actively involving employees in all areas of safety management
- training our leaders to champion safety improvement
- training our employees to recognise and manage workplace risks
- introducing safety performance measures that better reflect our attention on process safety and the efforts of our leaders, not simply measures of personal injury.

No less important than a clear strategy for reinforcing our safety culture are the safety standards we set ourselves.

### Safety in a non industrial society

Rio Tinto sets high standards for safety wherever it operates. There are no exceptions, regardless of location in the world.

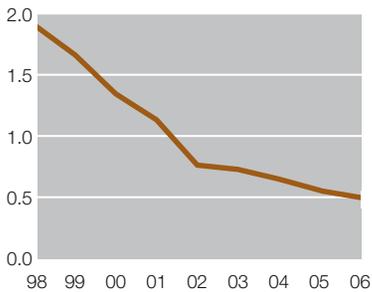
This is true of Rio Tinto's ilmenite project that started construction in 2006 in Madagascar, a country lacking development, infrastructure and precedents for industrial safety. One of Rio Tinto's commitments to Madagascar is to introduce world class safety standards and respect them.

Employees are drawn from local communities. Project managers ensure that they are medically able to work. New employees are introduced to personal protective equipment and are given explanations on what it is for and how to use it, on the need for self discipline in the workplace, and on how to follow instructions, and work as part of a team, and on Rio Tinto's policy of zero tolerance for drugs and alcohol.

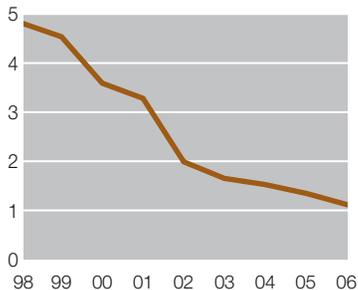
Borrowing a practice successfully used at Richards Bay Minerals in South Africa, another ilmenite producer in the Group, safety is reinforced by means of industrial theatre. Local troupes of performers use local humour with small audiences to get the safety messages across.

Management, for its part, "walks the talk", getting out in the workplace to be a visible presence, talking to people, recognising and rewarding safe behaviour, and discussing and correcting unsafe behaviour. Carrying out these "safety interactions" can be a linguistic and cultural challenge but they are an ideal opportunity to encourage commitment to change.

Lost time injury frequency rate (LTIFR)  
(per 200,000 hours)



All injury frequency rate (AIFR)  
(per 200,000 hours)



# Safety

our core value



We provide medical support vehicles for remote mines and communities.



A member of Rio Tinto Coal Australia's emergency response team prepares for a training exercise.



An operator wears essential personal protective equipment at the Palabora copper smelter in South Africa.



Our vehicle and driving safety standards call for pre-operation safety checks.

We check the implementation of our standards by a rigorous audit process and are constantly refining and updating them in the light of new knowledge and experience. In 2006, for example, we implemented a new standard to cover cranes and lifting, and we have revised the standards for aviation and electrical safety after a number of significant incidents in the past two years.

We are moving away from just injury statistics to a focus on process safety. During 2006 we strengthened our approach with the inclusion of process safety risk assessments.

In Rio Tinto, safety is a value and not something we consider only while at the workplace. We want our employees to live at home safely as well. If someone wears safety glasses at home when doing a dangerous task, the value of safety is enhanced for the family. Sites such as Rio Tinto Minerals Argentina, have sponsored community safety campaigns to support our values.

## Health

We are committed to reaching our goal of no new cases of occupational illness. We can do this only through promoting the good health of all our employees and contractors. We also seek to contribute as appropriate to the health of people in the communities in which we operate.

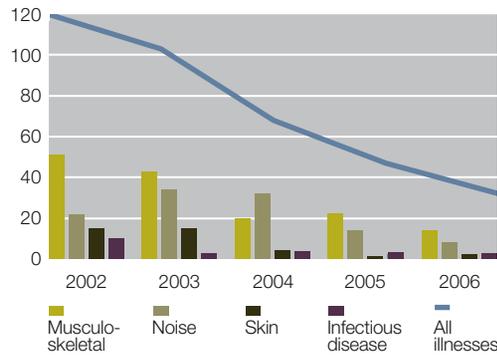
We introduced our Group health standards in 2004. During 2006, 39 sites were audited to ensure their compliance with these standards. The audits not only assessed gaps where the standards were not met, but also shared leading practices from other Group operations in order to help fill those gaps. All Group operating sites have now been audited for compliance with the health standards.

Although mechanisation and automation are rapidly reducing physical demands, musculo-skeletal (MS) illnesses remain the most common cause of new occupational illnesses (almost half of all new cases). MS illnesses are found in all businesses, but particularly in smelters where employees do heavy lifting.

Heavy equipment tends to be noisy, and noise induced hearing loss (NIHL) accounted for 40 per cent of our reported health incidents in 2006. A great deal of work has been done within the Group to reduce noise exposure. We conducted a survey on the sources of noise and vibrations, focusing on heavy operating plant equipment, and we initiated a multi-disciplinary, collaborative approach to find practical solutions.

Dust control at our mines has eliminated new cases of "miner's lung". Fume and dust reductions, coupled with personal protection at our aluminium smelters, have virtually

**Main types of new cases of occupational disease**  
Per 10,000 employees



eliminated new cases of asthma.

Rio Tinto is exploring increasingly in countries where the prevalence of HIV/AIDS may be high. Because we believe the mining industry has a role to play in combating the spread of HIV/AIDS, we are working closely with the international community of government agencies and NGOs concerned with this problem, not only in southern Africa but globally.

Rio Tinto is among eight mining companies that have agreed to pay for trials of a new HIV vaccine in South Africa. The Australian biotech firm, Virax Holdings, has applied to South Africa's drugs regulator for approval to conduct a clinical trial of its VIR201 HIV vaccine. An estimated one in nine of South Africa's population, or more than 5.5 million people, are infected with HIV and mining has been the sector hit hardest.

## Taking precautions to prevent the spread of HIV/AIDS

Our expertise is being applied to help prevent HIV/AIDS spreading to Madagascar where Rio Tinto has embarked on a new mineral sands development. In Madagascar the rate of infected people is currently below one per cent (The joint United Nations programme on HIV/AIDS) but sexually transmitted infections are common (US Agency for International Development). Although local people are being employed wherever possible, the project is eventually expected to import some skills from nearby countries with high rates of HIV/AIDS. The potential introduction of HIV/AIDS into Madagascar is a critical risk and is an issue we are committed to managing effectively. We are working actively with the construction companies to establish practical standards and codes of conduct for all employees and contractors, provide assistance and advice, and make the consequences of non compliance with company policy clear.

In 2003 we set a "stretch" target of reducing the rate of new cases of occupational illness (per 10,000 employees) by 40 per cent. We met this ambitious target and at the end of 2006 the rate of cases was 32 per cent lower than in 2005 and 69 per cent lower than in 2003.

Setting aggressive targets for noise exposure has resulted in improved data and better knowledge of workers' noise exposure. Reducing employee exposure to noise in the workplace will continue to be an area of focus in 2007. Although we remain behind trajectory to achieve our target of a 20 per cent reduction in the rate of exposures to 85 decibel noise, we saw a one per cent improvement in 2006 from the 2004 baseline.

## In the pipeline

The nature of occupational illnesses is changing. Stress, fatigue and musculo-skeletal illness and the normal effects of ageing such as heart disease and reduced physical capacity, present different challenges from the traditional mining health issues. We have active programmes to:

- improve "wellness", such as diet at mine sites
- spread best practice on active fatigue management
- ensure effective malaria control
- survey the effects of dust on health in the Pilbara region of Western Australia.

## Employment

Rio Tinto is an equal opportunity employer. We do not discriminate on grounds of age, ethnic or social origin, gender, sexual orientation, politics or religion. Where local laws allow, we favour the employment of local people. We do not employ forced, bonded or child labour.

In 2006 we employed about 35,000 people, compared with 32,000 in 2005.

New talent is essential to our business and Rio Tinto provides attractive career opportunities for outstanding graduates across many disciplines. However, the recent rapid growth in demand for skilled recruits, coupled with a reduced flow of qualified candidates from traditional mining schools, is making competition for human resources intense within the mining industry. Making mining more attractive as a career is therefore crucial for our ability to access new recruits.

For the third year in a row, there has been a significant increase in the number of graduates we are recruiting globally. In 2006, 205 new graduate recruits joined the Group.



Top: Keeping the body hydrated is important, especially in the hot, arid conditions found at many Rio Tinto sites.

Bottom: Monitoring noise levels at Rio Tinto Aluminium's Weipa operation in Australia.



**Committed**  
to healthy people

## Case study

### Fighting fatigue with greater safety

In April 2006, over 1,300 Rio Tinto employees in Australia took part in a study to see which ailments and indicators of poor health were having the greatest effect on absentee rates and productivity. The study looked at lifestyle habits such as smoking and lack of exercise and at the prevalence of anxiety, high blood pressure, raised cholesterol, back and neck pain, migraines and chronic fatigue. Not surprisingly, workers with these conditions were more often away sick and were therefore less productive.

The study also found that the most

serious causes of lost working days were fatigue and low energy – the ailments that most directly affect safety.

The study led to the planned introduction of “wellness” programmes to tackle issues such as sedentary lifestyles, psychological health, nutrition, pain management and of course fatigue. Given the link between fatigue and safety, all businesses with people doing safety critical jobs are now required to run fatigue management programmes.

Argyle Diamonds and Pilbara Iron, both in Western Australia, have taken a lead in addressing employees’ fatigue. The companies recognise that the demands of the workplace, combined with long commuting flights, can take their toll on the workforce.

The fatigue management plan at Argyle

aims to give staff the knowledge, skills and attitude to manage their own fatigue. It ensures, among other things, that employees at high risk of fatigue are identified and the risks mitigated, that supervisors know how to minimise the dangers for their staff and that rosters and accommodation are designed to give workers sufficient rest.

Like Argyle, Pilbara Iron’s mine at Marandoo employs a nutritionist, a psychologist and a physiologist to educate employees on the causes of fatigue and prevention. Employees can also use these professionals to develop individual action plans and a startling 97 per cent have taken up the offer. The results should soon be evident, not just in higher productivity but in greater safety.



We have concentrated on campaigns directed at gender balance. Looking ahead, we will work with universities to open up the mining industry to non mining and engineering disciplines.

## Scholarships for Mongolia

In 2006 we started awarding scholarships to Mongolian students to develop their skills and capacity so that they can participate in the mining industry now emerging in Mongolia. There were nine recipients of Rio Tinto scholarships for studies in mineral policy and law, finance, mineral concentration, geology and accounting, at colleges and universities in the UK, Australia and Mongolia.

People development in Rio Tinto is focused on ensuring strong leadership and competence across the Group. In addition to a comprehensive and customised series of leadership development programmes for supervisors through to managing directors, we are introducing a series of functional development programmes for professionals and practitioners across the Group, for example in mining, processing and marketing.

Beyond formal programmes we are also developing our own approach to coaching. This, plus an increased focus on training and e-learning, will play a key part in Rio Tinto's people development strategy in the future.

Wherever we operate we seek to give employment to local people. The Argyle Diamond mine in the remote Kimberley region of Western Australia, for example, employs more than 60 indigenous trainees and apprentices. Developing a workforce in the region has required significant capacity building. In 2001, only eight per cent of Argyle's workforce was drawn from the indigenous community but as result of the mine having reappraised its employment, special hiring and induction strategy, that figure has now risen to 25 per cent.

We value diversity because we believe it confers a real business benefit. A global group like Rio Tinto needs to be able to draw on the broad range of management experience and insight that can only come from a team of men and women with diverse racial and cultural backgrounds.

Since 2004 we have focused on achieving specific diversity related targets that we deemed were important to Rio Tinto's future. These targets were reviewed and refined in 2006 to ensure their continuing alignment with our business objectives and needs. Diversity will continue to be important for the Group.

## Striving for diversity

In 2004 a future leadership review set challenging goals – to increase the representation of women in senior management to 20 per cent within five years, and to increase the recruitment rate of female graduates by 50 per cent from a 2004 baseline.

In 2006 the recruitment rate of female graduates was 39 per cent, up by 15 per cent from 2004. The number of female general managers increased to above six per cent, up one per cent from 2005. Females represent 20 per cent of those identified as "future leaders", ie high potential employees, an increase of one per cent from 2005.

Although we have exceeded the goal for increasing the number of women at graduate levels, we are not making fast enough progress against the goal for gender diversity at senior levels.

A further leadership review in 2006 broadened our focus to include challenging, aspirational goals for national diversity.

## In the pipeline – the challenges of remote working

In the future, one of our key challenges will be to attract new talent to remote operations and to manage an ageing workforce and low turnover in those areas. Limited educational options for those with children, and other family or lifestyle drawbacks, can be a deterrent to potential recruits. Also, employees may work on long shift rotas, on a fly in, fly out basis, which can contribute to personal stress and place a strain on family relationships.

Modern technology offers alternative ways of working that could reduce the need for people to relocate to go to work.

## Communities

Wherever we operate we seek to understand the social, environmental and economic implications of our activities, both for the local community and for the overall economy.

We work closely with local representatives to inform ourselves of community concerns and priorities, and our programmes are the result of rigorous consultation and research. Mutual benefits are discussed with local governments and community representatives. Objectives are then set in order to secure the agreed benefits.

In Australia, Rio Tinto establishes agreements with Aboriginal traditional owners and groups affected by its activities to gain access for exploration (land access agreements) and to develop mining operations

(regional development agreements). Our policy of increasing opportunities for indigenous Australians is reflected in those agreements.

Our Argyle mine is routinely praised by experts as the gold standard in native title agreements. The Argyle Agreement, reached through consultation, is prescriptive about what the funds received by the community from the mine can be used for. Benefit payments are divided into different funds earmarked to set up agreed objectives such as a tourism industry, traditional businesses or community infrastructure. An Aboriginal trust has so far funded renal health and school development.

Rio Tinto Aluminium's Western Cape Co-existence Agreement near the Weipa bauxite mine has spawned success stories such as the formation of an earthmoving company and a turtle conservation tourism venture. Similar Aboriginal owned businesses have been built from the proceeds of agreement payments by Rio Tinto Iron Ore in Western Australia.

To contribute to sustainable livelihoods after mine closure, each Rio Tinto business now has a rolling five year community planning process that is updated annually. The plans apply throughout the life cycle of the Group's activities, from exploration to mine closure and beyond. Systematic attention to baseline studies, two way community and local stakeholder consultation and the delivery of socio-economic programmes have improved the strength and quality of community relations, and hence of the benefits provided.

Among the socio-economic baseline assessments completed or commissioned in 2006 were five for towns highly dependent on revenue generated by Rio Tinto operations in Australia – Tom Price, Jabiru, Clermont, Gladstone and Weipa. The data will help us develop sustainable development plans in concert with the municipalities.

Our work in 2006 included:

- The publication of guidance notes on community relations for Rio Tinto Exploration. Geologists are often the first contact communities have with the mining industry.
- Training of young local people at the Palabora copper mine in South Africa to be guides for heritage management tours.
- Commissioning of a baseline assessment of sacred trees in potential expansion areas at Rio Tinto Aluminium's Yarwun refinery at Gladstone, Australia, to assist discussions with local Aboriginal groups about how to protect and manage sacred sites.
- A partnership developed with Indigenous Community Volunteers (ICV) in Australia

## Case study

### First railway for First Nations

On 1 December 2006, Tshuëtin Rail Transportation (TRT) marked the first anniversary of its railway service from Sept-Îles in Quebec through Labrador to the former mining town of Schefferville. What makes the service notable is that this is the first railway in Canada to be owned and operated by a group of First Nations people.

Native Americans had already played their part in the development of mining in this remote region, first by discovering samples of iron ore and then by transporting materials for the early European prospectors – in some cases by canoe. By 1954, the Iron Ore Company of Canada (IOC) had completed the 573 kilometre railway from Sept-Îles to Schefferville and the first shipments of ore were leaving for the coast.

Schefferville closed as a mine in 1982 but IOC continued to run the railway for the benefit of First Nations and other users along the route. By 2005, IOC – now 59 per cent owned by Rio Tinto – was looking to sell the service in order to concentrate on mining. For the price of one Canadian dollar, the passenger service and ownership of 217 kilometres of line at the northern end of the route passed to a new company, TRT, jointly owned by three First Nations.

Inaugurated on 1 December 2005, the TRT service keeps open a lifeline for the 1,500 people of Schefferville – inaccessible other than by rail or air. The company employs more than 40 workers and carries 15,000 passengers a year, mainly First Nations people travelling to their traditional hunting, fishing and trapping grounds. TRT now intends to use the service to create business opportunities for the Innu and Naskapi people.

Thanks to the deal, the railway and its future are now in the hands of local communities with a vested interest in its success. A year on, TRT has an exemplary operating record and is soon to take delivery of two more coaches to add to its two locomotives and two existing coaches.

## Society continued

to assist in skills transfer programmes. ICV provides cross cultural training to retired professionals who volunteer to advise communities over extended periods on skills such as tourism development, business planning and management, and tropical agronomy. The community has to provide in kind contributions such as housing, office space, and a commitment to work with the volunteer. Rio Tinto sites provide an introduction when a local Aboriginal community asks for assistance as well as logistics support.

### Fertile groundwork

In 2006 Rio Tinto asked Royal Botanic Gardens Kew (RBG, Kew), UK, to work with the local community in the Simandou region of Guinea, west Africa, where Rio Tinto is in the preliminary stages of developing an iron ore project. Rio Tinto has a longstanding and broad ranging relationship with RBG, Kew.

“The idea was to learn which botanical species may be culturally significant and also to discover which species may come under increasing pressure as the project grows and as more people move into the area,” says Martin Cheek from RBG, Kew, who led the expedition.

“So far we have spent only a short time working with local people, as part of the baseline Social and Environmental Impact Assessment. It’s just a start but it sets the tone for this whole project. From a social perspective, this process of early consultation is a vital part of achieving good end results.”



At the Bunder diamond prospect in Madhya Pradesh, India, Rio Tinto’s exploration team are committed to building sustainable relationships with the community.



Members of the local Aboriginal community at Wandarri village in Western Australia – an Argyle Diamonds community economic project.



Cosmas Gonese, former chairman of Shashe’s development committee, facilitates a planning workshop. Cosmas is the director of a local NGO, the Association of Zimbabwe Traditional Environmental Conservationists (AZTREC).



Project manager HSEC, Annemarie Harman at a gathering promoting education at La Iraca village, Peru.



**Community**  
support

# Economic performance

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Rio Tinto's gross sales revenue in 2006 was US\$25.4 billion, a 23 per cent increase on the previous year. The rise was primarily attributable to record prices, driven by surging demand. Underlying earnings were US\$7.3 billion compared with US\$5.0 billion in 2005.

The Group's continuing financial success is based on its ability to secure access to land, people and capital. We use our expertise to harness these resources, creating prosperity for our shareholders, employees, communities, governments and business partners.

It is clear that Rio Tinto has a significant economic impact on the communities in which it operates, at both the local and the state or national level. We take considerable care to define this economic impact and this allows us to demonstrate the value of participating in our ventures to potential partners and stakeholders. In Madagascar, for example, where we are in the early stages of a major project to mine ilmenite from coastal sands, the World Bank has joined forces with us to invest in a new port for the mine and the region.

## Improving performance together

*Improving performance together*, or IPT, is a Groupwide initiative designed to boost business results by increasing collaboration

and sharing best practice across Rio Tinto. When the initiative was launched in 2004 we set ourselves two goals. The first was to use IPT to bring about a measurable improvement in our operating performance. The second was to change the way we ran our business in order to deliver greater long term value to our shareholders.

An excellent example of IPT methods at work is the 2006 programme to extend the life of heavy vehicle tyres (see page 10 of Rio Tinto's *Annual review* for a full description).

In this connection, we have opened a retreading plant for large haul truck tyres in Perth, Western Australia, using world-first technology and testing procedures. Retreading extends the life of the original tyre and is consistent with Rio Tinto's sustainable development objectives of reducing adverse environmental impacts. The retread project complements Rio Tinto Iron Ore's innovations in its haulage operations that have already significantly extended tyre life.

## In the pipeline

Our iron ore expansion projects in Western Australia remain our biggest current capital investments. The challenge of operating and

expanding ten mines, three ports and more than 1,600 kilometres of rail line in the Pilbara at a time of buoyant market conditions should not be underestimated. The Hope Downs project will start production in 2008.

Our ilmenite project in Madagascar is on schedule, with construction of basic infrastructure by local contractors progressing. First production is scheduled for 2008, at a time we believe there will be growing demand for the high quality ilmenite that Madagascar will produce for 40 years.

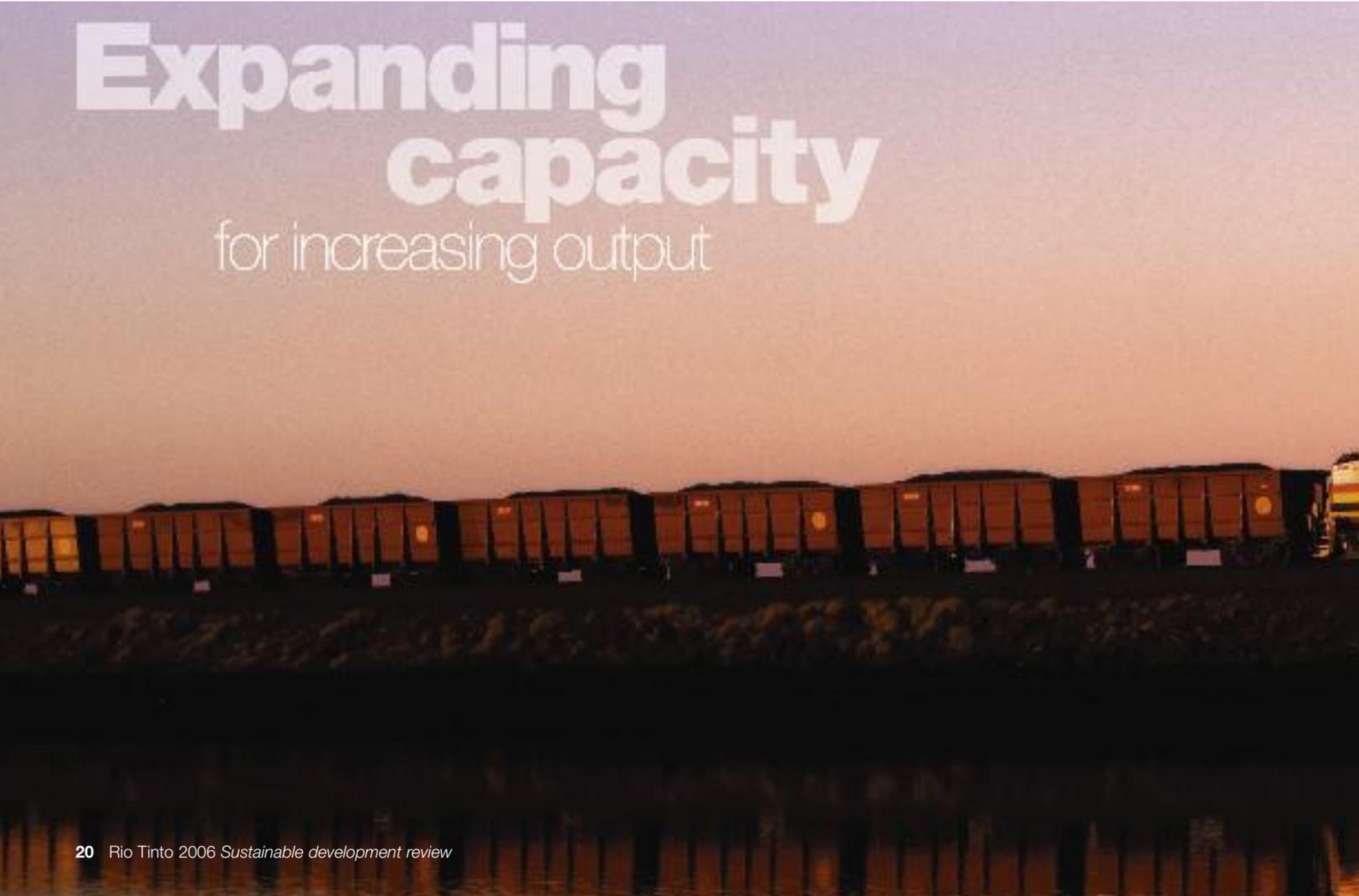
Development continues at the Argyle mine in Western Australia, Diavik in Canada, Cortez in Nevada, as does expansion of the Rössing Uranium mine in Namibia. Earlier this year we announced the development of the Clermont thermal coal mine in Queensland.

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## Socio-economic programmes

In 2006, Rio Tinto businesses supported 855 socio-economic programmes covering a wide range of activities extending from health, education and business development to housing, the environment and agriculture.

Last year, we spent an estimated US\$96 million (2005: US\$93 million) on community programmes related to our business. They



Expanding  
capacity  
for increasing output

encompassed commercial and business development initiatives, charitable gifts, as well as legally binding agreements for payments to trusts, funds and foundations.

By understanding our economic interaction with the communities where we operate we can help extract maximum benefits for both the communities and our operations. This economic interaction includes relationships with local suppliers, the local workforce and training, small enterprise support, the redistribution of taxes and royalties and better social programmes. We also need to be clear about how the infrastructure required by a particular mine or processing plant can benefit other regional players such as local businesses or government.

### Supply chain management

Payments to suppliers constitute a strong additional benefit to the economy, generating employment and creating wealth in other sectors.

Across the world, we have about 36,000 suppliers. The success of each of our business operations depends on the ability of those suppliers to deliver what we need, when we need it, to our standards. For our part, we can exert a considerable positive influence by

ensuring that suppliers meet our stringent requirements, not just in terms of the quality of the goods and services they provide but also in terms of their safety and employment practices and their commitment to sustainable development.

To help explain Rio Tinto's policy on procurement, we published *The way we buy* in 2006.

Rio Tinto Procurement (RTP) collaborates with its business unit customers to align its work with operational plans and strategies and actively promotes Rio Tinto's goals on safety and sustainable development. RTP's engagement with suppliers is based on the principles of value, integrity and mutual respect. In 2006, Rio Tinto's demand for materials, facilities and services was equivalent to US\$11 billion, or 43 per cent of the Group's sales revenue.

### Climate change

We believe that emissions of greenhouse gases resulting from human activities are contributing to climate change. It is also clear that meeting the challenge of climate change will impose costs and necessitate a change in the way we use energy. It will also create opportunities for us.

Rio Tinto's climate change programme is based on identifying and addressing risks and taking advantage of opportunities. Since 2003, it has had three core themes:

- Reducing emissions from our operations (see page 8)
- Understanding and developing low emission product pathways by working with others on supply chain emissions and on breakthrough technologies
- Engaging with governments and stakeholders to advocate sound and efficient domestic and international policies.

In 2006, we embarked on a new three year climate change plan. Early attention has focused on improving our knowledge and providing a sound foundation for future action. Taskforces looked at three key questions:

- What are the best market mechanisms to achieve a reduction in emissions?
- What technologies do we need to combat climate change and how do we deploy them?
- How do we better communicate Rio Tinto's climate change position and activities, both within and outside the company?

**Total economic contribution 2006 (%)**



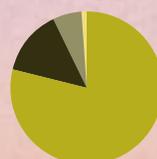
|                               |    |
|-------------------------------|----|
| ■ Wages and employee benefits | 10 |
| ■ Taxes and royalties         | 17 |
| ■ Dividends                   | 10 |
| ■ Reinvested                  | 20 |
| ■ Payments to suppliers       | 43 |

**Geographic distribution of suppliers 2006 (%)**



|                 |    |
|-----------------|----|
| ■ Local         | 23 |
| ■ Regional      | 34 |
| ■ National      | 36 |
| ■ International | 7  |

**Geographic distribution of labour payments 2006 (%)**



|                 |    |
|-----------------|----|
| ■ Local         | 79 |
| ■ Regional      | 14 |
| ■ National      | 6  |
| ■ International | 1  |

**Geographic distribution of taxes and royalties 2006 (%)**



|            |    |
|------------|----|
| ■ Local    | 23 |
| ■ Regional | 8  |
| ■ National | 69 |



## Case study

# Cutting emissions not trees

Rio Tinto Aluminium is the cornerstone partner in a project that has saved about 13,000 hectares of woodland and prevented the emission of around one million tonnes of greenhouse gases to the atmosphere. Known as 'Minding the Carbon Store', the scheme was launched in November 2006 by The Carbon Pool, a carbon trading company in Australia.

'Minding the Carbon Store' is based on the fact that vegetation absorbs carbon through photosynthesis. While the carbon stays locked in the living tree, it's not contributing to greenhouse gas emissions. But once the tree is cleared and the vegetation burned, carbon is released into the atmosphere.

The foundation of the project was a pending Queensland government ban on clearing native vegetation. Under the scheme, farmers who were entitled to clear their vegetation ahead of the ban were paid not to do so in order to keep a quantity of carbon locked up.

The funds for the scheme came from

Rio Tinto Aluminium, which now owns the rights to the carbon contained in the vegetation. If Rio Tinto Aluminium chooses to do so, it may use this carbon to offset its greenhouse gas emissions or, under a future carbon trading scheme, offset any carbon liabilities imposed upon its operations from such a scheme.

As a founding partner, Rio Tinto Aluminium underwrote the development of the commercial and legal framework for 'Minding the Carbon Store' and paid to stop around a million tonnes of greenhouse gases from being released – the equivalent of a year's emissions from 250,000 cars. This project not only resulted in over 13,000 hectares of woodland being protected, but also the added benefits of preserving wildlife and avoiding soil erosion.

The project was a world first in setting up a system that creates carbon rights by paying landowners not to clear vegetation.

For Rio Tinto Aluminium, the project complemented its own direct efforts to reduce emissions. The company continues to invest in developing low-emission technology which has the potential to reduce greenhouse emissions resulting from its aluminium production.

All business units within Rio Tinto will now implement their own three year programmes in support of the Group's climate change plan. Our Climate Change Leadership Panel has been in place for over a year and is responsible for ensuring that the programme remains on course.

As well as action by individual business units, work has begun on ten projects with the potential to reduce energy use and greenhouse gas emissions across the Group.

While our climate change activity is mainly directed at mitigating the effects of emissions, we must also be prepared to respond to the potentially severe effects of climate change. In 2005 we completed an assessment of the risk of such weather related losses at our operations across the globe.

Concluding that future climate risks are most likely to arise from cyclones and droughts in the southern hemisphere, the study made a number of recommendations, which we are now implementing. In particular, we are conducting regional assessments of the risks in potentially vulnerable locations where Rio Tinto has a concentration of assets – central Queensland, Western Australia and southern Africa. This work will be extended more widely in 2007.

More generally, Rio Tinto believes the energy challenge can best be met by companies, governments and society working together on all fronts: fossil fuels, nuclear and the so-called "new energy" sources. The goal in each case should be to continually improve the cost-security-cleanliness equation, by fully recognising and addressing the risks involved and the achievable benefits. We generally support the conclusions of the UK's Stern Review on the need to stabilise emissions that lead to climate change. Technology development will be at the heart of improved energy solutions.

### Rio Tinto gets top marks in climate change disclosure

In 2006, the UK's Carbon Disclosure Project ranked Rio Tinto highest in the metals, mining and steel sector, with a score of 95 on a 100 point scale in its Climate Leadership Index. The index covers 50 companies and reveals for investors which "high impact" FT500 companies have the most comprehensive climate change disclosure practices in place, judged on each company's response to the annual Carbon Disclosure Project questionnaire.



## Economic performance continued

### Energy

Rio Tinto both consumes energy in its operations and also produces it.

Our mining and mineral processing operations are energy intensive activities and depend heavily on electricity, coal, oil, diesel and gas to keep them running. At the same time, Rio Tinto is one of the world's leading producers of coal, and of uranium for the nuclear power industry.

We strive continuously to improve the energy efficiency of all our operations (see page 8). Some of the energy saving opportunities we identify are actionable immediately; others require significant capital expenditure and have long design and construction lead times.

Rio Tinto also invests large sums in research and development projects whose goal is to develop more energy efficient processes. For example, we are currently developing a step change technology, the Drained Cathode Cell for aluminium production. This has the potential to reduce significantly the amount of process energy required to make aluminium metal.

We have instituted a comprehensive programme of energy audits at our operations. By the end of 2006 audits had been completed at sites which contribute over 80 per cent of our energy consumption. Each audit identifies a range of energy saving

opportunities and many of these have already been successfully implemented. Total energy savings of 500,000 gigajoules and savings of 200,000 tonnes of greenhouse gas emissions have been achieved since the programme began in 2002. This is equivalent to taking around 50,000 cars off the road.

As well as being a major energy consumer, Rio Tinto is also a leading international coal supplier. Coal accounts for 44 per cent of the world's electric power generation. Emissions from coal fired power plants contribute 22 per cent of man made greenhouse gas emissions. Rio Tinto is helping to develop technology for carbon capture and storage for use in the US and Australia, and increasingly in other parts of the world.

Another government initiative where we are active is the Asia-Pacific Partnership on Clean Development and Climate (AP6), inaugurated in January 2006. The partnership brings together the governments of Australia, China, Japan, India, Republic of South Korea and the US.

This joint effort aims to realise a shared vision of emissions management, pollution reduction, clean development and energy security, all implemented in ways that support economic development. Rio Tinto participates (either directly or through industry associations) in three of the AP6 public-private task forces focused on coal, aluminium and steel, helping



**Rio Tinto is a leading international coal supplier.**



**The open pit at Rössing Uranium in Namibia. Nuclear power is a low emitter of greenhouse gases.**





Molybdenum, or “moly” for short, is recovered mostly as a by-product of copper mining. Its most valuable use is to harden high quality steel.



Copper delivers water, electricity and hundreds of essential products.



When mineral titanium dioxide (TiO<sub>2</sub>) is added to paint, it adds a brilliance and opacity to the colour.

Streamlining our  
processes to become a  
**‘brand of choice’**

## Economic performance continued

to define action plans that will deliver the partnership's vision.

Rio Tinto is also a significant supplier of uranium oxide for the world's nuclear industry. Nuclear power is a low emitter of greenhouse gases.

We believe we can make a significant contribution through the development of better processes for product stewardship. With other uranium producers, we have formed a group to look at the implications of the entire fuel cycle.

### Product stewardship

Today there is widespread acceptance of the principle that a manufacturer's responsibility for a product does not stop at the factory gate but that it can extend right through to the product's ultimate disposal.

By improving our understanding of the impact and benefits of our products over their complete lifecycle, we can potentially streamline our processes, enhance our reputation in the market place, differentiate our products from those of our competitors and become a "brand of choice" for metals and minerals products. The enhanced reputation that we earn as a responsible lifecycle supplier will, we believe, help give us improved access to land, people and financial assets.

In 2006 we developed a Group product stewardship strategy with six main strands:

- Understanding the benefits and impact of

our products along the full value chain

- Ensuring our processes are as eco-efficient as possible
- Disclosing information on our products' health and environmental effects, and on their safe handling and disposal
- Engaging with our customers and suppliers to identify opportunities and threats, thereby managing risk
- Participating in scientific, regulatory and political arenas to influence policy decisions and regulations that could limit market access or restrict product uses
- Identifying and filling information gaps on products, process health and environmental effects

In several cases we have been able to translate this approach into tangible business value by securing premium prices, engaging with customers and successfully lobbying to maintain access to markets affected by changing regulations. For example, Rio Tinto Minerals teamed up with Owens Corning to share ideas and best practice on climate change, lifecycle assessment and stakeholder engagement.

During the course of 2006 several new product stewardship programmes were initiated in addition to the well established programmes in Rio Tinto Minerals and Kennecott Utah Copper. A uranium stewardship programme was initiated, with participation by both ERA in

Australia and Rössing Uranium in Namibia. Meanwhile our Diamonds business began a diamond stewardship programme and helped establish the Council for Responsible Jewellery Practices (see case study below).

Across the Group in 2006, 76 per cent of businesses ran programmes to address customer needs and 86 per cent engaged in supply chain activities. Twelve businesses undertook a product impact assessment.

## Case study

### Raising standards in the jewellery supply chain

Rio Tinto has joined other companies involved in the supply chain for diamond and gold jewellery to form the Council for Responsible Jewellery Practices (CRJP). The CRJP is designed to respond to public concern about the so called "conflict diamonds" and "dirty gold".

Conflict diamonds are those used to fund armed struggle. (The issue came to the fore in the civil war in Sierra Leone in the 1990s). The equivalent question for gold is whether it has been mined, refined and turned into jewellery in responsible ways – socially, ethically and environmentally.

An earlier move aimed at ensuring responsible practices was the introduction of the Kimberley Process, whereby diamond producing countries certify that shipments of rough diamonds do not contain conflict stones. The CRJP seeks to go further by promoting proper standards through the

cutting, polishing and jewellery making stages of the diamond supply chain, and from mining to retail in the case of gold.

Rio Tinto was one of 13 founding members when the CRJP was formed in 2005. As a producer of both diamonds and gold, the Group has a clear interest in maintaining public confidence. It also knows the value of being able to assure retailers that gold produced and refined by Rio Tinto can be bought with a clear conscience – a factor that underpins its special supplier relationship with Tiffany and Co.

The CRJP's more than 60 members have committed themselves to a defined set of responsible business practices and to a system of independent monitoring. It has finalised its code of practice and is looking to have a pilot project in place by the end of 2007.

For Rio Tinto, the new scheme is an opportunity to take a lead in good corporate practice, to differentiate itself as a supplier, and to continue raising standards in mining and related industries.



## Governance: setting a good example

Sound corporate governance and high ethical standards of conduct are a source of competitive advantage in securing access to resources. Areas such as environmental performance, community relations, employee welfare and transparency are just as important as the technical aspects of mining and processing.

Moreover, if Rio Tinto is to succeed in positioning itself as the "miner of choice" it has to be equipped to deal with complex stakeholder relationships.

Accordingly, we have built into our operating philosophy a strong focus on corporate responsibility. The central tenets of this philosophy are spelled out in Rio Tinto's statement of business practice, *The way we work*, which covers important issues such as human rights, political involvement, transparency and zero tolerance of corruption.

All our employees are required to comply with the policies set out in the document. The objective is to ensure that they reflect in their daily work the high standards and values they share, values such as accountability, fairness, integrity and openness. Published in more than 20 languages, *The way we work* is a reflection of the Group's diverse workforce as well as of the range of communities and stakeholders affected by our operations.

### Human rights

We support human rights consistent with the United Nations' *Universal Declaration of Human Rights*, and respect them in conducting the Group's operations throughout the world because we take our responsibilities seriously, and because it is the right thing to do.

In implementing our human rights policies, we are subject to the relevant laws in the

United Kingdom and Australia, where Rio Tinto plc and Rio Tinto Limited have their registered offices, and in the US, where our shares are listed and several of our business operations are located, as well as to the laws in the many other countries where we operate. At all times we respect and comply with the obligations which this body of legislation imposes upon us.

In addition, Rio Tinto is a signatory to a host of international commitments and standards and we are dedicated to ensuring we meet them. One example of these commitments is the Voluntary Principles on Security and Human Rights, which we helped develop. Another is the United Nations Global Compact, where Rio Tinto was again one of the early supporters.

But we recognise that it is not sufficient simply to subscribe to international undertakings on human rights and to publish internal policy guidelines. We need to ensure that the human rights commitments in *The way we work* and in the complementary guidance document on *Human rights* are actually being implemented in practice. We have therefore instituted a rigorous annual process for verifying compliance across the Group (see the case study below).

To increase awareness among employees of their obligations, Rio Tinto's human rights policies and procedures have been strengthened through the use of computer based training. Several on-line training modules have been introduced, including one on *The way we work*, which is mandatory for all Group employees and one on our *Human rights guidance*. Over 2,500 employees have now completed the human rights training module, which is compulsory for all employees



## Case study

### Human rights: checking our compliance

Our internal control procedures have been strengthened to monitor closely our compliance with the Group's human rights policy and the related guidance notes. Every year, business unit managers are required to complete an Internal Control Questionnaire (ICQ), which today incorporates some 35

detailed questions about human rights applicable to our operations. Among the topics covered in the ICQ are community relations, human resources, security personnel, business integrity and political involvement.

For example our businesses are asked whether they have adopted and communicated a local code of conduct, not only to employees but also to associated companies and non managed joint venture partners, as well as to principal contractors and suppliers. Other questions call for

information about representations from local community or special interest groups, and for details of internal communications and follow-up on these issues. Questions also relate to the Voluntary Principles on Security and Human Rights, asking, for example, about the screening and training of security personnel.

Rio Tinto also requires its business units to confirm that they have implemented *Speak-OUT*, the Group's independent "whistle-blowing" programme.



# Responsible citizen

globally and locally



Geologist Gustavo Zulliger with a 3D model of the Resolution Copper deposit in Arizona, US, as revealed by drilling.



Felicia Miza holds an adult literacy class in Ambinanibe, a rural village near Fort Dauphin in Madagascar.



School children at the Shashe school in Zimbabwe. The school was built by Murowa Diamonds for the people resettled from the mine area.



Careful control and planning of Rio Tinto Iron Ore's rail operations in Australia ensures energy usage is minimised.



## Governance continued

at the general manager level or above.

In cooperation with other leading companies in the extractive industries, we have been supporting the work being done in the field of business and human rights by Professor John Ruggie, special representative of the Secretary General of the United Nations. In 2006, the International Council for Mining and Metals (ICMM) made the second of two submissions to Professor Ruggie. One of the case studies in the submission describes how Rio Tinto's commitment to human rights, as set out in *The way we work* and in the complementary guidance on *Human rights*, is implemented in practice (see case study on page 26 for more details).

There were no reported incidents of breaches of our human rights policy during 2006.

### Transparency and political involvement

We are committed to maximum transparency, consistent with good governance and commercial confidentiality.

Rio Tinto at all times strives to conduct its business with integrity, honesty and fairness, building from a foundation of compliance with relevant local laws, regulations and international standards.

Since 2005, training on our *Business integrity guidance* has been required for all

managers. The guidance addresses bribery, anti corruption and political involvement. We do not directly or indirectly participate in party politics or make payments to political parties or individual politicians.

Mining is a heavily regulated industry and we maintain a continuous dialogue with many governments and public authorities at national, provincial and municipal levels. We speak out and make representations on matters affecting our business interests and those of our shareholders, employees and others involved in our activities.

We are a member of a wide range of industry associations and of representative bodies, and we work closely with international and non governmental organisations to develop appropriate standards and guidelines for our industry. Three examples follow:

### United Nations Global Compact

The Global Compact is an accord between the United Nations and business for cooperation in upholding and promoting a set of ten principles covering areas such as human rights, labour standards and environmental practice. Rio Tinto was an early supporter of the Global Compact and is an active member of the Global Compact UK Network. We communicate our progress on meeting the ten principles annually and in 2006 we

helped develop a peer review system for the UK network.

### Business Principles for Countering Bribery

We continue to support Transparency International, a global civil society organisation leading the fight against bribery and corruption. Rio Tinto was one of the original corporate members of the joint business and civil society steering committee which, under Transparency International's chairmanship, drafted the Business Principles for Countering Bribery. We remain actively engaged in its work and are making an additional financial contribution over three years to help produce a tool kit which companies can use to introduce and implement effective anti-corruption programmes.

### Extractive Industries Transparency Initiative (EITI)

This initiative is designed to promote transparent revenue reporting by extractive resource companies and by government, with the participation of civil society. Rio Tinto has been involved with the EITI since its launch in 2002. In 2006, we sponsored a regional EITI mining workshop in Melbourne that was designed to engage governments and companies across Asia



and in Australia. Rio Tinto's chairman gave the keynote mining address at the EITI conference in Oslo in October 2006. There were no reported incidents of breaches of Rio Tinto's political involvement policies during 2006.

### Engagement

Rio Tinto recognises that genuine engagement with stakeholders is a critical element of successful business practice. Building strong working relationships with those who are affected by, or have an interest in, what we do is essential to our future operations.

We therefore engage with a broad range of organisations and individuals, including investors, governments, communities, industry bodies and a host of civil society groups, and also of course with our employees.

Many of today's issues, such as climate change and poverty elimination, are much too large or intractable to be tackled by one company alone. Moreover, Rio Tinto may not always possess all the appropriate skills or the mandate to manage such matters. So, by working in partnership with the community, environmental bodies, non government organisations and governments, we can put ourselves in a position to identify and tackle issues of mutual interest more effectively. We

can pool the skills and expertise that each of us brings and thereby achieve outcomes that none of us could achieve alone.

The Rio Tinto global partnership programme currently involves 17 partner organisations and 9 funds and foundations. Among them are BirdLife International (birds are an indicator of environmental health and biodiversity), conservation organisations such as the Earthwatch Institute and Worldwide Fund for Nature Australia (WWF), and the Eden project in the UK (promoting the sustainable use of resources), and the Royal Botanic Gardens, Kew, UK (to improve environmental management through practical scientific work).

The partnership programme places strong emphasis on forming active relationships. We not only provide funds but, just as importantly, contribute technical and business management skills and participate in the planning and implementation of each project. We choose community partnerships that are integral to our business and that are undertaken by organisations with which we share some common aims and objectives. The governing factor is that the partnership fits our business focus.

Examples of our partnership programme in 2006 include working with:

- Our NGO partners and our communities on building long term capacity in areas such as forestry, sustainable agriculture, community based health and water preservation management.
- Our NGO partners on product stewardship, biodiversity, sustainable livelihoods and climate change, thereby contributing to our position and activities on these issues.

**Left: Rio Tinto's exploration team holds a public meeting in Mozambique to keep the local community informed about its activities.**

**Above: Conserving and responsibly managing biological diversity is a crucial issue for business and for society.**

# Sharing our policies and standards

with our partners



## Mine closure and legacy issues

Closing a mine or other operating site does not simply mean shutting down production, rehabilitating the land and walking away. Relationships change and people's livelihoods can be affected, as can the social and environmental programmes established during the life of the mine.

Rio Tinto's closure standard treats mine closure as a multi disciplinary responsibility, involving community relations, human resources, environmental specialists, engineers and financial specialists. Integrating closure planning into all aspects of decision making in a business, from the earliest stages of project development to decommissioning facilities, is crucial to leaving a positive legacy of sustainable development.

We well understand that our legacy at one site may well determine our future access to land, people and capital at another.

In 2006 we conducted 14 reviews to ensure that all our mine closure plans are current and accurately reflect accruals within financial accounts in addition to sustainable development considerations. These reviews included several site visits by multi disciplinary teams and resulted in some operations appointing closure specialists.

## Non managed operations

The Rio Tinto Group consists of wholly and partly owned subsidiaries, jointly controlled assets, as well as other entities and associated companies, some of which we do not manage.

Examples of these non managed operations include the Queensland Alumina refinery and Gladstone power station in Australia, the Escondida copper mine in Chile, the Cortez gold mine in the US and the Grasberg copper-gold mine in Indonesia.

Although Rio Tinto may not be directly involved in managing these operations, we nevertheless remain closely engaged through membership of the boards of directors and of technical committees. We encourage them to adopt our policies and standards in community relations, human rights, environmental stewardship and safety.

## Cortez, Nevada, US

The Cortez gold mine in Nevada is managed

**From left to right: Representatives from UHRR (Upper Hunter River Rehabilitation Initiative) monitoring tree growth. This five year project is a unique partnership between Bengalla Mine, state government, universities and other industry bodies.**

**Escondida copper mine in Chile, one of Rio Tinto's non managed operations.**

by Barrick Gold. Rio Tinto holds a 40 per cent interest in the mine. We participate in quarterly meetings at which HSE and community issues are high on the agenda. This regular, formal contact allows us to satisfy ourselves that Cortez's business policies and practices, including those on sustainable development, are consistent with those of the Rio Tinto Group.

In addition, there is frequent informal contact at the technical assistance level between Cortez and Rio Tinto personnel on such topics as solid waste facilities, dewatering, safety and air quality.

## Escondida, Chile

Rio Tinto has a 30 per cent interest in the Escondida copper mine in Chile, which is managed by BHP Billiton. Our seat on the mine's Owners' Council allows us regular input on strategic and policy matters. Through the Council, for example, we were able to promote the idea of carrying out a Social Audit, the outcome of which was a series of useful recommendations that have subsequently been implemented.

Rio Tinto also played a big part in helping to establish the Escondida Foundation. The Foundation is funded by about one per cent of the mine's pre-tax profits and is the vehicle through which Escondida fulfils its social responsibilities.

## Grasberg, Indonesia

The Grasberg copper-gold mine in Indonesia is owned and operated by Freeport-McMoRan Copper & Gold. Rio Tinto has a 40 per cent joint venture interest in Grasberg's 1995 mine expansion and is represented on the joint venture's operating committee.

As well as providing substantial economic benefits to the state, Freeport Indonesia is the largest private employer in Papua and one of the largest in Indonesia. The mine supports the wage economy by directly employing approximately 8,000 workers. Of these, about a quarter are Papuans. Another 10,700 people are employed by contractors. In the provision of healthcare, funding from the Freeport Partnership Fund for Community Development was used to build and expand two hospitals and a system of community health clinics in Papua.

**The reclaimed Flambeau mine site in Wisconsin, US, includes a system of hiking and recreational trails, prairie and woodland habitat, and more than ten acres of wetlands.**

**Biodiversity blooms at the Eden Project, one of Rio Tinto's partner organisations, in Cornwall, southern England.**

The Grasberg mine is committed to building and maintaining positive relationships with its Papuan neighbours, in particular the indigenous communities closest to its area of operation. It has in place a Social, Employment and Human Rights Policy, designed to provide opportunities for social, educational and economic development, including special efforts to train and hire those indigenous to the area. Both Rio Tinto and Freeport-McMoRan support the Voluntary Principles on Security and Human Rights and continue to work together to ensure practice is consistent with them.

To meet the mine's social obligations to local communities, at least one per cent of the mine's net sales revenues are committed to support village based programmes. In addition, two trust funds were established in 2001 in recognition of the traditional land rights of the local Amungme and Komoro tribes. In 2006, over US\$47 million was contributed to the funds.

## Queensland Alumina, Australia

The Group holds a 39 per cent interest in the Queensland Alumina (QAL) refinery at Gladstone. Through our board membership, we are able to monitor and influence QAL's sustainable development policies and practices.

Rio Tinto Aluminium personnel visit QAL frequently and have carried out a health and safety audit of QAL's systems against Rio Tinto's standards. The cross fertilization of ideas between the two companies is extended by such means as QAL's participation in HSE workshops arranged by Rio Tinto Aluminium.

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## In the pipeline

*In 2006, our Sustainable Development Leadership Panel developed a set of guidelines defining the minimum sustainable development criteria for new joint ventures in which Rio Tinto would be a non managing partner. Implementation of the guidelines is planned for 2007.*

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# Goals and targets

| Target  | Results | Comment  | Trend |
|---|---------|--|-------|
| <b>Employment goals</b>   |         |  |       |
| Increase the representation of women in senior management to 20% by 2009 from a 2004 baseline   |         | Women now represent 20% of identified "future leaders" and currently 6% of senior management   |       |
| Increase the proportion of women in the total graduate intake by 50% from a 2004 baseline   |         | Women represent 39% of the total graduate intake, up 15% from 2004   |       |
| <b>Safety targets</b>   |         |  |       |
| Zero fatalities   |         | Three fatalities, compared with two fatalities in 2005   |       |
| A 50% reduction in lost time injury frequency rate (LTIFR) between 2003 and 2008  |         | 11% improvement in LTIFR compared with 2005  |       |
| A 50% reduction in all injury frequency rate (AIFR) between 2003 and 2008   |         | 18% improvement in AIFR compared with 2005   |       |
| <b>Health targets</b>   |         |  |       |
| Full implementation of occupational health standards  |         | 96% of operations have implemented our occupational health standards. Corporate offices, projects and new businesses continue to implement the standards |       |
| A 40% reduction in the rate of new cases of occupational illness (per 10,000 employees) between 2003 and 2008                               |         | A 69% reduction in new cases of illness since 2003   |       |
| A 20% reduction in number of employees (per 10,000 employees) exposed to a noise environment of more than 85 decibels between 2004 and 2008 |         | A 1% reduction from a 2004 baseline  |       |
| <b>Human rights and political involvement targets</b>   |         |  |       |
| No breaches of Rio Tinto's policies for human rights and political involvement  |         | No reported breaches of our policies in 2006   |       |
| <b>Community relations targets</b>  |         |  |       |
| Site managed assessments (SMA) done at all operational sites by the end of 2008   |         | Lessons learned from pilot projects have been applied and will be included in a rollout of the SMA process across the Group in 2006                      |       |
| <b>Environment targets</b>  |         |  |       |
| A 10% reduction in freshwater withdrawn, per tonne of product, between 2003 and 2008  |         | The freshwater withdrawn efficiency has improved by 11.5% since 2003   |       |
| A 5% reduction in energy used, per tonne of product, between 2003 and 2008  |         | Energy efficiency has improved by 2.6% since 2003 but has slipped slightly compared with performance in 2005   |       |
| A 4% reduction in total greenhouse gas emissions, per tonne of product, between 2003 and 2008   |         | Greenhouse gas efficiency has improved 0.3% since 2003 but has slipped compared with performance in 2005 <sup>1</sup>                                    |       |

<sup>1</sup> See page 8 for factors affecting result.

Target met or significant progress against target

Considerable improvement

Target not met or behind Group trajectory

Positive trend

Results variable over time

# Performance data

| Issues  | 2004          | 2005          | 2006                 |
|---|---------------|---------------|----------------------|
| <b>Social</b>   |               |               |                      |
| Employees   | 32,000        | 32,000        | <b>35,000</b>        |
| Fatalities  | 1             | 2             | <b>3</b>             |
| Lost time injury frequency rate (LTIFR)   | 0.65          | 0.56          | <b>0.50</b>          |
| All injury frequency rate (AIFR)  | 1.51          | 1.35          | <b>1.10</b>          |
| Fines and prosecutions – safety (US\$ '000)   | 19.2          | 87.9          | <b>34.8</b>          |
| New cases of occupational illness (per 10,000 employees)                                  | 68*           | 47*           | <b>32</b>            |
| Fines and prosecutions – health (US\$ '000)   | 256.8         | 58.1          | <b>3.0</b>           |
| Community contributions (US\$ million)  | 87.8          | 93.4          | <b>96.4</b>          |
| <b>Environment</b>  |               |               |                      |
| Environmental Management System (EMS) certification (% operations)                        | 73%*          | 90%           | <b>95%</b>           |
| Significant environmental incidents   | 16            | 8             | <b>8</b>             |
| Significant spills  | 4             | 2             | <b>3</b>             |
| Fines and prosecutions - Environment (US\$ '000)  | 53.8          | 67.9          | <b>56.8</b>          |
| Energy use (Petajoules)   | 232           | 245*          | <b>258</b>           |
| Greenhouse gas emissions – on-site (million tonnes CO <sub>2</sub> equivalent)            | 13.4*         | 14.1*         | <b>15.3</b>          |
| Greenhouse gas emissions – total (million tonnes CO <sub>2</sub> equivalent) <sup>1</sup> | 25.3          | 26.8*         | <b>28.3</b>          |
| Freshwater consumption (million litres)   | 378*          | 370*          | <b>391</b>           |
| Land disturbed (hectares)   | 1,068         | 1,083         | <b>1,112</b>         |
| Land rehabilitated (hectares)   | 363           | 376           | <b>401</b>           |
| Waste generation – mineral (million tonnes)   | 1,790         | 1,752*        | <b>1,871</b>         |
| Waste generation – non mineral (thousand tonnes )   | 255           | 307*          | <b>321</b>           |
| <b>Economic</b>   |               |               |                      |
| Gross sales revenue (US\$ billion) <sup>2</sup>   | 14.5          | 20.7          | <b>25.4</b>          |
| Underlying earnings (US\$ billion)  | 2.3           | 5.0           | <b>7.3</b>           |
| Cash flow from operations (US\$ billion)  | 4.5           | 8.3           | <b>11.2</b>          |
| Dividends paid to shareholders (US\$ billion) <sup>3</sup>                                | 0.9           | 1.1           | <b>2.6</b>           |
| Capital expenditure (US\$ billion)  | 2.2           | 2.5           | <b>3.9</b>           |
| Wages and salaries paid (US\$ billion) <sup>4</sup>                                       | 2.1           | 2.3           | <b>2.7</b>           |
| Taxes and royalties paid (US\$ billion) <sup>4</sup>                                      | 1.5           | 3.1           | <b>4.2</b>           |
| Total value added (US\$ billion)  | 7.6           | 12.7          | <b>14.4</b>          |
| <b>Production by principal commodities</b>  |               |               |                      |
| Alumina ('000 tonnes)   | 2,231         | 2,963         | <b>3,247</b>         |
| Aluminium ('000 tonnes)   | 837           | 854           | <b>845</b>           |
| Bauxite ('000 tonnes)   | 12,828        | 15,474        | <b>16,139</b>        |
| Borates ('000 tonnes)   | 565           | 560           | <b>553</b>           |
| Coal ('000 tonnes)  | 157,437       | 153,638       | <b>162,328</b>       |
| Copper – mined; refined ('000 tonnes)   | 753; 333      | 784; 315      | <b>803; 299</b>      |
| Diamonds – mined ('000 carats)  | 25,202        | 35,635        | <b>35,162</b>        |
| Gold – mined; refined ('000 ozs)  | 1,552; 300    | 1,726; 369    | <b>1,003; 462</b>    |
| Iron ore ('000 tonnes)  | 107,757       | 124,494       | <b>132,780</b>       |
| Lead ('000 tonnes)  | 25.1          | 11.9          | <b>11.9</b>          |
| Molybdenum ('000 tonnes)  | 6.8           | 15.6          | <b>16.8</b>          |
| Pig iron ('000 tonnes)  | –             | 5             | <b>53</b>            |
| Salt ('000 tonnes)  | 4,792         | 5,507         | <b>5,405</b>         |
| Silver – mined; refined ('000 ozs)  | 14,830; 3,344 | 14,926; 3,538 | <b>13,968; 4,152</b> |
| Talc ('000 tonnes)  | 1,443         | 1,364         | <b>1,392</b>         |
| Titanium dioxide feedstock ('000 tonnes)  | 1,192         | 1,312         | <b>1,415</b>         |
| Uranium (tonnes U <sub>3</sub> O <sub>8</sub> )   | 5,974         | 6,582         | <b>5,698</b>         |
| Zinc – mined ('000 tonnes)  | 73.8          | 37.2          | <b>33.4</b>          |

\* Numbers corrected from those originally published following data verification.

1 Total greenhouse gas emissions include on-site emissions and emissions from net electricity and steam purchases.

2 Equivalent to Total economic contribution pie chart on page 21.

3 Includes special dividend in 2006 of US\$ 1.5 billion.

4 Includes our share of equity accounted units.

# Assurance

In response to increasing corporate governance demands, in 2006 Rio Tinto formed a new Corporate Assurance function. It has accountability and responsibility for providing internal assurance to the board that:

- Rio Tinto's policies, standards and controls, as endorsed by the Board, are adequately designed and effective for their intended purpose
- these policies, standards and controls are consistently implemented by all Rio Tinto sites on a timely basis and as designed.

During 2007, Corporate Assurance will take over the assurance accountabilities of all Rio Tinto's functional departments that currently provide assurance, including those of Internal Audit, Community Relations and HSE.

The overall objective of the external assurance and verification components is to enhance the transparency and accountability of our performance on social and environmental issues by providing assurance that the material in this *Sustainable development review* is relevant, complete and

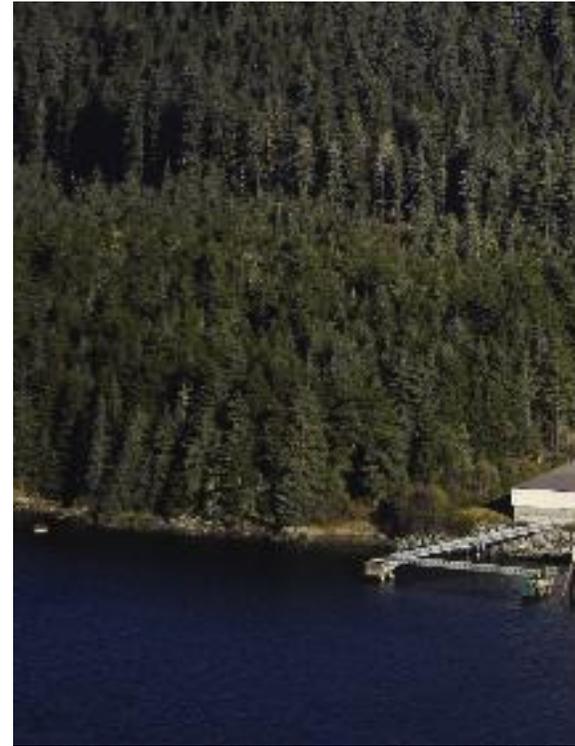
accurate, and that, in particular, our policies and programmes are reflected in implementation activities at operations.

In 2006, Environmental Resources Management (ERM) undertook both the external assurance and health safety and environment data quality verification of our *Review*.<sup>1</sup> Their statement is on page 36. ERM and Rio Tinto have agreed to a set of guiding criteria to prevent conflict of interest between ERM's assurance activities and other work undertaken for Rio Tinto by ERM.

We believe that it is important to learn from our assurance and verification activities. The recommendations made by ERM in the 2005 *Sustainable development review* have been assessed, and actions taken during 2006 to address them are described below.

<sup>1</sup> ERM's fees for this work in 2006 were £340,000.

**Green's Creek mine is located on pristine Admiralty Island, off the coast from Juneau, the capital city of Alaska.**



## Our response to recommendations in 2005

**Provide additional guidance to businesses and operations on the expectations of full implementation, in particular with regard to Occupational Health, Closure and Community standards, supported by additional corporate level internal verification.**

### Community

- We have instituted a requirement for businesses to implement site managed assessments and to measure actual performance against claimed achievement.
- Community plans are to be prepared and reviewed in the context of the business plans used by the respective business unit. This will ensure management endorsement and sign off, and the allocation of appropriate resources.
- Site visits by corporate community relation advisers to support business units in developing and sustaining consultation procedures with our communities, from exploration to closure.
- A new structure with regional advisers and shared resources provides a more coherent basis for the coordination of community relations including external stakeholder engagement, government engagement, and partnerships.

### Closure/Land Access

- Reviews of closure management plans against the Rio Tinto closure standard are being carried out for all operations and the findings from each review are reported back.
- Closure plan workshops have been held with operations and mechanisms established to facilitate the transfer of closure good practice.
- A closure diagnostic tool has been developed to assist operations in managing the closure process, notably in identifying areas of long term risk.

### Occupational Health

- Business units and sites which have not as yet fully implemented the Occupational Health Standards have been identified and implementation support has been better defined.
- Improved focus on occupational health issues has been included in the new Rio Tinto audit procedures and protocols, with specific data quality requirements.
- Industrial hygiene, occupational health and allied health expertise (eg physiotherapist) has been identified throughout the Group in order to ensure an adequate pool of 'health specialist' auditors is available.



**Focus on change management and succession planning across those parts of the Group where high staff turnover is prevalent in order to ensure ongoing compliance with *The way we work*.**

#### **Communities**

- There has been expanded recruitment in 2006 of community practitioners across the Group.

#### **Employment**

- Key programmes have been put in place to address succession planning across all parts of the Group. These activities will focus on areas of high staff turnover. Specialist support groups have been established with particular emphasis on talent management, sourcing, capability development, international mobility and pensions.
- The Strategic Leadership Programme (SLP) and Business Leadership Development Programme (BLDP) continue to develop our internal capability and future leaders for the Group. In addition, the Operational Leadership Development Programme (OLDP) was introduced in early 2006 to focus specifically on supervisory and early career professionals as part of their ongoing development within the Group.

**Provide more technical support to operations to deliver their local contributions to Group greenhouse gas reduction targets.**

- Extensive dialogue took place with operations to determine underlying performance trends and factors that influenced the ability of businesses to improve energy efficiency and reduce greenhouse gas emissions.
- Opportunities for energy efficiency improvement are identified through energy management reviews. In 2006 a total of 19 energy reviews were undertaken.
- In 2006 three regional climate change workshops were conducted to share knowledge amongst operations regarding climate change and greenhouse gas emissions issues.
- US\$1.5million has been provided for direct technical support to help sites implement energy savings/greenhouse gas reductions.

**Drive practical implementation of recently developed sustainable development decision making criteria across the Group. Provide case studies within future reviews illustrating how these criteria have been used in the creation of business value.**

- Two sustainable development training tools were launched in 2006.
- Embedding sustainable development into our culture is part of our integration strategy for 2006-2010.
- The Sustainable Development Leadership Panel has developed a “strategy on a page” tool to assist the integration of sustainable development into business plans. Presentations and workshops have been held focusing on this tool. Four business units have started implementation.

# Environmental Resources Management statement

Environmental Resources Management Limited (ERM) was appointed by Rio Tinto on behalf of the Board Committee on Social and Environmental Accountability to undertake an external assurance assessment of its 2006 *Sustainable development review* (the *Review*) and this statement is our public report to them. We were not engaged to assess whether the *Review* is aligned with the Global Reporting Initiative's G3 Sustainability Reporting Guidelines.

We have based our assessment on Rio Tinto's non financial policies, known collectively as *The way we work*, and the standards and guidelines that support it. Between July 2006 and January 2007, and for Rio Tinto's managed operations only, we:

- Reviewed selected 2005 non financial performance data and information and on a risk basis, identified a sample of operation and business unit locations to visit and topics to assess;
- Visited 12 operations and ten business units to assess the adequacy of Rio Tinto's Internal Control Questionnaire (ICQ) to report on the degree of implementation of *The way we work* and adequacy of selected underlying controls in place to manage non financial risks;
- Reviewed data collection and internal verification processes for a selection of 2006 health, safety and environment data at sampled operations and corporate offices; and
- Assessed the content of the *Review* to comment on its completeness, relevance, responsiveness and accuracy, and its consistency with our findings from the above.

## Overall opinion

We conclude that the *Review* provides a fair view of Rio Tinto's programmes and performance during 2006. We believe that the 2006 health, safety and environment performance data reported within the *Review* are accurate and are supported by robust internal verification processes.

The sample of operations and businesses we visited had in place, or were implementing, internal controls to deliver conformance with *The way we work*. We identified a number of minor inaccuracies in ICQ reporting, largely as a result of selected questions being open to interpretation. However, we do not believe this materially affects the *Review* as it is not based solely on the information the ICQ provides.

## Detailed findings on performance priorities

### Attracting talent

Like many natural resources companies,

Rio Tinto faces severe competition to attract and retain skilled personnel for its growing operations in remote locations where limited social infrastructure and a competitive labour market exists, in particular in Australia. Clear policies and guidelines on recruitment are in place and some progress has been made at the majority of operations. However, sustainable employment remains a significant challenge and business risk, requiring the additional focus and allocation of resources.

### Securing access to new resources

Rio Tinto seeks to maintain high standards over land stewardship and has implemented management controls across its operations. During our site visits ERM found four operations in Australia where the level of identification and protection of indigenous archaeological artefacts could have been improved, and unauthorised land clearing highlighted deficiencies in management controls. While the incidents had been notified to corporate, these deficiencies represent a potential business risk to Rio Tinto as continued good performance at local level is crucial to securing access to new and existing mineral rights.

### Improving safety

We saw a growing focus towards employee ownership of safety management as a means of enhancing safety culture, at corporate, business unit and operation level.

### Protecting human rights

Translating human rights policy into practice is a continually evolving process throughout Rio Tinto and the group has placed further emphasis on it during 2006. Written security procedures have been established in line with Rio Tinto's human rights policy at most sites, but at seven operations visited by ERM in both developed and developing countries we found these required updating or completing.

### Enhancing environmental performance

All businesses and operations visited by ERM have established environmental management and reporting processes, some of which require strengthening. More consistent focus on understanding root causes of incidents is now needed to achieve further performance improvements.

### Sustainable development

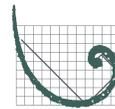
Rio Tinto has stated that sustainable development will be a key differentiator for future success and has reinforced direction through its new Sustainable Development Leadership Panel. Several operations visited by ERM have made good progress in applying Rio Tinto's policy on sustainable development.

However, in many cases, formal strategies and programmes in line with corporate policy are at an early stage of development and implementation. This remains a key area of focus in Rio Tinto's pursuit of its stated goal to differentiate its business through excellence in sustainable development.

## Overall recommendations

ERM recommends that Rio Tinto:

- Provides additional support to operations in remote locations to drive through practical solutions to address the recruitment and employment challenges faced;
- Ensures that all operations have up to date controls around security and human rights;
- Provides more practical support to operations to enable them to implement sustainable development at ground level; and
- Continues to review the relevance, clarity and applicability of its internal social and environmental control procedures to ensure they provide an on going, effective internal assurance mechanism.



**ERM**

**Environmental Resources Management Limited**

February 2007

Rio Tinto management has prepared this *Review* and is responsible for the collection and presentation of the information in it. ERM's responsibility is to express our opinion on the content of the *Review* based on the scope agreed with Rio Tinto.

ERM is an independent, global environmental, social and corporate responsibility consultancy with experience in the design, development and assurance of sustainability reporting and performance in a wide range of industry sectors.

During 2006/7 we have worked with Rio Tinto on other consulting engagements. However, we operate strict conflict checks to ensure that the independence of individuals involved in our assurance activities is not compromised.

# Feedback

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## Sustainable development review

Through this *Review* and our more detailed web based *Review* at [www.riotinto.com](http://www.riotinto.com), our aim is to provide a comprehensive account of our social and environmental policies, programmes and results. We would appreciate your help in assessing whether we have accomplished this. Your comments will help to shape the content of future reviews. Contact us with comments or questions on any aspect of our performance.

Please contact us with feedback by writing to:

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or

**Elaine Dorward-King** global practice leader – Health, Safety & Environment

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For convenience only, the expression “Rio Tinto” is used to describe Rio Tinto plc, Rio Tinto Limited and their subsidiary and affiliated companies even though these companies are independently managed, separate and distinct entities.

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Cover image: Mineralised rock formation at Corumbá iron ore mine, western Brazil.

Image on page 25: © James Bareham Photography

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