

Strategy and  
Sustainable  
Development

**South Africa** | Heritage  
Day celebrations near  
Xstrata Alloys'  
Rustenburg operations



## Strategy and Sustainable Development

Our Mission sets out the overall strategic direction for Xstrata, to grow and manage metals and mining businesses in order to deliver industry-leading returns to our shareholders. It emphasises the importance of partnership with our stakeholders and of the core tenets of integrity, co-operation, transparency and mutual value creation which form the basis for the culture we foster throughout the Group.

For Xstrata, sustainable development is about planning and carrying out our activities in a manner that contributes to the long-term success of our business. Robust governance and the integration of sustainable development into our strategy, business planning, risk management and day-to-day operations allows us to minimise risks and costs but, even more importantly, enables us to identify and seize opportunities to create value.

Our operations produce metals and energy products that are essential for social and economic prosperity. However, mining reserves and resources are, by their nature, unsustainable and must be replaced, through acquisition or the development of new resources. The challenges inherent in mining businesses include impacts on the environment from open cast or underground mining, air emissions and energy use from metallurgical operations, impacts on communities in surrounding areas including social disruption from an influx of people, health and safety risks in the workplace and surrounding communities and the ethical issues and conflict that can accompany economic development.

But mining operations also have a unique opportunity to contribute to sustainable development and act as a catalyst for positive change. Often based in some of the most remote and impoverished regions of the world, responsible mining practices, together with sound governance of mineral endowments by host country governments, can create lasting social and economic benefits, foster regional investment from government and other industries and contribute towards infrastructure development in these regions, all of which outlast the long-term but finite lives of our operations.

Since Xstrata's inception in 2002, we have worked to integrate sustainable development considerations into our strategy, business plans, operational management and day-to-day activities. The Group's rapid growth through acquisition, together with our highly devolved management model, led us to implement a Sustainable Development Framework of policies, standards and guidance in 2004 that has assisted existing and acquired operations to understand and embed our principles and expectations and provides a tool to drive rapid improvement, education and innovation across our business. In 2007, our Sustainable Development Framework was reviewed and revised in a number of key areas using internal and external feedback (see page 23). The revised framework reflects society's evolving expectations of business and has been structured to continue to emphasise ownership and responsibility at every level of the organisation, while encompassing our broader range of risks and opportunities as one of the world's largest diversified mining groups with an extensive portfolio of organic growth options, and operations and projects in 18 countries.

### The business case

The risks and costs inherent in poor environmental management, failing to provide sustainable benefits to host communities and countries and detrimental health or safety standards and performance are clear and threaten our ability to continue to operate. However, our approach to sustainable development recognises that, to achieve our Mission and deliver industry-leading returns to our shareholders over the long term, we must go beyond legal compliance and the minimisation of risk and cost. We believe that operating to leading standards of health, safety and environmental management, contributing to the development of sustainable communities and engaging with our stakeholders in two-way, open dialogue, regardless of our location, offers us a source of real competitive advantage.

Our aim is to lead our industry in our contribution to sustainable development. We want to be recognised as the best company in our sector in delivering value to our shareholders, contributing to the sustainable development of communities associated with our operations, operating safely, contributing to the well-being of our workforce and local communities and preserving the long-term health and viability of the environment in which we operate. If we achieve this aim, we will:

- Gain preferential access to new resources, whether through acquisitions, exploration or project development;
- Attract and retain the best people in our industry;
- Attract a broader range of investors, lowering our cost of capital and diversifying our sources of funding;
- Identify and act upon business opportunities;
- Be a partner of choice for suppliers, customers, business partners, governmental and non-governmental organisations;
- Optimise our management of risk;
- Enhance and maintain our operational excellence;
- Achieve sustainable reductions in operating costs;
- Enhance our corporate reputation;
- Improve our awareness of forthcoming legislative requirements and societal expectations, enhancing long-term strategy and business planning; and
- Maintain our licence to operate from communities, governments and society.

## Key challenges

Through internal review and from feedback from our stakeholders we have identified and prioritised the following key challenges that may impact on our ability to successfully execute our strategy now or in the future and that reflect the environments that we work in and the nature of our operations. For each prioritised challenge, targets are set to reduce its impact on our business. Our performance against these targets in 2007 is shown in the Scorecard on pages 4 to 7. Future targets are set to drive further improvements and address areas of underperformance in 2008 and over longer timeframes and are set out on pages 8 and 9.

### Fatality prevention

Eliminating fatalities and demonstrating significant reductions in injuries sustained at our operations is imperative to maintaining our licence to operate and recruiting and retaining our employees. We believe all injuries and occupational illnesses are preventable and aim to operate a fatality- and injury-free workplace.

We do this by providing visible safety leadership, identifying and managing major hazards, reporting and learning from incidents and near-misses, investing in behaviour-based safety programmes and innovative training methods, monitoring contractors, engaging with suppliers to improve safety and maintaining operational integrity.

Tragically, while total recordable injury frequency rates improved by 26% compared to the previous year, we did not attain our primary target of no fatalities and five employees and four contractors were fatally injured at Xstrata's managed operations in 2007.

In 2008, our main areas of focus are on enhancing major hazard management plans, tightening contractor management and monitoring, behaviour-based safety and investing in operational integrity.

Read about our fatality prevention programmes and safety initiatives on pages 34 to 39 or at [www.xstrata.com/sustainability/safety](http://www.xstrata.com/sustainability/safety).

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### Climate change

As a significant producer and significant consumer of energy, Xstrata seeks to contribute to the global challenge of satisfying the world's growing energy needs while reducing carbon emissions. The development of 'clean coal' technology also represents an opportunity for our business to expand coal's share of the energy mix in a carbon-constrained world.

We do this by proactively improving the energy efficiency of our operations, reducing direct emissions and investing in research and demonstration of clean coal technologies, including carbon capture and storage, to achieve deep cuts in the emissions generated from the combustion of coal as an energy source.

In 2007, the carbon intensity of our operations improved by over 20%, due in part to enhanced methane abatement at underground coal mines but also due to the inclusion of the acquired Falconbridge operations which changed the Group's intensity profile. We are on track to invest \$75 million in clean coal technology by 2010 and two major demonstration plants are under way in 2008.

In 2008 we will review our intensity targets, continue to contribute towards the demonstration of clean coal technologies, improve energy efficiency (see below) and implement the findings of an independent study into the potential physical impacts of climate change on our operations. Our current target is to reduce carbon intensity by 5% over 2005 levels by 2010.

Read more about our approach and response to climate change on pages 71 to 78 or at [www.xstrata.com/sustainability/environment/climate](http://www.xstrata.com/sustainability/environment/climate).

### Biodiversity and landscape function

We aim to preserve the long-term health, function and viability of the natural environments affected by our operations.

We do this by identifying, analysing, evaluating and eliminating all significant potential and actual impacts of our activities and operations on the environment, biodiversity and landscape functions.

During 2007, biodiversity conservation plans were implemented at all of our operations and we are on track to implement plans at all acquired operations within 24 months of acquisition. The plans establish the existing conditions of biodiversity and landscape function, identify the potential impacts of our proposed activities and identify opportunities for prevention, mitigation, improvement or compensation (e.g. offset areas). Biodiversity conservation offset areas have been established at a number of Australian sites and will be implemented at McArthur River Mine in 2008.

**Dean Roberts, Shift Supervisor, conducts a safety briefing at Xstrata Alloys' Thorncliffe mine in South Africa**

**Environment and Community Superintendent, Sam Tarlinton talking to a colleague at Xstrata Coal's Rolleston operation in Queensland, Australia**



In 2008 we have set a target of preventing the loss of IUCN red list or endangered species from the sites of any of our managed operations and all other sites in biodiversity-rich areas will investigate implementing biodiversity offsets.

Read more about biodiversity conservation on pages 85 to 88 or at [www.xstrata.com/sustainability/environment/biodiversity](http://www.xstrata.com/sustainability/environment/biodiversity).

## Energy

Access to a secure supply of electrical energy at a reasonable cost is a critical consideration for the continued operation and future growth plans of Xstrata's operations. Energy supply is subject to constraints in some regions and the cost of energy is, in general, rising.

To address this challenge, Xstrata is improving energy efficiency through a range of initiatives, identifying alternative energy supplies and developing energy efficiency technologies, such as Xstrata Alloys' proprietary Premus technology which reduces the energy consumption of ferrochrome smelting by over 20% compared to conventional processes.

In 2007 the energy intensity of our operations increased by 2% over 2006, primarily due to the inclusion of the energy-intensive Falcondo and Nikkelverk operations and the restart of a number of ferrochrome furnaces, offset by energy efficiencies at our coal and copper operations. Our target is to reduce energy intensity by 3% over 2007 levels by 2012.

Read more about our approach to energy efficiency on pages 80 and 81 or at [www.xstrata.com/sustainability/environment/energy](http://www.xstrata.com/sustainability/environment/energy).

## HIV and AIDS

HIV and AIDS continue to present the most significant workplace and community health challenge for the Group's workforce and communities, particularly in South Africa.

To address this, Xstrata has introduced comprehensive workplace programmes, supported by a number of innovative community partnerships. In 2007, Xstrata Coal South Africa set new benchmarks in continuous testing, counselling and treatment programmes with over 95% of its employees voluntarily testing for HIV and AIDS and 54% of HIV-positive employees enrolled in treatment programmes. Xstrata Alloys has implemented a similar workplace programme with strong participation rates of around 68%. A first of its kind public-private partnership between Xstrata and the Mpumalanga provincial health authorities was signed in March 2007 and is assisting regional government to substantially extend access to voluntary HIV and AIDS testing, counselling and treatment.

In 2008 our focus will be on encouraging HIV-positive employees to enter free treatment and care programmes and to continue the progress made at Xstrata Alloys operations in its workplace wellness programme. We will also examine the possibility of extending our successful public-private partnership to other provinces in South Africa.

Read more about our approach to HIV and AIDS in the workplace and in the community on pages 43 to 47 and at [www.xstrata.com/sustainability/hiv-aids](http://www.xstrata.com/sustainability/hiv-aids).

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### Skills shortage

The mining industry is currently facing a global shortage of skilled employees across a range of disciplines. The ability to attract, retain or train people with the appropriate skills is critical to Xstrata's continued success and ability to grow and operate effectively. In addition, Xstrata's lean management structure places reliance on a number of key people both at the executive and operational level, requiring appropriate retention measures and succession planning.

To address this challenge, we offer industry-leading career development opportunities, well structured employment contracts, competitive remuneration and fair and non-discriminatory workplaces. We believe our devolved management structure and supportive environment for rational risk-taking are important retention measures.

In 2007 we extended our extensive education, training, apprenticeship and bursary schemes, launched a new online careers website and increased the proportion of local people and women in management positions. Employee turnover rose to 7.4% from 5.2% in 2006, driven by higher turnover in regions with strong competition for skills. In 2008 we are targeting further improvements in recruitment and retention through expanding employee engagement surveys and improving the diversity of our workforce.

Read more about our approach to employee training, recruitment and retention on pages 47 to 50 and at [www.xstrata.com/sustainability/employees](http://www.xstrata.com/sustainability/employees).

### Sustainable communities

We aim to contribute to the social and economic development of sustainable communities associated with our operations to avoid dependency and maintain broad-based, ongoing community support throughout the life cycle of our operations. Community support for our operations enhances the security of our assets and is essential for our licence to operate.

Every managed operation develops an annual social involvement plan in close co-operation with communities and other relevant stakeholders, including government, NGOs and unions. We set aside a minimum of 1% of Group profit before tax to invest in community initiatives that deliver long-term benefits, with the ultimate aim of leaving behind stronger, sustainable communities once operations cease. We maintain and annually review closure plans at all operations including social considerations and planning.

In 2007, Xstrata's businesses contributed \$102 million for corporate social involvement, equating to 1.2% of Group profit before tax, ahead of our target. Xstrata's financial support for community initiatives is augmented through in-kind donations and employee volunteering. In 2008 our businesses are targeting a number of initiatives to refine and enhance corporate social involvement plans in consultation with communities, including focusing on improving the key performance indicators we use to measure progress towards mutually agreed objectives.

Read more about our approach to sustainable communities on pages 60 to 66 and at [www.xstrata.com/sustainability/community](http://www.xstrata.com/sustainability/community).

### Water

We operate in a number of water scarce areas including Australia, some areas of South Africa and the Andean region in South America. Access to water is essential for the continuation and expansionary plans of our operations. Fresh water supply may be restricted and limits imposed, particularly in arid regions with a significant number of domestic and industrial users.

Every operation is required to implement a water management plan to minimise fresh water use and maximise recycling. Initiatives to share water between water scarce operations and those in neighbouring regions with excess water have helped to reduce fresh water consumption at a number of sites in Australia. Water is recycled and used within our operations, for example as process water and for dust suppression.

In 2007, fresh water intensity per tonne of product increased by 8% due to higher water use at the acquired nickel operations. Use of recycled water increased almost fourfold, primarily due to reuse of process water at Falcondo's power plant. Water management studies have identified a number of further initiatives that will be assessed and implemented in 2008.

Read more about our approach to water conservation on pages 82 to 85 or at [www.xstrata.com/sustainability/environment/water](http://www.xstrata.com/sustainability/environment/water).

## Air emissions

Xstrata's principal air emission is sulphur dioxide (SO<sub>2</sub>) from our metallurgical smelting operations. Sulphur dioxide emissions contribute to acid rain and poor air quality in neighbouring communities. We aim to reduce harmful emissions to air, water and land and to operate to leading standards of environmental management.

The Smelter Emissions Project was launched at Mount Isa in 2007 and has identified a number of smaller and major investments required to reduce emissions and improve capture at both the copper and lead smelters. Other initiatives are under way at the Sudbury Smelter, Altonorte and the Horne Smelter to reduce SO<sub>2</sub> emissions progressively.

All smelters with significant sulphur dioxide emissions have committed to progressive targets to increase capture of SO<sub>2</sub> and reduce emissions over the medium term. The successful realisation of these targets will ensure our smelting facilities attain industry-leading levels of SO<sub>2</sub> capture and abatement.

Read more about our approach to air emissions on pages 90 and 91 or at [www.xstrata.com/sustainability/environment/air](http://www.xstrata.com/sustainability/environment/air).

## Opportunities

Opportunities identified to create value for shareholders and make a positive contribution to sustainable development include:

- Continued improvement of energy and resource efficiency at our operations to optimise the use of resources in providing society's basic materials;
- The demonstration and successful implementation of clean coal technologies, including carbon capture and storage, to significantly reduce carbon emissions from the use of coal and increase coal's share of global energy demand;
- Generating additional revenues, prolonging the life cycle of metals and contributing to resource conservation and waste minimisation by maximising recycling opportunities through Xstrata's dedicated recycling facilities and at our operations;
- The development of technologies to increase the efficiency of metals and mining operations, either to generate revenues from third parties from Xstrata Technology Services or to provide a competitive advantage to our own commodity businesses by improving the efficiency of our operations in relation to our peers;
- Identifying market opportunities for our products or by-products arising from advances or trends in sustainable development, for example the potential market for vanadium to be used in redox batteries for wind turbines, the increased use of copper to improve electric efficiency, the use of platinum in catalytic converters etc.
- Positively influencing the sustainability performance of the mining industry as a whole through our active participation in forums such as ICMM, MCA, MAC and industry associations;
- Demonstrating the potential socio-economic benefits of mining through corporate social investment and public-private partnerships, enhancing access to resources; and
- Contributing to the acquisition of skills and improving education to benefit our future and current workforce through workplace and community training and development programmes.