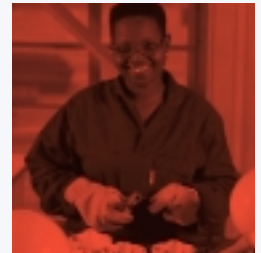
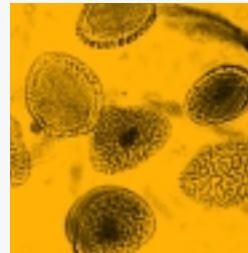


# Resourcing our future

## Anglo American plc Safety, Health and Environment Report 2001



# Policy on Safety, Health and the Environment

“The aim of this Group is, and will remain, to make profits for our shareholders, but to do it in such a way as to make a real and lasting contribution to the communities in which we operate.”

Anglo American founder, Sir Ernest Oppenheimer

## Vision

- It is our objective to provide superior returns for our shareholders in a socially and environmentally responsible manner.
- Anglo American, our divisions and companies, will uphold the values of good corporate citizenship and seek to contribute to wider economic, social and environmental well-being in all the countries where we do business.
- In the spirit of Sir Ernest Oppenheimer's statement, we are committed to the principles of sustainable development which we take to mean ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’<sup>1</sup> – because we believe it is fundamental to our long-term success. We recognise that the full implications of sustainable development are still being explored by society and we will be part of that process by pursuing practical ways of realising the concept.
- This policy addresses the core challenges of safety, health and the environment that we face as a global business.

<sup>1</sup> ‘Our Common Future’, Brundtland Report 1987

## Aims

In order to give practical expression to our vision and to measure our progress, we have the following aims:

### Safety and Health

- Prevent or minimise work-related injuries and health impairment of employees and contractors.
- Contribute to addressing priority community health issues.

### Environment


- Conserve environmental resources.
- Prevent or minimise adverse impacts arising from our operations.
- Demonstrate active stewardship of land and biodiversity.
- Promote good relationships with, and enhance capacities of, the local communities of which we are a part.
- Respect people's culture and heritage.

## Management principles

All our divisions and companies are required to adhere to the following principles in a systematic and comprehensive fashion, and actively encourage implementation by business partners:

- 1. Commitment:** Hold senior executives and line management within each division and company accountable for safety, occupational health and environmental issues. Allocate adequate financial and human resources to ensure that these issues are dealt with in a manner that reflects their high corporate priority.
- 2. Competence:** Ensure workforce competence and responsibility at all levels through selection, retention, education, training and awareness in all aspects of safety, health and the environment.
- 3. Risk assessment:** Identify, assess and prioritise the hazards and risks associated with all our activities.
- 4. Prevention and control:** Prevent, minimise or control priority risks through planning, design, investment, management and workplace procedures. Prepare and periodically test emergency response plans. Where accidents or incidents do occur, take prompt corrective action, investigate root causes and take remedial action. Actively seek to prevent recurrences and disseminate experiences learned.
- 5. Performance:** Set appropriate goals, objectives, targets and performance indicators for all our operations. Meet all applicable laws and regulations as a minimum and, where appropriate, apply international best practice.
- 6. Evaluation:** Monitor, review and confirm the effectiveness of management and workplace performance against divisional and company standards, objectives, targets and applicable legal requirements. Key to this process is a system of appropriate audits and progress reports to divisional management coupled with regular reports to the board of directors.
- 7. Stakeholder engagement:** Promote and maintain open and constructive dialogue and good working relationships with employees, local communities, regulatory agencies, business organisations and other affected and interested parties, to increase knowledge and enhance mutual understanding in matters of common concern. Report on progress towards the achievement of our aims.
- 8. Continual improvement:** Foster creativity and innovation in the management and performance of our businesses, and our approach to solving the challenges facing our enterprises. Support research and development into safety, health and environmental issues, and promote the implementation of international best practices and technologies where appropriate.

This policy will be reviewed regularly to reflect our commitment to, and growing understanding of, the principles of sustainable development.



Tony Trahar  
Chief Executive Officer  
April 2002

# Contents

Policy on Safety, Health and the Environment	Inside front cover
Scope of this report	01
The year at a glance	02
Statement from the Chief Executive Officer	04
Our Safety, Health and Environment targets	06
Map of managed operations	08
Safety	10
Community and occupational health	14
Environment	18
Our local communities, culture and heritage	33
Corporate social investment	36
Certification and audit programmes	39
Independent review report	41
Glossary	42
Environmental data for managed companies	44
Good Citizenship – Our Business Principles	Inside back cover

## Scope of this report

Anglo American plc, with its subsidiaries, joint ventures and associates, is a global leader in the mining and natural resource sectors. It has significant and focused interests in gold, platinum, diamonds, coal, base and ferrous metals, industrial minerals and forest products, as well as financial and technical strengths. The Group is geographically diverse, with operations in Africa, Europe, North and South America and Australasia. We do not cover in this report independently managed companies including our subsidiary, AngloGold, and our associate, De Beers, both of which publish their own Safety, Health and Environment (SHE) reports.

This report, for calendar year 2001, covers all operations and exploration activities managed by Anglo American. A map of our managed mining and natural resource interests is on pages 8 and 9, and a full list of operations on which we are reporting is in the data tables on pages 44 to 47. These operations employ 122,000 people.

The scope of our report has been expanded by the inclusion, in 2001, of Anglo Coal Australia, Boart Longyear (for safety only, in this report), Konkola Copper Mines, Mondi Europe (following acquisition of management control), Steetley Iberia, Tarmac France and Tarmac Middle East. This has resulted in the refinement of some of our key performance indicators. We are also continually refining and improving the accuracy of the information and definitions of the data we record and these are reflected in changes, year on year, for some performance data.

These changes affect the graphic presentation of data for safety performance, energy consumption, carbon dioxide emissions and water usage. Explanations of the changes are contained in the text. The tables at the back of this report give environmental and production data for individual operations, thereby allowing both a comparison of performance over time at the operational level and the normalisation of environmental parameters. This year's data are more comprehensive and robust and give a more accurate reflection of our environmental performance.

In January 2002, the Group announced its intention not to invest further in Konkola Copper Mines, and discussions are now under way with the government of Zambia, other shareholders and the World Bank about the future of these operations.

Throughout this report, values are expressed in US dollars using the currency sign \$.

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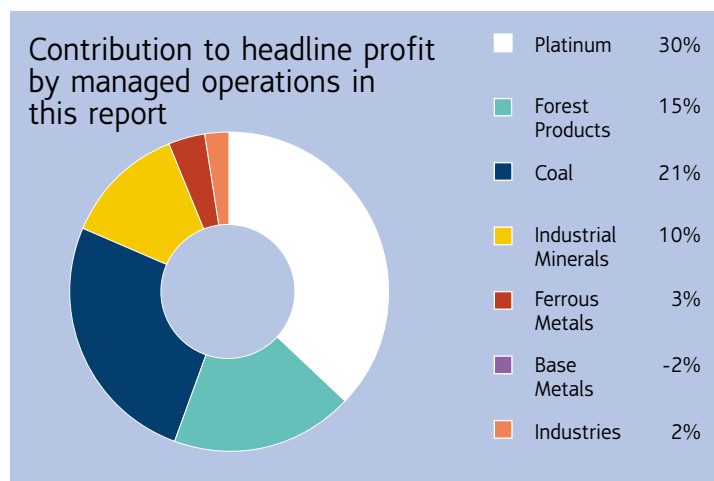
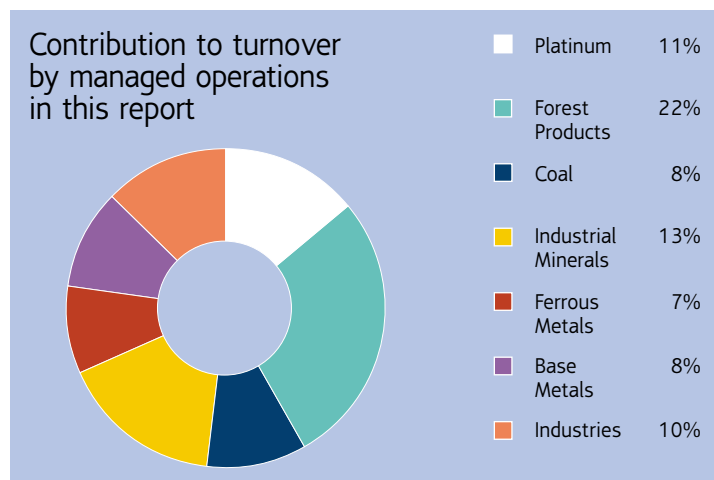
# The year at a glance

## Economic indicators

### Financial highlights<sup>‡</sup>

- Total Group turnover decreased by 6% to \$19,282 million.
- Headline profit decreased by 12% to \$1,770 million.
- Capital expenditure amounted to \$1,787 million.
- \$637 million was paid in taxes.
- \$101 million was spent on exploration.

<sup>‡</sup>These financial data are derived from the audited Anglo American plc Annual Report and Accounts for the year ended 31 December 2001, and are aggregated from Anglo American plc subsidiaries (together with joint ventures and other interests) using the accounting and consolidation principles of Anglo American plc. SHE data are reported on the basis of managed operations. For more information on our financial data refer to our website <http://www.angloamerican.co.uk> or to the 2001 Annual Report.



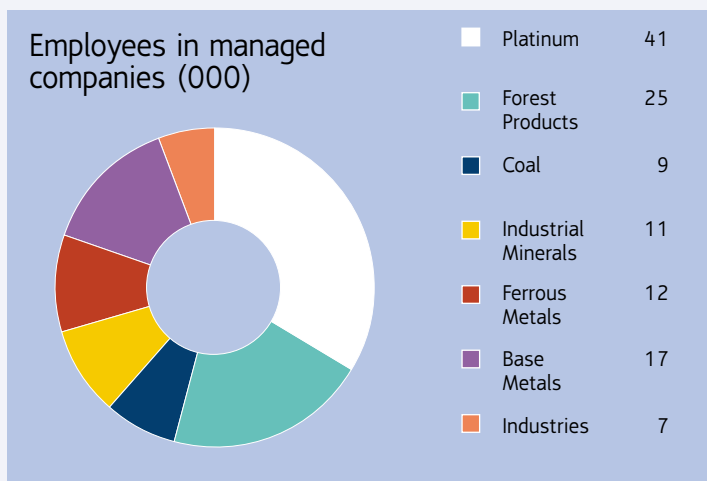
## Social indicators

### Safety

- The fatal injury frequency rate (FIFR) declined by 6% to 0.033, and we report with regret that 54 out of a total of 122,000 employees, and 16 of our contractors, died in fatal accidents at our managed operations.
- Falls of ground, at 50%, remain the main cause of fatal injuries, with transport and moving machinery accidents significant contributors, at 14% each.
- The lost-time injury frequency rate (LTIFR) of 1.50 for 2001 showed a 34% improvement from 2.26 the previous year. The 2000 LTIFR was restated following a major adjustment to the recording of lost-time injuries by Anglo Platinum, from a basis of four days or more of lost time per injury (as required at the time by the South African Department of Minerals and Energy), to the current Anglo American standard of one day of lost time.

### Community and occupational health

- Our priority community health risk remains the HIV/AIDS pandemic in sub-Saharan Africa. We focus on keeping uninfected employees well through awareness campaigns. Voluntary counselling and testing for HIV is linked to wellness programmes for those infected with the virus.
- The 'roll back malaria' campaign at Konkola Copper Mines in Zambia resulted in a 52% reduction in the number of malaria cases and a substantial decrease (from 15 to 8) in the number of deaths of KCM employees and their dependants.
- Our main occupational health challenges continue to be exposure to noise and dust.



## Environmental baseline statistics

As forecast last year, 2001 was a year for consolidation of baseline environmental statistics. Our next report will contain indicators that allow performance to be compared year-on-year.

### Water consumption

- Primary activities at all reporting operations used 406 million m<sup>3</sup> of water.
- Water used for primary activities at mining and smelting operations amounted to 150 million m<sup>3</sup> for a total of 93 million tonnes of coal mined, 185 million tonnes of ore and waste rock mined and 65 million tonnes of ore milled/processed.
- Forest Products operations used 172 million m<sup>3</sup> of water.
- Industrial Minerals used 82 million m<sup>3</sup> of water (this figure includes recirculated water).
- Other sites, including head and regional offices, used 2 million m<sup>3</sup> of water.

### Energy, CO<sub>2</sub> emissions and sequestration

- Total energy used amounted to 202 million Gigajoules (GJ).
- Net CO<sub>2</sub> emissions after forestry sequestration totalled 12.55 million tonnes from processes and fossil fuels consumed, of which 7 million tonnes were from our mining and smelting operations.
- Approximately 770,000 tonnes of CO<sub>2</sub> were sequestered by our forestry operations.
- The electricity that we purchased contributed a further 12 million tonnes of CO<sub>2</sub> emissions.
- We emitted the equivalent of 3 million tonnes of CO<sub>2</sub> owing to fugitive methane emissions from our coal mining operations. The methane emissions equate to 34 kg of CO<sub>2</sub> per tonne of coal mined.

### Land use

- Total land used by mining and smelting operations is 53,770 ha.
- Total land managed by Forest Products division is 531,563 ha.
- Total land afforested is 310,713 ha, all with Forest Stewardship Council certification, with the exception of a new afforestation project (33,000 ha) scheduled for certification in 2002.

## Corporate governance and social initiatives

- Launch of 'Good Citizenship: Our Business Principles'. These principles address corporate governance and responsibility.
- We have a leadership role in the Global Mining Initiative ([www.globalmining.com](http://www.globalmining.com)), the Mining, Minerals and Sustainable Development project ([www.iied.org/mmsd/](http://www.iied.org/mmsd/)), Business Partners for Development and the World Bank's Extractive Industries Review, demonstrating our commitment to stakeholder dialogue and the promotion of sustainable development.
- Anglo American chief executive officer, Tony Trahar, signed the World Economic Forum joint statement in January 2002. This recommends a framework within which Anglo American and other leading companies will seek to address the corporate social responsibility and accountability agendas.
- Anglo American donated \$20.2 million to charitable causes and community projects. Priority causes for our corporate social investment were education, community development, health and environmental projects.
- Seven new black economic empowerment transactions were initiated in South Africa in 2001 at a value of some \$151 million.
- Anglo American was a winner in the policy and advocacy category of the inaugural Commonwealth Awards for Action on HIV/AIDS.

## Legal compliance and environmental incidents

- 336 incidents involving regulatory or legal authorities were reported, leading to safety-related fines amounting to \$120,135 and environmental fines totalling \$66,662.
- No Level 3 incidents were reported.

## Certification and audits

- 37% of operations (by turnover) have achieved ISO 14001 certification.

# Statement from the Chief Executive Officer

## The sustainable development challenge

2001

- First SHE report published.
- Baselines established for environmental performance and occupational health.
- Corporate verification programme launched.
- Our approach to the challenge of climate change developed.

2002

- Group-wide targets set for energy efficiency.
- Increased certification to ISO 14001.
- Participation in World Summit for Sustainable Development in Johannesburg.

2003

- Divisional management systems consistent with ISO 14001.
- Group-wide targets set for water consumption.

2004

- Increased emphasis on public reporting by divisions and operations.
- All operations certified to ISO 14001.
- Anglo American Social Report published.

Our first Safety, Health and Environment report last year contained our 'Roadmap towards Sustainable Development'. Some key themes date back to the days of Anglo American's founder, Sir Ernest Oppenheimer. These include commitment of executive time to broader social involvement, an emphasis on education and capacity building, and a belief in responding to community initiatives. This report for 2001 describes our further progress and setbacks along that road. On pages 2 and 3 we show the year at a glance in an overview of our economic, social, environmental and corporate governance performance.

The scope of our report has been expanded by the inclusion, in 2001, of Anglo Coal Australia, Boart Longyear, Konkola Copper Mines, Mondi Europe, Steetley Iberia, Tarmac France and Tarmac Middle East. Accordingly, we have refined some of our key performance parameters.

Regrettably, efforts to improve our Group's safety performance are not yet reflected in a reduction in the number of fatal accidents. During 2001, 54 of our employees and 16 contractors lost their lives at our managed operations. While this represents a 6% decline in the fatal injury frequency rate, it remains entirely unacceptable. As part of our safety programme, we have sought international expertise to assist us to achieve our goal of zero fatalities.

Our Board and the SHE committee members are committed to ensuring good corporate risk management and to improving on our current performance as we strive to reflect international best practice in all our businesses. We are submitting our actions to closer scrutiny and creating an environment in which transparency and regular reporting meet the expectations of our stakeholders. We are ensuring that the right structures are in place to meet these challenges.

Our business units are showing considerable improvement in the implementation of our SHE policy and increasing rigour is being applied to the measurement and reporting of our SHE data.

We have appointed a Group manager for sustainable development and established a sustainable development committee. During the year, senior managers from our operations worldwide attended our Group sustainable development conference.

In April 2002, we launched 'Good Citizenship: Our Business Principles' (see inside back cover). Together with our safety, health and environment policy, which will be reviewed after the Global Mining Initiative conference in Toronto, these principles define the way in which we do business. The 'Good Citizenship' principles define our standards of ethics, our responsibilities to our stakeholders, and identify our role as a corporate citizen. As we move towards reporting on corporate social responsibility and the development of indicators that will help to guide and evaluate our performance, this report includes highlights of some of our work in this area.

We are actively engaged in the international debate on sustainable development through our leadership role in the Global Mining Initiative, the independent Mining Minerals and Sustainable Development (MMSD) research project, the World Bank's Extractive Industries Review, national initiatives and our own operational, divisional and Group level deliberations. The MMSD project is a unique demonstration of the mining industry's commitment to finding a better way of doing business. Through a process of genuine engagement with key stakeholders and partners, including non-government organisations, intergovernmental agencies, donors, communities and employees, we join other mining companies in seeking to identify and pursue solutions to the key challenges that lie ahead. These processes all feed in to the preparations for the United Nations World Summit on Sustainable Development, to be held in Johannesburg in August 2002, which will provide important momentum on the road to sustainable development.

Our operations are actively involved in safety and health programmes, measures to protect and rehabilitate the biophysical environment, community and corporate social investment initiatives and small business development programmes.

2005

- Increasing integration of financial, social and environmental reporting.

Sustainable development principles are increasingly forming part of strategic planning and business decisions at Group level, and within divisions and operations.

Socially  
beneficial

Economically  
viable

Environmentally  
responsible

However, there is much more that we still need to explore and there is a great need to share lessons and information. HIV/AIDS is the greatest health challenge confronting communities in many of the countries where we operate and Anglo American is involved in national and international efforts to turn the tide of this disease. Through our membership of the Global Business Council on HIV/AIDS, we hope to contribute to a significantly scaled-up business response to the global AIDS pandemic. In addition to our HIV/AIDS initiatives at our own operations, we are working closely in South Africa with the Nelson Mandela Foundation to mobilise all sectors of society to tackle HIV/AIDS. We are proud to be one of only three private sector companies recognised by the Para 55 Group (refer [www.para55.org](http://www.para55.org)), the Commonwealth Foundation, Commonwealth Secretariat and Commonwealth Business Council for exemplary work in combating HIV/AIDS. As nearly 60% of HIV positive people live in the Commonwealth and half of all AIDS deaths have been in Commonwealth member countries, HIV/AIDS is recognised as a Commonwealth emergency. In October, Anglo American was a winner in the policy and advocacy category of the inaugural Commonwealth Awards for Action on HIV/AIDS.

At our sustainable development conference we identified three other important aspects where we intend to define our contribution more clearly, namely climate change, biodiversity and community engagement.

We have developed a climate change policy for our Group. This commits us to explore the opportunities for the use of the market-based emissions reduction mechanisms proposed in the Kyoto Protocol, and we will continue to search for ways to improve energy efficiency.

A responsible approach is needed by mining companies to combat potential threats to biodiversity. We recognise the need to monitor, manage and reduce negative impacts that our operations may have on local biodiversity and to encourage new initiatives that support

biodiversity. Guidelines for this purpose are being formulated with our operating companies.

We seek to engage the communities in which we operate to ensure that they benefit in a sustainable manner from our presence. The delivery of such benefit is the best guarantee of a continued licence to operate. We are developing practical community engagement guidelines to integrate the process into our daily business practices.

In January 2002, Anglo American was one of the founding signatories of a statement, sponsored by the World Economic Forum and the International Business Leaders Forum, on Global Corporate Citizenship. It sets out a framework within which we and other leading companies will seek to address the corporate social responsibility and accountability agendas.

Sustainable business performance goes hand in hand with environmentally and socially responsible behaviour. By implementing a risk-based approach to management of our business we are planning to deliver sustainable value to our stakeholders.

Tony Trahar  
22 April 2002



# Our Safety, Health and Environment targets

## What we said

## How we did

## Targets for 2002+

### Safety

- Our ultimate aim is zero fatalities and lost-time injuries, and as a first step we aim at a 33% reduction in LTIFR in 2001, with a continuing reduction in the total number of injuries in subsequent years.
- Implementation of safety audit programmes by third parties in all business sectors by the end of 2001.

- We achieved a 34% reduction in LTIFR to 1.50 from 2.26 (restated) in 2000.
- The fatal injury frequency rate declined by 6% to 0.033. Regrettably, 54 employees and 16 contractors lost their lives at our managed operations.
- Internal and external audits are becoming progressively more formalised at all operations.
- Third party audit programmes have been initiated in all divisions. In the case of Industrial Minerals, a rigorous regulatory regime with frequent inspections is complemented by an extensive internal audit programme.

- Zero fatalities.
- A further 33% reduction in LTIFR to <1 in 2002, with a continuing reduction in subsequent years.
- While further improving safety management systems, increase the focus on behaviour and the management of unsafe acts during 2002.

### Occupational health

- By 2001, all employees and contractors to participate in a medical surveillance programme appropriate to the occupational health risks to which they are exposed.
- All business sectors to assess formally their occupational health management systems against corporate guidelines and report progress in 2002.

- Medical surveillance programmes are in place within each division, but there is a need to improve the scope of these to cover all contractors and employees.
- A team of health specialists was appointed to develop a comprehensive occupational health management standard in line with international good practice.
- All business sectors carried out a self-assessment survey by means of a corporate management systems questionnaire.

- Complete the occupational health management standard project in 2002.
- Implement the Group occupational health management standard during 2003.

### Community health

- Enhance our HIV/AIDS prevention programmes to satisfy the elements of a comprehensive HIV/AIDS Response Plan, with particular attention to sub-Saharan operations.
- Implement voluntary HIV/AIDS counselling and testing programmes at all operations.
- Implement programmes of care for employees infected with or affected by HIV/AIDS.
- Continue our involvement in international programmes for malaria eradication.

- Voluntary HIV/AIDS counselling and testing programmes introduced.
- Wellness programmes for HIV-positive employees are being implemented.
- We participate in the Global Business Council on HIV/AIDS.
- We received a Commonwealth Award in recognition of our HIV/AIDS initiatives.
- There has been a 52% reduction year-on-year in the number of malaria cases at Konkola Copper Mines in Zambia.

- Extend the wellness programmes and voluntary HIV/AIDS counselling and testing at all operations.

### Water consumption

- Each business sector to establish a water consumption baseline during 2001.
- Business sectors to establish verifiable statistics in 2002.
- Business sectors to set targets in 2003 to improve the efficiency of water consumption.

- All business sectors established initial water consumption baselines.

- All operations to improve the verifiability of baseline data in 2002.
- Where appropriate, business sectors to set targets in 2003 to improve the efficiency of water consumption.

### Energy and CO<sub>2</sub> emissions

- All business units to set energy efficiency targets by 2002.
- Across the Group, use the IPCC guidelines to establish a baseline for greenhouse gas emissions and energy use in 2001.
- Establish a Group policy in 2002 for a response to the challenges of global climate change, with a view to setting Group strategy and divisional plans in 2003.

- An initial baseline for energy use has been established and verification is under way.
- WBCSD guidelines replaced IPCC guidelines to establish a baseline for greenhouse gas emissions.
- Internal audits of CO<sub>2</sub> emissions conducted at two of our largest emitters representing 32% of the reported 2001 emissions.
- CO<sub>2</sub> emissions for electricity purchased and preliminary fugitive methane emissions from coal mining reported for the first time.
- Climate change policy developed.

- Implement the Group climate change policy and strive to reduce greenhouse gas emission intensity.
- Set energy efficiency targets in 2002.
- Improve quality of data in 2002.
- Measure methane emissions at South African collieries in 2002.
- Continue to develop our greenhouse gas inventory.
- In 2003, develop Group strategy for our operations to address the challenges of climate change.

### Land use

- Business sectors to ensure in 2001 that fully-costed rehabilitation and closure plans are in place, with adequate financial provision.

- Rehabilitation and closure plans are in place for our mining and quarrying divisions.

- Review closure plans in 2002.

## What we said

## How we did

## Targets for 2002+

### Biodiversity

- Achieve further progress in the establishment of corporate guidelines for biodiversity stewardship and action plans during 2001.

- Draft biodiversity strategy and corporate guidelines developed.

- Refine biodiversity strategy and develop operational action plan in 2002.

### Legal compliance and environmental incidents

- Improve reporting systems during 2001 to support verifiable incident statistics.
- Business units to implement, review and rehearse emergency response plans in 2001.

- Some improvement in the reporting of incidents.
- Emergency response plans were rehearsed at the majority of operations.

- Further improve reporting systems and verification of incident statistics in 2002.

### Certification and audits

- All operations to have environmental management systems consistent with ISO 14001 implemented by 2003.
- For those sites that are not ISO 14001 certificated, implement a corporate verification programme during 2001.

- 37% of operations (by turnover) achieved ISO 14001 certification.
- Standard procedure for verifying implementation of the Anglo American SHE policy developed and self-assessments conducted throughout the Group.
- The number of management audits increased by 16%.

- All operations to have environmental management systems consistent with ISO 14001 implemented by the end of 2003.
- All operations to be certificated to ISO 14001 by the end of 2004.

### Management and reporting

- Appoint the appropriate number of trained and/or qualified SHE personnel at all operations by the end of 2001.
- Full implementation of the SHE Corporate Management System by 2003.
- During 2001, develop a five-year verification plan to establish the balance of internal and external sources of verification and our most important key performance indicators.
- Key business sectors and operations to move progressively towards the publication of their own SHE reports.

- SHE personnel are in place at all operations. Numbers and training requirements are under review.
- All operations participated in a self-assessment survey to determine the extent to which the eight Corporate Management System principles have been implemented. This identified areas where improvements are required.
- Development of the first step of a formal verification plan is complete.
- 5 business units have published their own SHE reports.

- Continue with the five-year verification plan to establish the balance of internal and external sources of verification and our most important key performance indicators.
- Full implementation of the SHE Corporate Management System by the end of 2003.
- Key business sectors and operations to move progressively towards the publication of their own SHE reports.

### Corporate citizenship

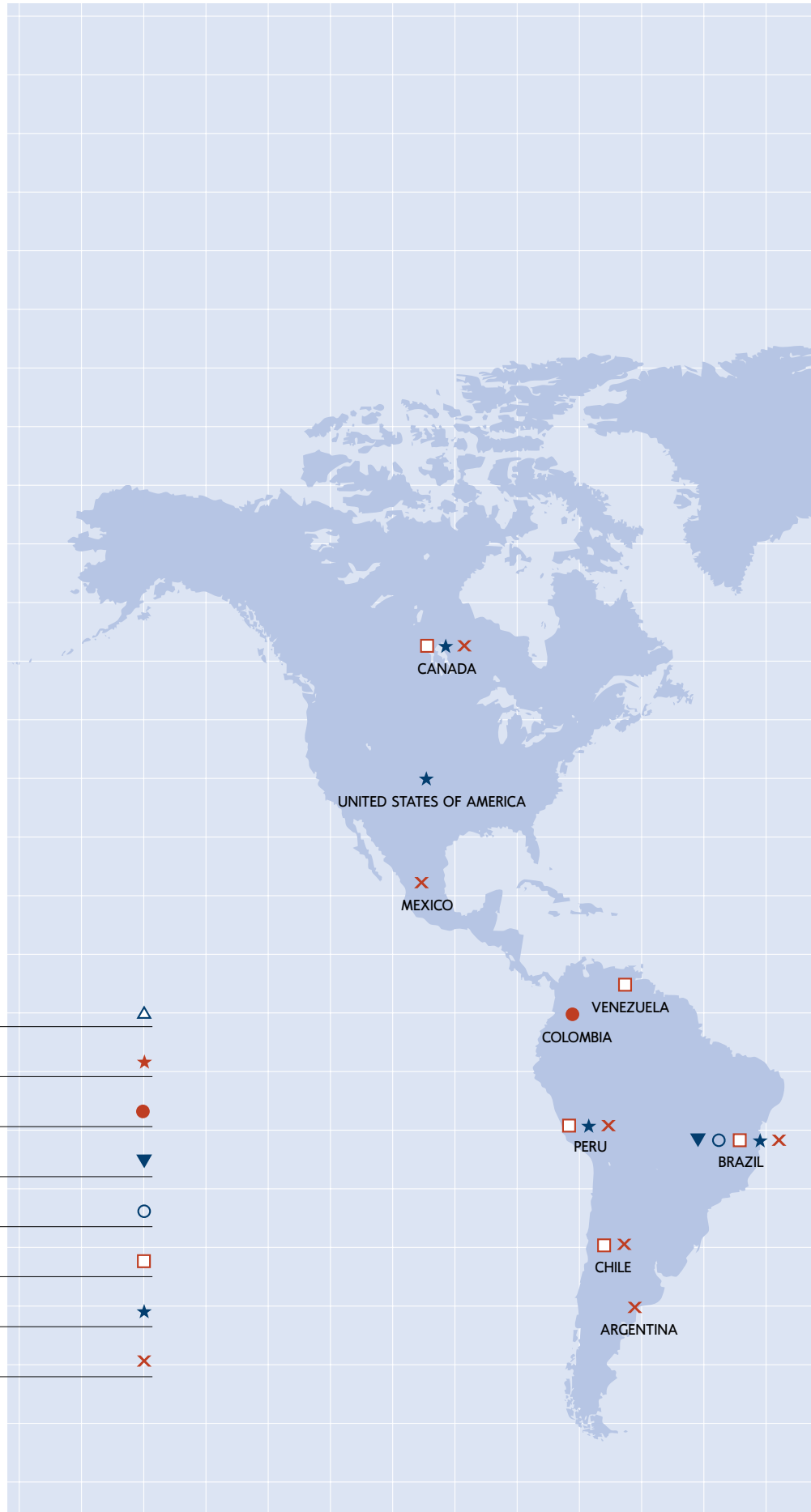
- Participation in sustainable development initiatives worldwide.
- Greater engagement with stakeholders.
- Seek to define our responsibilities to our host communities in the responsible use of resources.
- Promote the protection of local community culture and heritage.
- Recognise that our business success brings with it responsibilities for ethical behaviour.

- Leadership role in GMI, MMSD, WEF, BPD and WSSD.
- Became members of Business in the Community (UK), and the London Benchmarking Group on community social investment.
- Increased efforts to promote black economic empowerment in South Africa.
- Increased support for education and welfare projects.
- Launch of 'Good Citizenship: Our Business Principles'.

- Commitment to participate in GMI and WSSD and similar initiatives as they develop.
- Continued commitment to promote black economic empowerment in South Africa, supported by an evaluation of the effectiveness of our initiatives in this area for reporting on Corporate Social Responsibility in 2003.
- Effective roll out of 'Good Citizenship: Our Business Principles' supported by assurance and training initiatives.

# Map of managed operations

Platinum	△
Forest Products	★
Coal	●
Industrial Minerals	▼
Ferrous Metals	○
Base Metals	□
Industries	★
Exploration	×







Efforts to improve our safety performance have resulted in a 34% reduction in lost-time injuries per 200,000 hours worked.

Efforts to improve our safety performance have resulted in a 34% reduction in lost-time injuries from 2.26 per 200,000 hours worked in 2000 (restated) to 1.50 in 2001. Despite a strong emphasis on safety at all levels in the company, this is not yet reflected in a reduction in the number of fatal accidents. Although the fatal injury frequency rate declined by 6% to 0.033, we report with deep regret that 54 employees and 16 contractors lost their lives at our managed operations. We regard this situation as wholly unacceptable.

The cause of every fatal accident is carefully reviewed and followed up at executive level, and accident reports are widely disseminated to ensure that lessons are learnt. Falls of ground remain the main cause of fatal injuries (50%), with transport and moving machinery accidents (14% each) identified as significant contributors. There were 22 fatalities at Anglo Platinum operations, of which eight were due to falls of ground, and 21 fatalities at Base Metals operations. The most serious accident occurred at Konkola Copper Mines in Zambia, where the Nchanga open-pit slope failure claimed 10 lives in April 2001.

All operations have put in place specific risk assessment procedures, comprehensive safety guidelines and retraining to prevent loss of life. During 2001, it became apparent that the wide range of safety programmes and management's clear commitment to safety were reducing lost-time injuries, but the number of accidents resulting in deaths were not decreasing. We have sought international expertise to provide

further guidance, and a major programme for change has been implemented to achieve our goal of zero fatalities. This programme will build on the experience of others, particularly our exemplary performers such as Landau and Goedeheop collieries, Namakwa Sands mine and mineral separation plant and Hudson Bay mills, which, along with many smaller operations in Tarmac and Mondi and in Exploration, recorded a lost-time injury frequency rate (LTIFR) of less than 0.2.

An increasing number of operations adopt safety approaches that focus on identifying and correcting the behaviour that leads to accidents. This, together with heightened safety training, is raising levels of competence and awareness of hazards.

Our safety campaign, OTTO, which focuses on zero tolerance towards unsafe working practices and target zero for fatalities, was implemented throughout the Group. We introduced the chief executive officer's safety competition, in which the top performing operation or business in the field of safety in each division is submitted for consideration for the Group safety award for the year. This was won for the first year by Anglo Coal's South African Greenside colliery. An underground mine with more than 700 employees, it had experienced only one lost-time accident in the 18 months to the end of 2000. However, despite this excellent safety record, an employee was fatally injured at Greenside in November 2001 in a fall of ground accident.

	Work-related fatal injuries*		Lost-time injury frequency rate*	
	2000	2001	2000	2001
Platinum	23	22	3.75	2.55
Forest Products	5‡	10	1.61‡	1.19
Coal	9	4	0.80	0.64
Industrial Minerals	2	1	2.82	2.11
Ferrous Metals	11	6	1.38	1.13
Base Metals	5	21	1.14	0.67
Industries	1‡	0	1.62‡	1.02
Exploration	0	1	1.74	1.60
Technical and other	5	5†	1.37	0.73
<b>Total</b>	<b>61‡</b>	<b>70†</b>	<b>2.26‡</b>	<b>1.50</b>

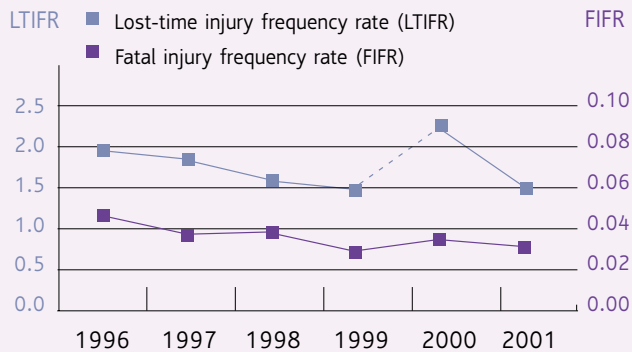
\* Employees and contractors in managed companies.

‡ Anglo Industries and Mondi Europe were not included in the 2000 report (but 2000 data are now available).

† This includes two fatalities at Anglo American Farms (not otherwise covered in this report).

Anglo Coal's Bank colliery proto rescue team demonstrates the use of a rescue capsule to bring to the surface personnel trapped underground.

## Lost-Time Injury and Fatal Injury Frequency Rates



The restatement of the LTIFR for the year 2000 from 1.49 to 2.26 is illustrated graphically. The change results from the broader scope of the report and from a major adjustment to the basis of measurement of Anglo Platinum figures. Prior to 2001, Anglo Platinum reported lost-time injuries on the basis of four days or more of lost time per injury (as required at the time by the South African Department of Minerals and Energy), rather than the Anglo American standard of one day of lost time. This resulted in an understatement of the accident frequency rate in 2000 and previous reporting periods. The accident record for 2000 has been reviewed and the reporting is now consistent.

A further 33% reduction in LTIFR to less than 1.0 is targeted for 2002, with a continuing reduction in the total number of injuries in subsequent years. Many of our operations achieved good safety results during 2001 and we are committed to learning from their approach and their experience.

Two safety-related fines were recorded, at Hudson Bay in Canada and Tarmac in the United Kingdom, amounting to \$120,135.

In November, the SHE committee visited Anglo Platinum's Rustenburg Section for an update on the extensive safety training and procedures that comprise the Anglo Platinum zero tolerance/target zero (OTTO) safety campaign. Being welcomed at the entrance to the Paardekraal shaft by the safety team are (left to right) the regional business manager at Rustenburg Platinum Mines' Rustenburg section Piet Coetzer, chairman of the Anglo American SHE committee Dr Chris Fay, and Anglo American chairman Julian Ogilvie Thompson.

Anglo Coal CEO Tony Redman (left) with John Standish White, manager of Greenside colliery, which won the inaugural Group safety award.

Professor Jim Joy, director of the University of Queensland's Minerals Industry Safety and Health Centre presents the SHE risk facilitator course at one of Anglo Coal Australia's mines.



# Case studies

## Platinum

As part of its broad-ranging safety campaign, Rustenburg Platinum Mines (RPM) has incorporated innovative improvements to its extensive rail system that carries mineral-bearing ore and material over 75 km of track. The system, installed in 2001, consists of a rover unit (housing a computer, a global positioning system and a dual data radio system for communication) fitted in each locomotive, and these are electronically linked to a central control room. Each segment of the rail network has been allocated a speed limit designed to suit safety and efficiency parameters. The speed and position of each locomotive are carefully monitored to ensure safe rail transportation.

Edu-touch, a multi-dimensional on-line safety training programme, is proving its worth in the logistics and services division at RPM. The training, comprising self-learning modules completed at each person's own pace, focuses on achieving the required levels of awareness and competency in SHE standards, risk assessment and procedures for job specifics. To assist in cases of low literacy levels, each touch-screen workstation is equipped with headphones through which a corresponding narrative (in a choice of five languages) is relayed.

## Coal

Anglo Coal Australia is enhancing the focus on risk management, particularly for the 'operational decision makers' (managers, mining and maintenance engineers, planners, technical specialists and supervisors). Following the successful implementation of basic risk management training programmes for these key personnel in 2000, a procedure for the management of SHE risk and a SHE risk facilitator training course were developed. This risk management enhancement programme targets those persons who can identify and minimise hazards before they cause harm in daily operations. Sound risk management practices at this level complement the general hazard awareness and day-to-day risk management activities undertaken by all employees and contractors on mine sites. The risk assessment tools presented in the procedure and the training programme enhance the ability of those responsible for assessing, developing and managing specific plans to address the major hazards that are inherent to our Australian coal mines.

Business area manager for logistics and services at RPM, Trevor Long, and locomotive controller Gert Holzhausen, in the control room of the surface rail monitoring system that ensures safer transport of ore and materials on the mine.



Training co-ordinator for RPM's logistics and services division, Therese Swanepoel, guides (front to back) Petrus Mottale, Hennie Coetzee and Francois Potgieter in safety training on the Edu-touch system.



## Base Metals

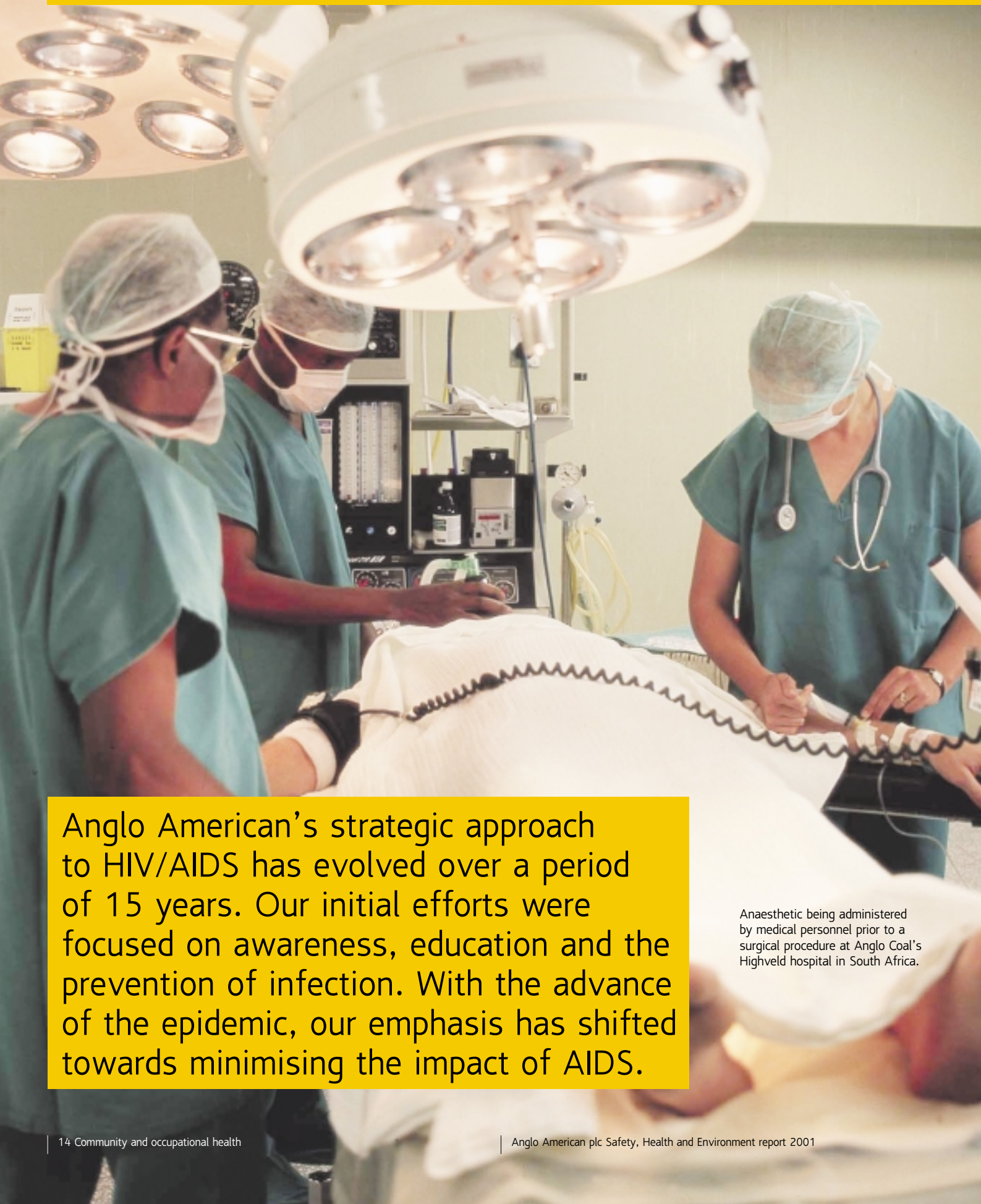
The most serious accident at operations managed by Anglo American occurred in Zambia at Konkola Copper Mines in April 2001. The slope failure at the Nchanga open pit led to the deaths of 10 men who were buried beneath 25,000 m<sup>3</sup> of mud. Close co-operation between management, the union, the government's Mine Safety Department, the mine's own departments and its employees, contributed to the recovery of all the bodies.

By October 2001, Trout Lake mine employees at Hudson Bay Mining and Smelting had achieved a record 700,000 man-hours without a lost-time accident, and by year-end this record had been extended still further. Trout Lake is an underground operation that mines at a rate of one million tonnes per year by blast hole, open stoping with in excess of 8,000 metres of lateral advance being completed. Trout Lake mined 51 stopes for the year, amounting to a stope per week. The mine's highly skilled and experienced workforce is committed to making 'Safety a value above all others'. Safety and health issues are the first items on the agenda at all their meetings.

Namakwa Sands, in South Africa, which holds NOSA ([www.nosa.co.za](http://www.nosa.co.za)) 5-star grading at the mine and mineral separation plant and 4-star grading at the smelter, has reinforced its safety initiatives and management attention to safe behaviour in the workplace following a fatal accident in August 2001 after seven years of fatality-free operation since commissioning in 1994. A locomotive driver was trapped and fatally injured during shunting operations at the smelter. He had disembarked to facilitate coupling of the locomotive and trucks, and the unattended locomotive moved forward, trapping him between the couplings. The accident highlighted the importance of communication and stringent adherence to standard operating procedures, particularly in high-risk situations, and underlined the need for vigilance despite a good safety record.

Hudson Bay's Trout Lake employees (left to right) Larry Willerton, Gerry Carmichael and Brian Booker, who contribute to the safety record at the mine by making 'Safety a value above all others'.





Anglo American's strategic approach to HIV/AIDS has evolved over a period of 15 years. Our initial efforts were focused on awareness, education and the prevention of infection. With the advance of the epidemic, our emphasis has shifted towards minimising the impact of AIDS.

Anaesthetic being administered by medical personnel prior to a surgical procedure at Anglo Coal's Highveld hospital in South Africa.

# Community health

One of our priority challenges remains the HIV/AIDS pandemic in sub-Saharan Africa. Through our membership of the Global Business Council on HIV/AIDS, we hope to contribute to a significantly scaled-up business response to the disease. We are also engaged in South Africa with the Nelson Mandela Foundation to assist in mobilising an intensified and sustained national response to the HIV/AIDS epidemic. During 2001, Anglo American won a Commonwealth Award for Action on HIV/AIDS in the policy and advocacy category.

Our strategy for dealing with the disease, as described in detail in our SHE report for 2000, includes

- pursuing the HIV/AIDS prevention campaign with renewed vigour and keeping uninfected employees well through awareness campaigns, both in the workplace and in the neighbouring communities;
- establishing the prevalence of HIV infection at all southern African operations through voluntary, unlinked (anonymous) HIV prevalence surveys;
- encouraging large-scale voluntary counselling and testing (VCT) for HIV infection in the workforce and in the surrounding community;
- linking VCT to a programme of care for people infected with HIV to reduce the occurrence of opportunistic infections and to preserve, as far as possible, quality of life and productivity;
- implementing large-scale prevention and treatment campaigns for sexually transmitted infections (STIs);
- implementing a formal system of HIV/AIDS reporting including key indicators of performance designed to monitor the progress of the epidemic and the success of efforts to minimise the impacts; and
- conducting research into the effectiveness of our HIV/AIDS strategy.

Most of our southern African operations have conducted HIV prevalence surveys and are using the results to assess more accurately the potential impact of AIDS in the workplace. With this information, we are able to develop appropriate management responses to improve our prevention and care initiatives and minimise the impact of the disease. We are committed, during 2002, to extending the wellness programmes and voluntary HIV/AIDS counselling and testing at our operations.

International experience has shown that prevention interventions, which specifically target individuals engaged in high-risk behaviour, are the most cost-effective way to curb the spread of the HIV/AIDS epidemic. A key lesson learned in Anglo American is that any effective prevention programme needs to move beyond the workplace into surrounding communities. Several sex worker peer education programmes represent examples of what can be achieved when partnerships are formed between industry, government and local communities. These programmes, which endeavour to reach both partners in a sexual relationship, explicitly aim to build networks and solidarity among vulnerable women. In a model developed by the University of Zimbabwe's Project Support Group, peer educators work in one-to-one motivational sessions and through community meetings at local bars, truck stops and other 'hot spots'. The aim is to change key sexual behaviours, and the programmes are run through AIDS committees, with diverse government, private sector and community representation. Anglo Coal initiated such a project in the Kriel colliery district in the Mpumalanga province of South Africa and this has been extended to other areas. Mondi has a similar project in Mpumalanga province.

Malaria remains a high-risk issue for some of our Group's operations and exploration activities, and malaria control programmes are in place at all our sites where malaria is prevalent. In particular, Konkola Copper Mines is participating in the World Health Organisation's 'roll back malaria' campaign in Zambia to reduce the incidence of malaria to 20 cases per annum per 1,000 population by 2010. (Further information is available on <http://www.who.int>)

Cholera is endemic in many areas of southern Africa, some of which are close to Anglo American operations. While cholera has not directly affected any of our businesses, it is a significant threat to several surrounding communities and we continue to assist the South African Department of Health in combating this disease through the donation of sodium hypochlorite for water treatment and by sponsoring education programmes.

## Key elements of a comprehensive HIV-prevention programme



Advancing AIDS education at Boart Longyear's Springs plant on World AIDS day on 1 December are Alfred Nkafu, Sifiso Ntshangase, Nhlanhla Lot Msomi and Colin Mvulane.



# Occupational health

Our main challenges in occupational health remain exposure to noise and dust. We continue our programmes to measure and reduce dust and noise generation and to provide focused medical surveillance and treatment for employees exposed to health hazards in their working environment. Given the long latency period for most occupational illnesses, we place particular emphasis on occupational health management systems today to prevent and minimise occupational disease in the future.

## Health management systems

During 2001, all our operations formally assessed their occupational health management systems against corporate guidelines. A team of health specialists has been appointed to develop an innovative and comprehensive occupational health management standard for the Anglo American Group that will lead international good practice and draw together the principal elements of other well-established health and safety management systems such as BS 8800, AS/NZS 4801:2001 and OHSAS 18001. Work on this project is expected to be complete by the end of 2002, and we will implement the Group occupational health management standard progressively during 2003.

Risk-based medical surveillance programmes are in place at all our operations. Contractors are required to meet the same standards of performance, either through participation in our in-house programmes or by conducting their own medical surveillance.

## Hearing conservation programmes

Many of our operations have the potential to expose workers to noise. Programmes in place to prevent noise-induced hearing loss include the use of engineering solutions to reduce noise at source, employee education and training and the provision of hearing protection in noisy environments. Employees who are exposed to noise are regularly screened to identify early signs of possible hearing loss.

## Dust control and monitoring

The principles of managing the risks of dust exposure are the same as those used for hearing conservation. Employees exposed to dusty working environments receive regular medical examinations, including chest X-rays, to identify any ill effects from dust exposure.

## Case studies

### Platinum

Anglo Platinum has provided two fully-equipped mobile clinics and four community health workers at a cost of some \$90,000 per annum to attend to the health needs of more than 16,000 informal settlers who have, over a period of years, moved into eight settlement camps on open land adjacent to the Rustenburg Platinum Mines operations in South Africa. With the full approval of the provincial government's Department of Health and Social Welfare, which is unable to cater for the health needs of these informal settlers, the clinics provide services which include antenatal and postnatal health care, immunisation, family planning, management and treatment of tuberculosis, treatment of sexually transmitted infections and counselling, health education, HIV/AIDS education and counselling, management of chronic diseases, and the referral of patients to hospital.

Sister Khumalo checks a baby's weight in the mobile health clinic at Rustenburg Platinum Mines.



### Forest Products

The fight against cholera in South Africa's rural areas received a further boost with the donation, by the chemical plant at Mondi Kraft's Richards Bay mill, of 15,000 litres of sodium hypochlorite to the regional government Department of Health for the emergency sterilisation of drinking water. Diluted to an appropriate concentration, this bleaching agent is highly effective in killing the cholera bacteria that cause massive diarrhoea resulting in dehydration, and often in death.

In recognition of the tragic consequences of HIV/AIDS, the South African operations of Mondi provided financial support to the community-based Lambano Sanctuary project for abandoned and orphaned HIV positive and AIDS babies in Johannesburg.

The South African regional government health department's Joint Operation Combating Cholera committee with bottles of sodium hypochlorite donated by Mondi Kraft.



Dr Frank Fox (left), Mondi's Group medical officer in South Africa, hands over a cheque to Melanie Streicher (right) who runs the Lambano Sanctuary for HIV/AIDS babies.



## Coal

Anglo Coal's South African operations have reduced average respirable dust levels generated by mechanical mining machines from 8.9 mg/m<sup>3</sup> in 1997 to 3.2 mg/m<sup>3</sup> in 2001, well below the legal limit of 5.0 mg/m<sup>3</sup>. This has been achieved by the use of custom-designed wet scrubbing technology (air cleaning and filtering), adherence to South Africa's Safety in Mines Research Advisory Committee (SIMRAC) research findings and recommendations, reporting of daily dust samples to all production staff, monthly reporting to management, investigation of all non-compliance incidents (>5.0 mg/m<sup>3</sup>), and ongoing technical audits performed by third parties.

## Ferrous Metals

The employees and contractors at Mineração Catalão in Brazil have all become involved in an innovative project named Zero Dust, launched early in 2001, to address the problem of dust at the site. An icon was created on the company's networked computers to enable any employee to report an area of dust generation and provide a suggestion to reduce or eliminate this hazard. Each proposal is evaluated with the employee concerned and, if necessary, expert opinion is sought to develop the solution or suggest an alternative. Solutions already in place include the spraying of roads, washing of truck tyres, moistening of the ore stockpile and the use of water sprays on the product stockpiles. These have dramatically reduced the generation of dust and resulted in a much cleaner working environment.

During 1997, Highveld Steel in South Africa identified a need for primary health care in a residential area of Witbank where a large number of its employees reside. Extensive discussions followed with the provincial Department of Health, the local city council and the community stakeholders, culminating in Highveld providing some \$85,000 for the construction of a primary health clinic on land donated by the City Council of Witbank. The Siphosensimbi primary health care clinic, which is staffed and managed on a permanent basis by the Mpumalanga Department of Health, has gone from strength to strength with daily attendances of up to 150 adults and 30 children for consultation and treatment, 20 babies for immunisation and 30 women for family planning.

The installation of water sprays above and along the sides of the stockpiles at Catalão are part of their Zero Dust project to ensure a clean and healthy working environment.



Chief professional nurse, Beauty Mashego, attends to Kentsane Ndlovu and Potia Mnguni at the Siphosensimbi primary health care clinic in Witbank.



## Base Metals

The suggestions scheme at Bindura Nickel in Zimbabwe is providing a number of practical improvements. Team leader, Clever Kanyonganise, obtained approval for and implemented his own innovative solution to the noise emanating from the bar heading machine which he supervises. By extending the exhaust pipe below surface into a box filled with waste rock, noise levels were reduced by more than 10 dB.

In April 2001, Konkola Copper Mines conducted a voluntary, anonymous HIV prevalence study funded by the United Kingdom government's Department for International Development, with the full co-operation and agreement of the Mine Workers Union of Zambia, the Zambian Ministry of Health's National HIV/AIDS Secretariat, local and international NGOs and the Zambian HIV/AIDS Business Sector project (ZHABS). The study established that, of the 6,135 permanent employees and 2,388 contract personnel tested, 18% were HIV positive. Preventive care and wellness programmes are being designed and implemented for employees and their dependants who are HIV positive to delay the onset of opportunistic infections and progression to AIDS.

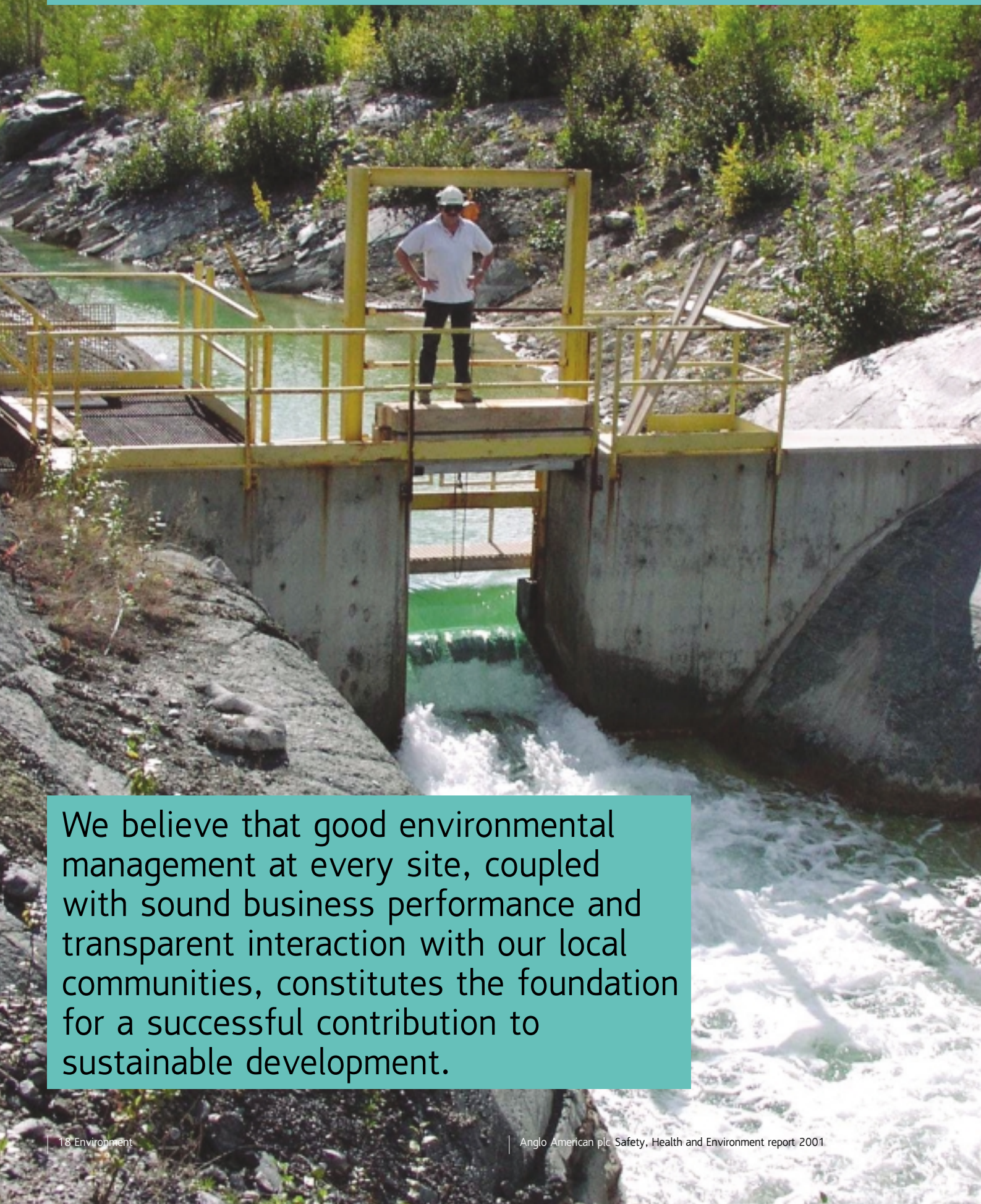
Anglo American sponsored the World Health Organisation's 'roll back malaria' campaign at Konkola Copper Mines in Zambia in 2001. This has resulted in a 52% reduction in the number of malaria cases year on year, and a reduction in the number of deaths of KCM employees and their dependants from 15 in 2000 to eight in 2001. The campaign aims to reduce the incidence of malaria in Zambia to 20 cases per year per 1,000 people by 2010. Following the introduction in 2000 of scientifically and environmentally controlled residual spraying for malaria, significantly reduced malaria incidence rates were achieved at Konkola Copper Mines by the end of 2001:

- Chingola district: 33 cases/1,000 population/year (previous year 80/1,000); and
- Chililabombwe district: 58 cases/1,000 population/year (previous year 168/1,000).

The second cycle of residual spraying for malaria was completed between October and November 2001.

Team leader, Clever Kanyonganise, at the modified system which muffles the noise from the bar heading machine at Bindura Nickel mine.





We believe that good environmental management at every site, coupled with sound business performance and transparent interaction with our local communities, constitutes the foundation for a successful contribution to sustainable development.

# Our activities and related environmental challenges

## Exploration

- Respect for cultural and ecologically sensitive sites;
- Awareness and understanding of operating in or close to protected areas; and
- Respect for neighbouring communities.

## Opencast mining and quarrying

- Ensure stability of pit walls and water storage facilities;
- Minimise dust emissions, noise, vibration and visual impacts;
- Prevent adverse surface and groundwater impacts;
- Minimise damage to biodiversity and reduction in land capability; and
- Progressively rehabilitate areas disturbed by mining.

## Underground mining

- Rehabilitate the surface of subsided areas;
- Prevent underground fires (coal mines);
- Reduce dust and gas emissions; and
- Prevent adverse surface and groundwater impacts.

## Mineral processing facilities, non-ferrous metals smelters, steel making operations and saw, pulp and paper mills

- Prevent adverse air quality impacts;
- Minimise usage of energy and water;
- Minimise waste generation and responsibly dispose of unavoidable wastes;
- Prevent adverse surface and groundwater impacts; and
- Prevent spillages of reagents/chemicals and fuels.

## Management of metallurgical solid process waste and waste rock

- Contain seepage of metals and other contaminants;
- Prevent flooding and failure of tailings dams;
- Minimise release of dust; and
- Minimise damage to biodiversity and land alienation.

## Decommissioning and closure

- Conserve and restore biodiversity;
- Prevent adverse surface and groundwater impacts;
- Ensure long-term stability and viability of rehabilitated surfaces; and
- Minimise adverse socio-economic impacts.

## Road construction

- Minimise dust emissions and noise.

## Forestry

- Conserve habitat and biodiversity;
- Minimise usage of water; and
- Quantify carbon sequestration.

Standing on the final control structure for treated discharge from the tailings management facility at Hudson Bay Mining and Smelting in Canada is Stephen West, tailings management supervisor.

Anglo Coal's New Vaal colliery won the silver medal for second place and Anglo Platinum's Bafokeng Rasimone mine won the bronze medal for third place in the Excellence in Mining Environmental Management competition conducted by the South African Department of Minerals and Energy. The New Vaal team at the awards ceremony are (left to right) Piet Smit (environmental officer), Riaan van der Merwe (general manager), Gerhard Stenzel (assistant mine manager) and Reuben Hlatshwayo (pit superintendent).



We believe that good environmental management at every site, coupled with sound business performance and transparent interaction with our local communities, constitutes the foundation for a successful contribution to sustainable development.

## Environmental incidents

Incident reporting systems improved in 2001 and our operations are encouraged to report even minor incidents. The increase in Level 1 incidents reported in 2001 is a result of improved recording and the wider scope of this year's report, rather than deteriorating performance.

Type of incident	Brief description	2000	2001
Level 1	Minor impact, short-term effect	387	1,642
Level 2	Moderate impact, medium-term effect	21	34
Level 3	Significant impact, extensive or long-term effect	0	0

## Environmental fines

We have incurred fines totalling some \$66,662 for environmental incidents. We consider any fine to be indicative of systems or risk management failures and strive to ensure that each incident is addressed as a matter of priority by management. We believe that the implementation, throughout the Group, of systems compliant with ISO 14001 will contribute to improved performance.

Division/site	Fines (\$)	Incident
Mondi Europe	8,225	Exceeding waste water emission levels at Szolnok in Hungary and at Ružomberok in Slovakia.
	1,300	Malodorous gas release at Sepap in the Czech Republic.
Industrial Minerals	7,442	Criminal conviction for illegal disposal of waste in the UK, prior to acquisition of the business by Tarmac in 1999.
	23,936	Six civil environmental convictions at Steetley Iberia in Spain, started before 2000, but pronounced in 2001.
	24,200	One civil environmental warning at the Cubatão site of Copebrás in Brazil due to discharge of effluent outside of legal standard.
Coal	800	Damage to river bank near Carbones del Cerrejón in Colombia.
	759	Blasting outside prescribed hours at Drayton Coal in Australia.

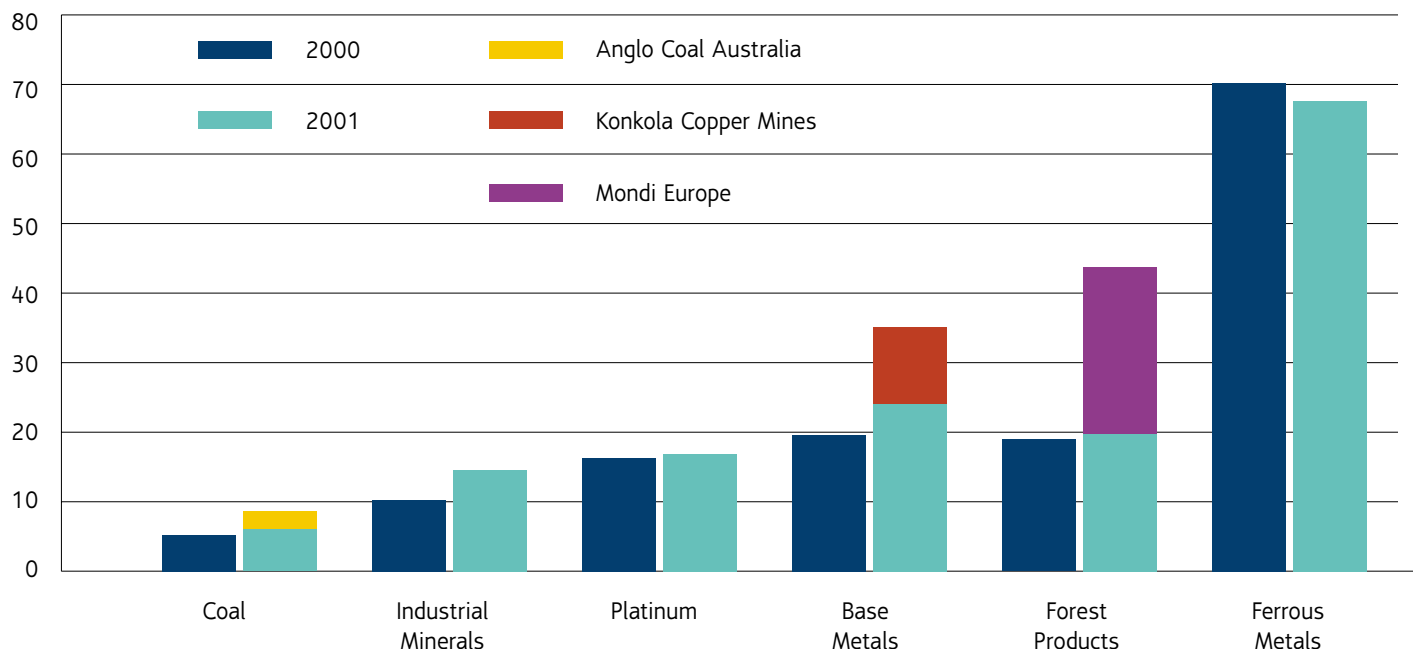
## Case studies

The new electrolytic cellhouse at Hudson Bay Mining and Smelting which produces 15% more zinc than the former facility for the same amount of energy consumed.



# Energy consumption

Energy used by division (million GJ)



We strive to use energy efficiently as this saves resources and reduces our air emissions. Our business units and companies will set energy efficiency targets in 2002.

Total energy consumption for the Group rose in 2001 to 202 million GJ (2000: 138 million GJ) reflecting the broader scope of the report with

the inclusion of Anglo Coal Australia's five operations, four operations at Konkola Copper Mines in Zambia and the inclusion of Mondi Europe's business units. Of this total consumption, 34% was electrical energy purchased and 66% was fossil fuel burned at our own operations. These figures do not generally include energy consumed in the transportation of our products.

## Coal

Anglo Coal Australia mine sites have been publicly reporting energy use since 1997, prior to their acquisition by Anglo American. Energy consumption targets were established in 2000 to focus on reducing consumption. As coal production is expanding, the selected key performance indicator is energy consumption per tonne of saleable

Lisheen's environmental engineer, Douglas McMillan (right), receives the company's membership certificate for the Irish Energy Centre self-audit scheme from Irish government minister Joe Jacob.



coal produced. Energy audits have been conducted at sites to identify opportunities for reducing energy consumption and more efficiently utilising existing energy sources. Action plans have been developed by mine sites to reduce energy consumption, including measures such as the installation of solar switches to turn off lights during daylight hours, installation of energy efficient lighting tubes, replacement of electric motors with more energy efficient models, sale of low energy coal (previously waste) and optimisation of conveyor operating hours to avoid running when not loaded.

## Base Metals

Hudson Bay Mining and Smelting has expanded its zinc plant by 15% to 114,000 tonnes per year of cast zinc, and constructed a new electrolytic cellhouse for the entire output. The new energy-efficient facility consumes the same amount of electricity as the old, smaller cellhouse that has now been decommissioned. The zinc plant expansion and modernisation, completed in July 2001, is part of the \$240 million group of projects known as the 777 project. With fully-automated stripping, more than 70 labour-intensive and physically strenuous jobs have been replaced with 25 safer high-technology functions, and the project has had no lost-time injuries since start-up. Acid mist levels are also well within tight regulatory limits.

Lisheen mine is a participant in the Irish Energy Centre annual self-audit scheme, a government-funded voluntary initiative focused on large industrial users. The scheme encourages companies to establish energy management structures, increase awareness amongst employees and customers of the importance of energy efficiency, realise energy savings and participate in an industry-networking group.

# Greenhouse gas emissions and climate change

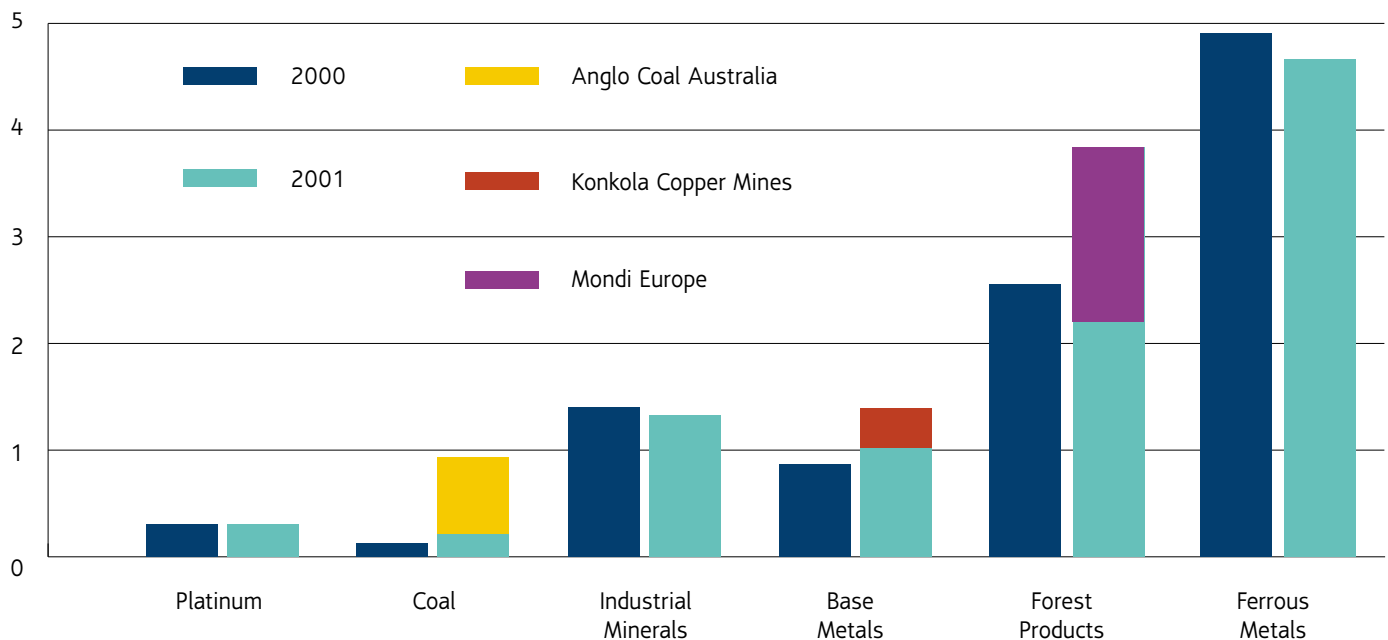
## Our climate change policy

We recognise that climate change is a real international and community concern and Anglo American commits itself to contribute to finding and implementing solutions to the challenges it poses.

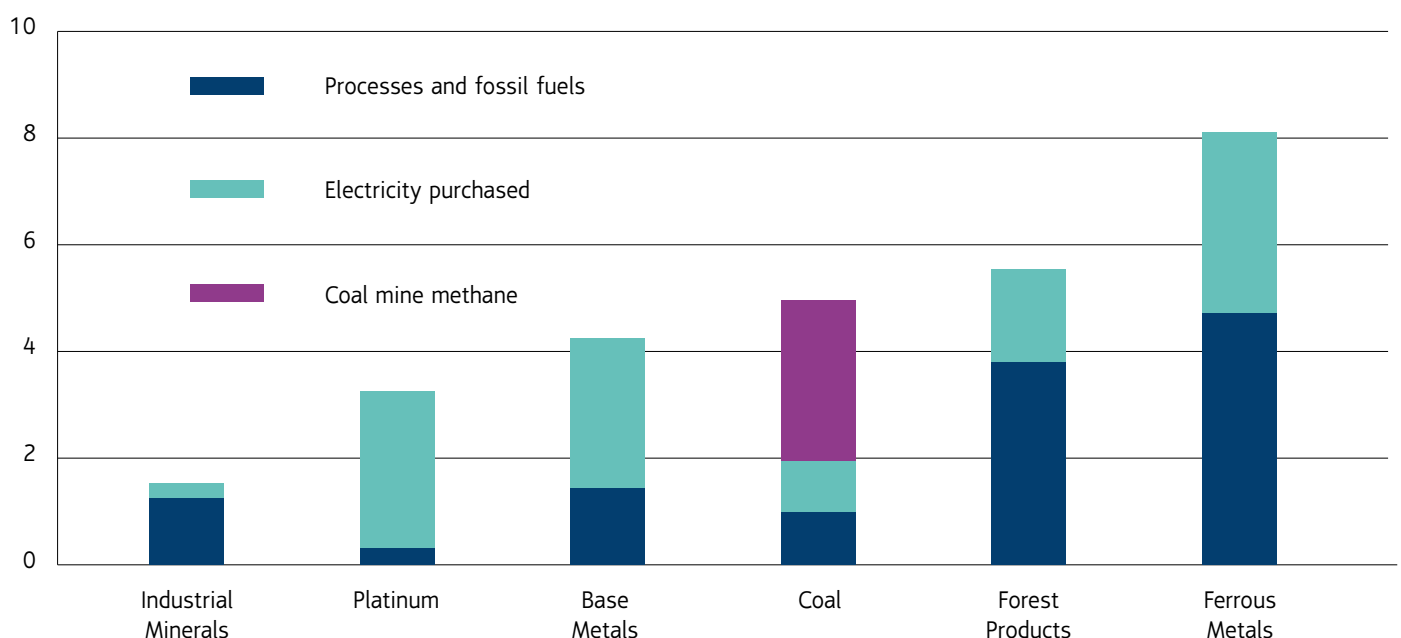
Amongst other actions, Anglo American will:

- Monitor and participate in international processes to consider ways of meeting the challenges of climate change;
- Seek to understand stakeholder concerns about climate change;
- Collaborate in research and development programmes to address the challenges of climate change;
- Strive for efficient use of energy and reduce greenhouse gas emission intensities at its operations;
- Incorporate climate change considerations in its business planning and foster co-operation between its operations in managing greenhouse gas emissions; and
- Explore opportunities for the use of the market-based emissions reduction mechanisms proposed in the Kyoto Protocol.

## CO<sub>2</sub> emissions from processes and fossil fuels (million tonnes)



## CO<sub>2</sub> equivalent emissions for 2001 (million tonnes)



During 2001, we undertook to develop and introduce a climate change policy (see previous page). We have adopted the tools and guidelines developed by the Greenhouse Gas Protocol Initiative for reporting our greenhouse gas emissions. This initiative is a collaborative effort led by the World Business Council for Sustainable Development (WBCSD) ([www.wbcsd.org](http://www.wbcsd.org)) and the World Resources Institute (WRI) ([www.wri.org](http://www.wri.org)) that was launched in October 2001. These tools and guidelines are compatible with the IPCC guidelines that we used in 2000, but are more appropriate for corporate reporting. A baseline for energy use, which is a major contributor to our greenhouse gas emissions, has been established.

## CO<sub>2</sub> emissions and sequestration

- Net CO<sub>2</sub> emissions after forestry sequestration totalled 12.55 million tonnes from processes and fossil fuels consumed. Of this, CO<sub>2</sub> emissions from mining and smelting operations amounted to 7 million tonnes, for a total of 93 million tonnes of coal mined, 185 million tonnes of ore and waste rock mined and 65 million tonnes of ore milled.
- Approximately 770,000 tonnes of CO<sub>2</sub> were sequestered by our forestry operations. This is a decrease of 23% from 2000, and is linked directly to a reduction in the area of forests under our management.
- The electricity that we purchased contributed a further 12 million tonnes of CO<sub>2</sub> emissions.
- We emitted the equivalent of 3 million tonnes of CO<sub>2</sub> owing to fugitive methane emissions from our coal mining operations. The methane emissions equate to 34 kg of CO<sub>2</sub> per tonne of coal mined.
- Internal audits were conducted at both Highveld Steel in South Africa and Tarmac Central's Buxton Lime in the UK, two of our largest emitters of CO<sub>2</sub> representing 32% of the reported 2001 emissions. The study at Highveld Steel resulted in an increase in the reported 2000 figures.

Our report last year gave details of initial estimates of CO<sub>2</sub> produced by the combustion of fossil fuels and by industrial processes such as cement production. These estimates were based in some cases on imprecise data, but our measurement and estimation processes are being improved. The removal of some inaccuracies has resulted in the data for the year 2000 being different in this report from the data published in our 2000 report.

There are other changes to our reported emissions of greenhouse gases that reflect additions to the scope of our reporting:

- In our greenhouse gas inventory we have included fugitive methane emissions (methane that is captive in underground coal seams and released as a result of coal mining activities). At our Australian operations, which have inherently higher methane concentration levels, the underground emissions are measured and opencast emissions are calculated, whilst methane emissions for our South African collieries have been estimated primarily on the basis of the tonnes of coal mined. Systems will be put in place during 2002 to measure methane emissions from the South African coal mining operations. The total fugitive emissions for the Group were estimated at 143,000 tonnes of methane, or 3 million tonnes of CO<sub>2</sub> equivalent in its global warming potential.
- We have accounted for CO<sub>2</sub> emissions indirectly incurred by the purchase of grid electricity for the first time this year. These emissions are listed separately in the data tables at the end of this report. They have been calculated from the amounts of electricity consumed by each of our operations, based on how this electricity is produced in the countries where the operations are located. The factors used are in accordance with those used by the WBCSD and the WRI. The total CO<sub>2</sub> emissions incurred in this way amount to 12 million tonnes, or 43% of our total greenhouse gas emissions.
- Our greenhouse gas inventory has been extended to include emissions from the combustion of paraffin and used oil recycled in processes.

## Case studies

### Forest Products

The Austrian Society for Environment and Technology awarded Neusiedler first prize in the Energieprofi 2001 competition for significant reductions in CO<sub>2</sub> emissions. The company adopted a two-pronged approach. The first was a massive reduction in exhaust emissions from transport vehicles when the on-site filler production plant in Hausmending, Austria, was put into operation. The environmental study showed that annual savings in pollution from haulage vehicles would be equivalent to exhaust emissions from a car travelling 23 million km (about 570 times around the world). The second approach entailed the capture and utilisation of the waste heat from the filler plant and the paper production operations. This study showed that the heat captured from the filler plant would be sufficient to heat 800 houses. In partnership with Energie-Versorgung Niederösterreich, the waste heat project was successfully commissioned in July 2001 with the efficient heating of a nearby mental hospital and recovery centre.

Environmental study project leader, Gisela Hochleitner, and waste-heat project leader, Josef Wischenbart, study the plans for heating a mental hospital and recovery centre near Hausmending in Austria with captured heat from Neusiedler's new filler plant.



## Coal

The methane that occurs in some coal deposits is a potential safety hazard in underground mines and a potent greenhouse gas if released to the atmosphere (one tonne of methane is the greenhouse gas equivalent of 21 tonnes of CO<sub>2</sub>). Safe mining of methane-rich coal has long been achieved by drill-hole drainage of the seams to reduce methane to safe levels prior to mining. In recent years, the methane management strategies of underground collieries have also been extended to deal with the potential greenhouse impact of methane released into the atmosphere. The greenhouse impact of methane can be reduced by 87% by burning it, preferably as a fuel to generate useful energy. At the German Creek mine in Australia, there has been a comprehensive multi-faceted response to the challenge of capturing and utilising methane. New drilling techniques are being developed to enable seams to be drained cheaply from the surface, so that most of the methane can be captured and removed before mining takes place. Part of the methane that is currently captured at German Creek's Central colliery is flared to reduce its global warming potential. This is a temporary measure until viable projects to utilise its energy potential can be brought on stream. Anglo Coal Australia, with other coal companies in the region, has been promoting the development of a gas pipeline through the coalfield in which German Creek is located so that the methane can be sold as natural gas for a variety of off-site uses. On-site power generation is an option for using methane that is below pipeline quality, and current plans could result in the construction of the first power generation units at German Creek in 2003.

## Industrial Minerals

Tarmac is improving energy management by raising energy awareness in the workforce, and has embarked on specific capital improvement programmes. These include a new cement plant currently under construction at Tunstead at a capital cost of over \$150 million, improved kiln control and on-site power generation for lime and improved heat recovery and upgraded refractories for bricks. Tarmac Central participates in the United Kingdom's programme to meet the conditions of the Kyoto Protocol and in the UK's domestic goal of a 20% reduction in CO<sub>2</sub> by 2010 from 1990 levels. To benefit from abatements to the climate change levy introduced in April 2001, the company has agreed specific energy consumption (SEC) targets with the government for its cement and lime processes at Buxton and its brickworks at Tamworth, and is using the government's energy efficiency best practice programme for assistance in achieving its targets.

Methane gas drained from underground workings at German Creek's Central colliery in Australia is flared to reduce the greenhouse intensity of emissions.

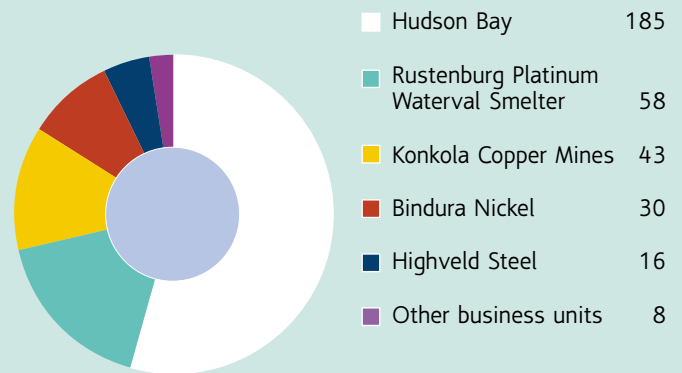


# Particulates and other emissions to air

Dust and particulate matter (solid material suspended in the air) are the most visible atmospheric effects of mining activities. The building of roads and facilities, exploratory drilling, ore extraction and processing plants can all generate dust and particulate matter which can affect visibility and respiration, and pollute streams and vegetation. Mining and ferrous metals activities also generate carbon monoxide (CO), sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) which are emitted from smelters and refineries. Global NO<sub>x</sub> and SO<sub>2</sub> emissions are major contributors to acid rain.

In 2001, total recorded emissions of SO<sub>2</sub> from managed operations amounted to 340,000 tonnes. The case studies reflect some of the actions we are taking to reduce air pollution.

Total recorded SO<sub>2</sub> emissions (000 tonnes)



## Case studies

### Platinum

Anglo Platinum commenced construction during 2001 of a new converting process and acid plant at its Waterval smelter. The \$205 million project is designed primarily to reduce stack and fugitive emissions of SO<sub>2</sub> to the atmosphere. Once fully commissioned, the new plant will ensure an increase in sulphur fixation from the current 55% to 98%, thereby reducing SO<sub>2</sub> emissions to less than 20 tonnes per day. Commissioning will commence in April 2002. Anglo Platinum's air quality section of its environmental management department is actively engaged in the monitoring, modelling and control of SO<sub>2</sub>, particulates and other emissions and in assessing the quality of the air on a regional basis.

### Ferrous Metals

At the Highveld Steel ironmaking plant in South Africa, two air pollution abatement units were completely rebuilt at a cost of some \$800,000. Tests on the two pre-reduction kiln electrostatic precipitators showed that their efficiency improved by more than 80% with an overall reduction in particulate emissions from the ironmaking operation. The rebuild of the next precipitator is scheduled for 2002.

The environmental monitoring station at the new acid plant at Anglo Platinum's Waterval Smelter.



One of the rebuilt air pollution abatement units at Highveld Steel in South Africa that reduces particulate emissions from the ironmaking operation.



### Base Metals

Hudson Bay Mining and Smelting's (HBMS) metallurgical complex located in Flin Flon, Canada, underwent a scheduled maintenance shutdown of the copper smelter in 2000. During the shutdown, HBMS commissioned an \$18 million upgrade to its gas handling system. The project included installation of new water-cooled converter hoods, a high-velocity flue system, and construction of a new electrostatic precipitator (ESP) to replace a combined bag-house/ESP previously used for gas cleaning. The new ESP was given a \$1 million retrofit in 2001 to improve particulate and heavy metal collection efficiency. To date, the project has resulted in a 90% reduction in the frequency of SO<sub>2</sub> fugitive emissions, which affected air quality in adjacent communities, and a 30% reduction in particulate matter emissions. HBMS has also converted its copper roasters from coal to propane-fired burners. Between 1990 and 2001, HBMS reduced CO<sub>2</sub> emissions by 30% (100,000 tonnes per year) as a result of switching to cleaner fuels and more efficient processes. Over the same time period, production of zinc and copper rose by 25%.

HBMS environmental technologist, Ray Tardiff, prepares equipment for testing stack particulates.



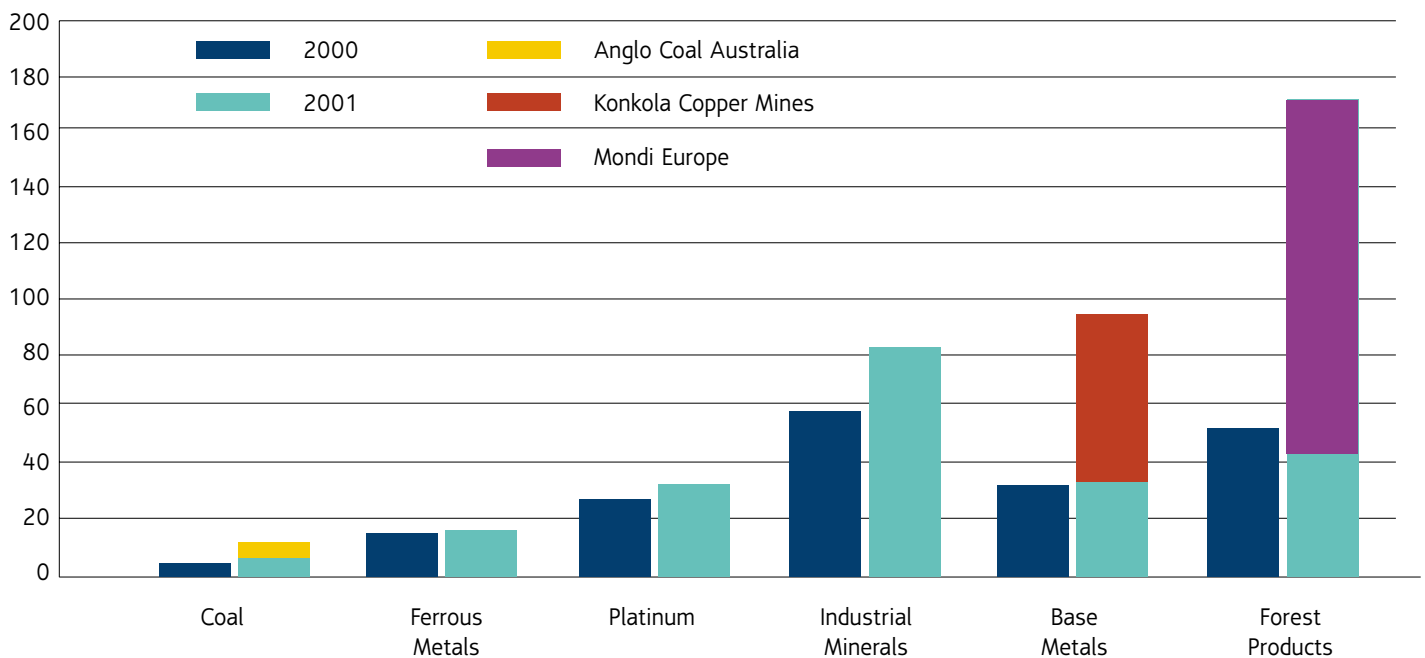
# Water use and discharge

Water is an important natural resource and its availability in many parts of the world has come under pressure as consumption continues to grow. The United Nations Environment Programme sees the availability of good quality fresh water as a key global environmental challenge.

We are committed to the efficient extraction and use of water, particularly in arid and semi-arid regions, and the safe discharge of used water. Revised methodologies to provide more accurate reporting of water consumption have been implemented. Our business sectors have established water consumption baselines and will work to improve the quality of the data during 2002, so that we can set water consumption targets in 2003.

Total water used for primary activities for all reporting operations amounted to 406 million m<sup>3</sup>. Water used for primary activities at mining and smelting operations amounted to 150 million m<sup>3</sup> for a total of 93 million tonnes of coal mined, 185 million tonnes of ore and waste rock mined and 65 million tonnes of ore milled/processed. The significant increase in water used by Forest Products to 172 million m<sup>3</sup> reflects the inclusion of Mondi Europe operations following acquisition of management control. Industrial Minerals used 82 million m<sup>3</sup> of water (including recirculated water) mainly in the manufacture of concrete and for the washing of sands and gravels. Other sites, including head and regional offices, used 2 million m<sup>3</sup> of water. The inclusion of Konkola Copper Mines in Base Metals and Tarmac France, Tarmac Middle East and Steetley Iberia in Industrial Minerals contributed to the increase in water consumption for these two divisions.

## Water used for primary activities (million m<sup>3</sup>)



# Case studies

## Forest Products

The new oxygen delignification plant at Mondi Kraft's Richards Bay mill provides 100% elemental chlorine free (ECF) pulp, with considerable environmental benefits. The new system is designed for 1,600 air-dry tonnes per day of eucalyptus pulp and consists of a two-stage oxygen delignification system, two new wash presses and a separate system for the oxidation of white liquor. The greatly reduced lignin in the pulp introduced to the bleach plant has reduced the consumption of bleaching chemicals by half. This, in turn, has reduced the chlorinated organics levels in the final discharged waste water by a significant margin and is currently well below the present European guideline requirement of <0.4 kg per air-dry tonne. An additional benefit has been an improvement in the chemical oxygen demand of the waste water.

## Coal

Anglo Coal has been a leader in South Africa in stimulating research into using waste water from collieries to irrigate crops. In association with the University of Pretoria, and subsequently also the universities of Natal and Cape Town, a series of irrigation trials was conducted at Kleinkopje colliery. This research, conducted under the auspices of the Water Research Commission, showed that many of the waste waters produced by coal mines could be used for crop or pasture production. This is because the principal salt component (gypsum or calcium sulphate) becomes significantly immobilised in the irrigated soils. A subsequent series of trials is now being established on a range of sites and in a variety of climatic conditions. Anglo Coal mines participating include Kleinkopje and New Vaal collieries in South Africa.

New Vaal colliery has achieved a reduction of some 85% in fresh water consumption in the coal washing plant from 70 litres per run of mine (rom) tonne in 1998 to an average of 10 litres/rom tonne in 2001 by using waste water made up of dirty water run-off, recycled plant water and polluted water from underground mining compartments.

Anglo Coal's Kleinkopje colliery is looking at the economic and technical viability of desalinating polluted waters (acid and neutral with sulphate concentrations of about 2,500 mg/l) from South African Coal Estates (SACE) to produce a treated effluent with sulphate concentrations reduced to about 200 mg/l. A 3,000 m<sup>3</sup>/day demonstration water desalination plant will be built in 2002 at a cost of some \$1.7 million. Using biological processes, the plant will be a first step in evaluating suitable desalination technologies for the future. SACE may ultimately treat up to 20,000 m<sup>3</sup>/day of polluted water during mining operations.

## Industrial Minerals

The Zero Effluent project at Copebrás in Brazil commits to reducing waste water discharged into the Cubatão river. Since its implementation in 1996, the project has achieved a 90% reduction in waste water effluent, from an annual average of 600 m<sup>3</sup> per hour discharged into the river, to 60 m<sup>3</sup> per hour. Process optimisation will reduce this still further towards the target of zero effluent. Some equipment replacement and engineering studies were required to enhance waste water re-use and recycling, particularly in the phosphoric acid unit. A simple and effective reduction of treated waste water temperature has allowed its re-use in all barometric condensers. Studies were also developed to reduce the effluent Langelier index (which measures water scaling) and to increase the use of waste water in scrubbers and filtration processes. Owing to the improvement in quality, water spray systems could be modified to operate with treated waste water, and this is used on roads and pathways to assist in keeping dust to a minimum. A key contributor to the success of the project has been the commitment by all Cubatão site personnel to a culture of environmental awareness and the responsible use of resources.

Mondi Kraft's new \$26 million oxygen delignification plant that was commissioned in August 2001 has reduced the consumption of bleaching chemicals by half and improved the quality of waste water discharged.

Anglo Coal has been a leader in South Africa in stimulating research into using waste water from collieries to irrigate crops. Inspecting a healthy wheat crop at a pilot site for the irrigation trials are (left to right) Phil Tanner, at that time manager of Anglo Coal environmental services, with Goedeheop colliery's environmental engineer, Richard Garner, and Kleinkopje colliery's assistant pit superintendent (rehabilitation), Em Meier.

Phineas Maphaha, assistant scientific officer at Anglo Coal's Goedeheop colliery, checks the quality of water at a weir on the Goedeheop stream.



# Stewardship of land and biodiversity

Total land used by mining and smelting operations	53,770 ha
Total land managed by Forest Products division	531,563 ha
Total land afforested	310,713 ha

all with Forest Stewardship Council certification, with the exception of a new afforestation project (33,000 ha) scheduled for certification in 2002

Mining, particularly surface mining and quarrying, and the associated storage of overburden, waste rock and tailings, has a significant local impact on land use. A concern that arises with the use of land for mining is that the level of biodiversity in the locality will be diminished as a result. We believe that this concern can be addressed through responsible mining and the rehabilitation of sites, as well as through special measures to conserve resident species. Indeed, rehabilitation can actually increase the level of biodiversity over levels that would otherwise exist given other uses of the land, such as for grazing or commercial agriculture. Such has been the case at many of our UK quarry sites.

## Land use

Our mining and quarrying operations have formal, costed closure and rehabilitation plans in place. These will be reviewed in 2002.

Work being done in the Forest Products division in South Africa includes setting aside suitable areas as national heritage sites that are registered with the Department of Environmental Affairs and Tourism and form an important part of the national biodiversity programme. Over 100 red data (ecologically important) species are formally protected in these natural heritage sites. The division is also committed to the rehabilitation of all wetlands on properties owned or managed by the company.

When new land is afforested, a comprehensive land use plan is first compiled. This identifies and sets aside all indigenous forests, wetlands, riparian areas and archaeological and historical sites. Where wetlands are recognised as providing significant habitat or functional roles, these are left undisturbed as far as possible. Should wetlands be affected by forestry or other operations, these will be rehabilitated once operations have ceased in that area or compensatory wetlands will be developed.

## Our biodiversity guidelines

To help ensure that our commitment to the active stewardship of land and biodiversity in all phases of our activities is implemented at our operations, we have developed corporate guidelines for biodiversity stewardship. The elements of our biodiversity guidelines include

- developing the business case for biodiversity management;
- assigning resources, responsibilities and accountability for biodiversity management;
- integrating biodiversity elements into all business planning;
- involving stakeholders in the development, implementation, monitoring and review of biodiversity management plans;
- implementing biodiversity training, awareness raising and education programmes for management, employees, local communities and government agencies; and
- developing action plans to include biodiversity inventories, resources and systems, risk and impact assessment of activities on biodiversity, monitoring and corrective action programmes, and biodiversity criteria related to abandonment, closure and rehabilitation.

The excavation and clearing of a silt-filled pond, thus providing a functional dam for a local farmer, is one example of the partnership that Morro do Níquel has with the local community to source scarce topsoil for rehabilitation.



# Case studies

An important initiative at corporate level is our support for one of the largest international conservation projects ever undertaken. The Millennium Seed Bank project, under the auspices of the Royal Botanic Gardens in Kew, aims to safeguard nearly 25,000 plant species worldwide (10% of the world's seed-bearing flora) against extinction and to secure the future of the UK's native flowering plants. Anglo American is a part-sponsor of the \$115 million project over the next 10 years. In addition to direct financial support, Anglo American will offer logistical support including assistance in seed-collection programmes.

## Forest Products

Mondi South Africa has formalised its commitment to sustainable plantation forestry by achieving Forest Stewardship Council (FSC) certification for all its producing forests and, by chain of custody, its pulp and paper operations. The certification of forests and forest products emerged during the 1990s as an environmental initiative to halt the destruction of the world's forests. Certification encompasses a regular independent assessment of an organisation's forest management practices to measure compliance with a range of internationally recognised social, economic and environmental standards. Mondi is committed to forest operations that are environmentally acceptable, socially beneficial and economically viable, exemplifying the progressive approach towards certification adopted by the South African forestry industry. With more than two-thirds of the country's plantations certificated, South Africa boasts the highest percentage of certificated forests worldwide.

Mondi is a major landowner in South Africa and recognises the importance of wetlands in terms of flood attenuation, water purification and the preservation of biodiversity. In April 2001, the company took over South Africa's foremost wetlands project with sponsorship of \$700,000 over the next five years to protect one of South Africa's most endangered ecosystems. Renamed the Mondi Wetlands project, this is now growing in strength and outreach with the participation of the South African government's Working for Water programme, which contributed \$2.5 million for the wetlands rehabilitation programme in 2001, rising to \$3.5 million in 2002 and possibly \$5.6 million in 2003. Wetlands form the backbone of Mondi's biodiversity corridor system that provides refuge for plants and wildlife, including many rare and endangered species.

Workers from the local community construct a stone gabion to arrest the erosion of a large wetland in the Gatberg vlei in the north-east Cape forests in South Africa. This forms part of the Mondi Wetlands project, in partnership with the South African government's Working for Water programme.



Callide mine senior environmental adviser, Brad Cartwright (left) and Anglo Coal Australia environmental co-ordinator, Frank Ford, inspect the construction of a large rock cascade at Oaky Creek.



The creation of additional reedbed habitat at Tarmac's Langford quarry will support an increase in the population of the bittern, an endangered species of heron.



## Coal

For several years, Anglo Coal Environmental Services has been investigating ways of improving the quality of land rehabilitated after strip mining. It has supported research programmes undertaken by the South African Agricultural Research Council since 1994 and is currently supporting the steering committee for mined land research. This committee is focusing on alleviating the compaction that occurs when large machinery is used to re-create land profiles after strip mining. It seeks also to introduce native plant species to rehabilitated areas to increase the species diversity and sustainability of rehabilitated lands. These, and other research projects, will be used to improve the guidelines for rehabilitating strip-mined lands.

At the Callide mine in central Queensland, Australia, the Oaky Creek was temporarily diverted to allow the mining of coal in The Hut area. A major study of options for re-establishment of the creek was undertaken, and the final design was developed in consultation with the local community, downstream landholders and the government regulatory agencies. Construction commenced in the third quarter of 2001, with the final cost estimated at around \$3.5 million. The re-established creek will include a large rock cascade to replace natural rock bars, thereby preventing erosion of the stream bed.

## Industrial Minerals

Rehabilitation at Tarmac's Langford quarry in Nottinghamshire, England, is unique in that it has skipped a traditional land use and has returned the land to a use dating back aeons. Covering 170 ha next to the flood plain of the river Trent, this land is being progressively restored to create a nature reserve for the Royal Society for the Protection of Birds. When restoration is complete, the site will comprise 40 ha of reedbeds, 15 ha of wet pastureland, 12 ha of flower-rich grass meadows, 25 ha of open water and 4 ha of woodland, with the remaining areas rough grassland and scrub. Uninterrupted reedbeds are one of the 20 endangered habitats in the United Kingdom. The creation of this continuous reedbed will support an increase in the population of the bittern, an endangered species of heron with only 22 breeding pairs in the UK. Each bittern pair requires an area of approximately 20 ha of reedbed to breed successfully, and when restoration is complete, Langford hopes to be able to support two or three breeding pairs, thus contributing to the UK's national target of increasing the number of breeding pairs to 50 by 2005. With its large areas of open water, grassed banks and shallow islands, the site has been a home to over 110 bird species in the 10 years it has been operating.

## Ferrous Metals

The mining of magnetite ore at Highveld Steel's Mapochs and De Hoop mines in the Roossenekal area of South Africa has been carried out for over 30 years. Owing to the nature of the orebody, which lies close to the surface, mining consists of removal of the ore and replacement of the topsoil with minimal effect on the topography. To improve the re-establishment of the indigenous vegetation, tests were carried out to select a variety of hardy indigenous grasses, trees and shrubs that suit the hot and dry conditions which occur for much of the year. Large areas are now being fully rehabilitated utilising updated contouring, seeding and planting practices.

## Base Metals

Namakwa Sands, on the arid west coast of South Africa, is investigating and implementing techniques to rehabilitate land disturbed by mining activities to its former land use. Extensive experimentation resulted in the development of a technique for the effective rehabilitation of the affected areas. Currently an area of 526 ha is under rehabilitation. With winter rainfall that averages only 150 mm per annum, the use of topsoil as a seed bank and shade cloth as windbreaks have significantly aided the rehabilitation process. The aim of the programme is to stabilise the soil environment to allow the germination and development of the local plant species. The ability to control wind erosion is therefore critical to the success of the rehabilitation process. A programme of biodiversity audits measures the recovery of plant species in the rehabilitation areas.

Over several years Bindura Nickel in Zimbabwe has, with the aid of consultants, researched the types of indigenous vegetation suited to the chemistry of deposited tailings material. The approach has been to plant test plots on each dam with a variety of species growing under controlled, varied conditions, such as with and without topsoil, and varied application of fertilisers. These plots are grown without irrigation to identify the species that will survive with no assistance once the mine closes. The strategy is to vegetate the sides of a dam during its active life and to plant the entire top as soon as possible after deposition ceases. The dam is then monitored until the vegetation is permanently established and a self-sustaining ecosystem has evolved. Since the closure of Epoch mine in September 1998, the top surface of its dam, some 18 ha in area, has been fully covered with indigenous grasses, and there is evidence of an evolving ecosystem on the dam which, it is anticipated, will become self-sustaining within two years.

At Morro do Níquel in Brazil, where mining operations have ceased and rehabilitation is being carried out, a unique partnership has developed between the mine and the surrounding community. Scarce topsoil is sourced from local farmers to repair the scars from opencast nickel ore mining since 1962 and, in return, the mine assists the farmers with equipment and labour for the preparation of new roads, contouring for erosion control, building of dams, and preparation of new pastures. The farmers' productivity has increased, and at the same time the rehabilitation programme has flourished with the introduction of the basic substratum needed to successfully re-establish vegetation.

Despite the semi-arid climatic conditions, carefully selected hardy indigenous vegetation is well established on Highveld Steel's old magnetite-mining site in the Roossenekal area in South Africa.

The Namakwa Sands rehabilitation programme is under way in the arid semi-desert area of Namaqualand on the South African west coast, after the processing of heavy mineral sands.

Inspecting the rehabilitated tailings dam at Epoch mine in Zimbabwe are (left to right) Bindura Nickel's environmental manager Steve Mseka, Ian Fletcher, the care and maintenance manager of Epoch mine and Vaughan Smith, SHE manager for Bindura Nickel.



# Waste management

The generation of waste from the mining process – tailings, coal processed waste, waste rock and overburden – constitutes the most visibly intrusive aspect of our industry. Tailings dams and coal waste disposal facilities pose certain risks in terms of structural stability and possible acid rock drainage, if not managed carefully.

Through the International Council on Mining and Metals' (ICMM) collaborative work with the United Nations Environment Programme (UNEP), we are active participants in international initiatives to define best practice in tailings management, and we follow national protocols for waste management such as those in South Africa and Canada.

During the year a full risk review was conducted on all the Group storage facilities for mine tailings, coal processed waste, slag and other large volume residues. The results indicate a low safety risk, and some potential acid rock drainage risks that are being controlled by sound management processes and plans for the future.

In addition to the mineral wastes described above, our operations also generate considerably smaller quantities of general (domestic and industrial) waste. Our objective is to minimise the generation of waste through, for example, process design, internal recycling, equipment selection and stock control. Where the generation of general or industrial waste is unavoidable, we aim to separate the waste at source to maximise the potential for reuse or recycling and to ensure appropriate disposal in accordance with the waste type. Residual waste is sent to facilities that are designed and operated in accordance with, as a minimum, the local legal requirements.

## Key data\*

Total number of processed waste disposal facilities	120
Number of facilities in active use	65
Total area occupied by facilities	6,579 ha
Total number of audits (third party and in-house)	166

\* Expanded from the coverage of the 2000 report by the inclusion of closed Anglo Coal waste facilities, and Konkola Copper Mines.

# Case studies

## Platinum

A problem of scavenging on the landfill site at Rustenburg Platinum Mines in South Africa has been transformed into a small business opportunity. Training in retrieval and segregation of waste materials, waste management and recycling, as well as training in safety procedures, has provided gainful self-employment for this group of entrepreneurs that now sub-contracts to the mine.

## Coal

At Moranbah North underground mine in Australia, contractor management of site wastes is yielding substantial savings, reducing direct costs, conserving resources and reducing landfill requirements. Materials that were previously landfilled are being retrieved from the waste stream and refurbished for re-use (after appropriate testing), or recycled.

## Base Metals

Outsourced to contractors, a cost-effective and efficient waste management system with formalised procedures and documentation is in place at Mantos Blancos in Chile. Waste material classified as domestic, recyclable or non-hazardous is collected in a system of three different colour-coded containers at various locations. Non-recyclable waste is bagged and buried in an authorised landfill. Recyclable wastes such as wood, scrap metal, empty drums and chemical containers are separated and stored in a salvage yard before off-site recycling. Hazardous wastes such as oil filters and oily rags are stored in drums in the hazardous waste area, and used vehicle oil is collected for recycling, with a recovery level of some 80%.

Waste collection, segregation and refurbishment at Moranbah North mine in Australia has resulted in substantial savings. On-site waste contractor Cleanaway (site manager Darryl Macnamara pictured) has returned a net annual benefit to the company of some \$75,000.



Augusto Peñaloza Villalobos, plant maintenance engineer at the Mantoverde mine of Mantos Blancos, inspects the empty drums stored in the salvage yard prior to off-site recycling.

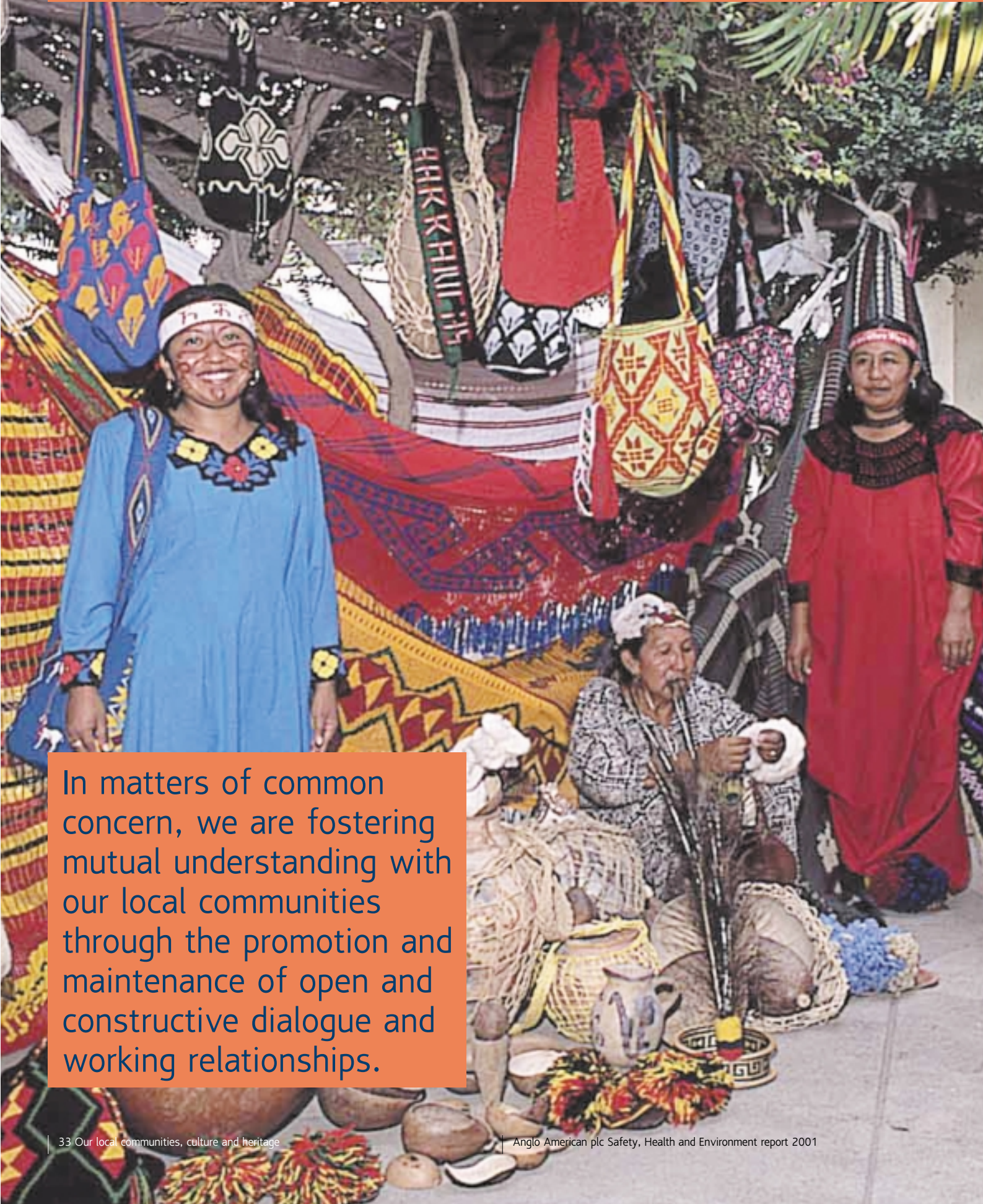


A community craft market in Colombia, where Carbones del Cerrejón's Fundación Nuestra Señora del Pilar supports community projects in the towns and villages close to its operations.

Codemin's environmental supervisor, Josue M Andrade, at the company's waste collection site.



## Our local communities, culture and heritage



In matters of common concern, we are fostering mutual understanding with our local communities through the promotion and maintenance of open and constructive dialogue and working relationships.

# Our local communities, culture and heritage

Our Business Principles define our responsibilities to our stakeholders. In line with our commitment to promote strong relationships with these groups and enhance the capacities of the communities of which we are a part, we are seeking a more consistent approach throughout the Anglo American Group in our community engagement programmes. To help further this aim, corporate community engagement guidelines are being designed to assist managers at our operations. Through the promotion and maintenance of open and constructive dialogue and working relationships with local communities, we are fostering mutual understanding in matters of common concern.

Each operation is tasked with formulating a community relations strategy that identifies, assesses and prioritises the social risks

associated with its activities, and the opportunities for contribution to and partnerships with communities. By establishing goals and measuring progress, the operations and their community stakeholders will measure the success and shortcomings of the programme. Such measurement is part of our commitment, within our Business Principles, to assess the contribution that our operations make to local social and economic development and to report on it.

We strive to ensure that prompt action is taken to address the root causes of any community incidents that may occur. Through continual feedback and evaluation, we look forward to strengthening our community engagement programmes.

## Case studies

### Platinum

Anglo Platinum played a leading role in the establishment of the \$18,5 million Lebalelo water supply scheme that entailed the construction of a 56 km pipeline on the eastern limb of the Bushveld Complex in Limpopo province in South Africa, where some of the world's largest reserves of chrome and platinum group metals are found. The pipeline carries water from the Olifants river to a series of new mines in the area and in the process it supplies water to 86 local villages. As this region has a high concentration of unique plant species, an environmental management plan was compiled to manage the impacts. This requires that all areas disturbed by the project are rehabilitated to approximate their state prior to commencement of construction. All the labour for the rehabilitation project was sourced from the local community and given specific training. Holding nurseries were established on the smallholdings of three local families, and these nurserymen are being trained in horticultural techniques and land use management for the purpose of continuing involvement in the entire rehabilitation process and to assist in educating the community in rehabilitation techniques and the cultivation of plants and trees.

### Forest Products

In a transaction valued at close to \$11 million, the SiyaQhubeka Consortium, comprising Mondi and its empowerment partner Imbokodvo Lemabalabala (IL Holdings), purchased 22,000 ha of commercial plantations from the South African state-owned enterprise, Safcol. This agreement will be instrumental in transforming a long history of passionate dispute between local forestry operations and environmentalists into a true partnership. Mondi has agreed to facilitate the sale of 14% of its 65% stake in SiyaQhubeka to rural timber farmers, the representatives of neighbouring communities and to IL Holdings, the empowerment shareholders. The land on which the plantations are situated will be leased to SiyaQhubeka by the Department of Water Affairs and Forestry. It is the intention of government, over a period of time, to use the lease rental to settle claims on the land by local communities. The largest part of the SiyaQhubeka forestry venture borders on the Greater St Lucia Wetland Park, a recognised World Heritage Site of conservation significance. SiyaQhubeka has accepted the invitation from the government to include significant areas of the commercial forestry business into the Greater St Lucia Wetland Park. The company is committed to the clearing and rehabilitation of wetlands and riparian corridors to re-establish the integrity of the water resource and allow the free movement of fauna and flora.

As part of Mondi's commitment to stakeholder engagement and social profiling, the company's four-year sponsorship of a capacity-building programme in rural KwaZulu-Natal in South Africa has resulted in the development of a practical and effective participative process to engage rural communities in the forestry regions. Known as the Mlazi Catchment management project, this was initiated by the Farmers Support Group, a non-government organisation affiliated to the Centre for Rural Development Systems at the University of Natal. Mondi is sponsoring the training of nineteen social development facilitators who are dedicated to interaction with the local community.

A group of workers sourced from the local community attend training in horticultural and land use techniques at a holding nursery for the rehabilitation of land disturbed by the 56 km Lebalelo water pipeline project.



## Coal

Over the past decade, Anglo Coal Australia has developed a relationship with Aboriginal people in the course of consultation over plans for developing new mines and managing cultural heritage. Anglo Coal Australia and the local traditional landowners have worked together on each new mine and mine proposal to identify potential cultural heritage issues and devise appropriate management plans. More recent planning for potential new projects such as the proposed Theodore mine has resulted in new relationships as the company's geographic spread widens. With recognition and respect as guiding principles, the company works in partnership with the traditional owners to achieve goals that meet the needs of both parties. The native title claimants of the regions in which two of the company's mines are located have agreed to develop voluntary Indigenous Land Use Agreements to address possible effects of long-term mine expansion on areas where native title may exist. The successful conclusion of voluntary native title agreements will owe a great deal to the sound relationships developed over the past decade.

## Ferrous Metals

During 1998 a decision was taken to mine an isolated reserve of vanadium-bearing magnetite, used in the Highveld Steel process, as a separate mining venture at Mapochs mine in Roossenekal in South Africa. The surface owners of the property are the Tshehla Trust who farm cattle on the property. Extensive negotiations for a surface lease ensued and were eventually concluded. A condition of the lease was preferential employment of Tshehla Trust members by the contractor who conducted the mining operation on behalf of Highveld Steel. The company also assisted Trust members with literacy training on the premises. A sound relationship has been built and, with mining operations now closed, the total area is being rehabilitated and reseeded for cattle grazing.

## Base Metals

At Loma de Níquel in Venezuela, the local community has been engaged to assist in cultivating and planting 16,000 trees, over a period of three years, around the dam and main access road to the mine where the soils are of suitable quality. The mine area is naturally

denuded of trees, owing to the high levels of nickel in the overlying soils which normally only support nickel-tolerant grasses. The mine is training members of the community, some of whom have formed communal nurseries, in the administration of resources, nursery development and maintenance, and in the application of fertilizers and pesticides.

## Exploration

The Boyongan exploration project in the Surigao district of the Philippines is a joint venture with Philex Gold and is managed and funded by Anglo American. The joint venture's environment and community development programme, which included an intensive information, education and communication campaign, received the Presidential Mineral Industry Achievement Award in 2001 for outstanding levels of dedication, initiative and innovation in the pursuit of excellence in environmental management. Small business projects implemented to date include the establishment of vegetable nurseries and gardens in communal and private properties, the dispersal of livestock for breeding purposes and the establishment of small-scale trading initiatives. Infrastructure projects include the improvement of the community's water supply system, the repair of public buildings and schools and maintenance of the main access road. Educational assistance has included an elementary scholarship programme for the poorest families in the community, the donation of computers to schools and a computer literacy programme conducted for the teachers.

The flooding of the Zambezi river in Mozambique in March 2001 caused affected villagers to flee to higher ground and wooded areas. International relief aid arriving in Beira and Maputo airports could not be distributed to villagers and aerial surveys were needed to locate concentrations of people and facilitate food parcel deliveries and rescue operations. The Mozambican government approached the United States Agency for International Development (USAid) for assistance and its subcontractor, Diplomatic Freight Services (DFS) in London, engaged the Geophysical Services department of Anglo American to provide its AmScan system comprising digital cameras, a global positioning system and a laptop computer to supply high-resolution data. The imagery recorded from each day's flying was submitted to the Mozambican government for an overview of the situation and was directly available on the Internet, allowing for easy access by the relief agencies.

Traditional owners (right to left) George Tonga, Frank Budby and Norman Johnson with their archaeologist, Liz Hattie, at Moranbah North record the details of a 'scar tree' from which pre-European Aborigines had cut a sheet of bark.

SHE manager at Loma de Níquel, Luis Espinoza, in discussion with a representative of the community which is growing trees for use in the mine's reforestation programme.

Aerial view of a flooded village on the Zambezi river in Mozambique, with tents (in white) supplied to the villagers by relief organisations.



## Corporate social investment



In 2001, Anglo American donated \$20.2 million to charitable causes and community projects. Priority causes for our corporate social investment were education, community development, health and environmental projects.

The Anglo American Chairman's Fund was a major contributor to eight new classrooms for the Buyani community school, south of Johannesburg in South Africa.

In 2001, Anglo American donated \$20.2 million to charitable causes and community projects. In dollar terms, this marked a decline from the \$28.4 million recorded in 2000 but a significant proportion of this fall was accounted for by the 25% decline in the average dollar/rand exchange rate between the two years. Priority causes for our corporate social investment were education, community development, health and environmental projects.

## Anglo American Chairman's Fund

Through its dedicated grant-making agency in South Africa, the Anglo American Chairman's Fund, the company channelled more than \$5.3 million in support of some 650 different projects during 2001. In South Africa's independently published Corporate Social Investment Handbook for 2001, Anglo American was rated the best corporate donor by non-government organisations and others in the development sector in South Africa (refer [www.csimatters.co.za](http://www.csimatters.co.za)).

Education receives the largest share of financial support. The Chairman's Fund assists schools, often in remote rural areas, to secure basic facilities. It supports projects for learners with special needs, pioneering new forms of learning for individuals of all ages and abilities for whom formal schooling has not traditionally catered. The Fund also promotes structured programmes for improved performance at school in the key disciplines of mathematics, science and English.

Prominent among the educational initiatives supported by the Fund in 2001 were a new chemical engineering building at the University of Cape Town, the building of new classrooms at the Basizeni School for learners with special educational needs and support for the St George's Home in Johannesburg which aims to help older children trapped in the welfare system to integrate into mainstream society.

Other areas attracting the Fund's support include community health (with a special concern for interventions helping society deal with the realities of HIV/AIDS), skills training and income generation, environmental stewardship and care for the elderly, the very young and others isolated from established support and relief networks.

By supporting and helping to strengthen the net of common endeavour through which South Africans from all parts of the country are working, in big ways and small, to bring new hope and opportunity to others in need, the Fund's carefully targeted and informed giving is able to secure enhanced social benefit.

The Anglo American Chairman's Fund has received top rating by NGOs and others in the development sector in South Africa. Pictured are Margie Keeton (right), a trustee of the Fund and CEO of Tshikululu Social Investments which administers the Fund, and Sizile Mabaso, the Fund manager.



Anglo American is supporting three foreign post-graduate students each year to study at British universities. Pictured (left to right) are Martin Gubbins (Chile), Anglo American chairman Julian Ogilvie Thompson, Maria Mkandawire (Zambia), Anglo American non-executive director Göran Lindahl and Tiro Holele (South Africa).



## Community social investment outside South Africa

We are involved in various initiatives in countries around the world, and this year we highlight some of our educational projects.

Anglo American is supporting three foreign post-graduate students each year to study at British universities. In 2001/2002, the chosen students came from Chile, South Africa and Zambia.

Tarmac is furthering its aim of contributing to the society in which it is invested by funding a prestigious scholarship at Jesus College, Oxford, for citizens of Poland and the Czech Republic. The scholarship is for postgraduate study and research on natural resources in the fields of physical and social sciences, commencing in October 2002. By facilitating research by graduates from these countries, the company is developing awareness of sustainable development in the context of resource use and enhancing interest in the quarrying and mining industries.

Tarmac provides funding for the British Waterways Dragonfly project. This project supports an educational canal boat that takes schoolchildren around the English Midlands to study environmental issues.

Lisheen mine in Ireland launched its sponsorship of a schools environmental awareness competition that drew entries on a wide range of environmental topics, thus achieving its aim of enhancing awareness and understanding in the community of matters pertaining to the environment.

Anglo American is supporting the Geologists' Association's Rockwatch initiative in UK schools. This project is focused on increasing knowledge of, and interest in, geology.

In Colombia, Anglo Coal's Carbones del Cerrejón established the Fundación Nuestra Señora del Pilar in 1988 to support community projects in the towns and villages close to its operations. In 2001, the Fundación had 72 active projects and disbursed some \$900,000. Key to these projects is a continuing programme to support the updating of teaching skills in the communities surrounding the mine and to improve infrastructure in terms of buildings and equipment. The scheme has already improved the teaching skills of over 1,000 teachers.

Similarly in Zimbabwe, Anglo American supported eight rural schools in 2001 by helping them to fund the purchase of books and equipment

Young scholars on 'Roman', the canal boat sponsored by Tarmac as part of the British Waterways Dragonfly project that teaches children about environmental issues.



and the construction of classrooms and teachers' accommodation. The schools concerned have reported improved rates in teacher retention and school attendance. In addition, the company has been supporting computer-based learning schemes in a further nine rural schools.

Following the earthquakes in northern India in February 2001, Anglo American exploration supported the reconstruction of three primary schools in Gujarat.

## Black economic empowerment in South Africa

A particular challenge for our operations in South Africa is to accelerate opportunity for those disadvantaged by the past. Anglo American has been at the forefront of measures to promote black economic empowerment. Since 1994, the Group has invested in excess of \$1.8 billion. Of this, more than \$500 million was spent on procurement from black-owned business and black business development.

In 2001, Anglo Platinum alone concluded three major empowerment deals valued at some \$200 million. Mondi concluded the innovative SiyaQhubeka transaction that leveraged the privatisation of state-owned forests in KwaZulu-Natal to provide not only empowerment participation but also an important sustainable development dimension by contributing assets and land to the Greater St Lucia Wetland Park.

## Small and medium enterprise initiatives

During 2001, Anglo American's South African divisions and operations concluded some \$151 million worth of transactions through the procurement of goods and services from small and medium enterprises (SMEs), which comprise businesses with a turnover of less than \$3.5 million per year and under 200 employees, with at least 40% black shareholding where the owners are also the managers of the enterprise. This represents an increase of 23% over the figure of \$123 million for 2000.

The transactions included the procurement by Anglo Coal of goods and services from 129 SMEs to the value of \$29 million, an increase of 87% on the previous year. Anglo Platinum spent \$18 million on procurement from SMEs and business development during 2001, representing an improvement of 44%. This includes the \$8 million

spent at the new Maandagshoek platinum mine, a joint venture between Anglo Platinum and African Rainbow Minerals. It also includes \$250,000 spent at the Polokwane (Pietersburg) smelter. Mondi spent \$20 million on procurement from SMEs. A further \$1 million was paid to owner-drivers participating in the paper pick-up programme.

In line with Anglo American's commitment to South Africa's socio-economic growth, its enterprise development and empowerment initiative, Zimele, concentrates on the establishment and promotion of small and medium enterprises (SMEs). Many of these SMEs are developed from outsourcing opportunities at the mining operations. Seven new ventures were established in 2001, bringing the Zimele portfolio to 21 black empowerment investments. The SME ventures, which collectively employ 1,234 people, generated a turnover of \$17 million in 2001, an 80% improvement on the previous year.

Similarly, in Zambia, Konkola Copper Mines has implemented a local business development programme to encourage and facilitate the establishment of Zambian-owned small and medium enterprises to supply materials, equipment and services to the mine. Business Partners for Development – a joint initiative of the World Bank, CARE (a major international development and relief non-governmental organisation) and a number of companies – is working with KCM to facilitate a process of dialogue and partnership-building with civil society and government to find the most efficient and inclusive use of available resources, expertise, leadership and opportunities to promote local business development.

## Other corporate initiatives in South Africa

Anglo American continues to be the most significant donor to the Business Trust. This partnership between business and the South African government creates employment through the stimulation of tourism and builds human capacity through the improvement of basic education. At the mid-term of this innovative five-year corporate social investment initiative, over two million South Africans are benefiting directly from its programmes.

The company continues to play a role in Business Against Crime, which is recording significant successes in strengthening the criminal justice system, and a range of other civil society initiatives all aimed at building the institutions of a prosperous market democracy.

The staff of the Conejo community health centre in Colombia with students, local authorities and community leaders. Constructed in 2001, with help from the local community, this centre is a project of the Fundación Nuestra Señora del Pilar, established and funded by Carbones del Cerrejón.

At the official launch of the SiyaQhubeka empowerment transaction which will transform a long history of passionate dispute between local forestry operations and environmentalists into a true partnership are (left to right) the South African Minister of Public Enterprises Jeff Radebe, Minister of Water Affairs and Forestry Ronnie Kasrils and Mondi South Africa CEO Andrew Thompson.

Anglo American chairman, Julian Ogilvie Thompson, and executive vice-president (corporate affairs) and Business Trust trustee, Michael Spicer, with national director of the READ Educational Trust, Cynthia Hugo (right), at the Ukhanyiso primary school in South Africa.



# Certification and audit programmes

## Basis of reporting

The SHE data in this report are aggregated from all the operations (companies, partnerships, joint ventures and other interests) over which we exercise management control. Anglo American consists of business divisions that are divided into companies, which are comprised of business units, and these may consist of multiple sites. SHE data are submitted by sites and business units to the corporate SHE database. Both companies and sites are referred to as operations.

A full list of divisions and companies may be found on [www.angloamerican.co.uk](http://www.angloamerican.co.uk). We report these SHE data on a 100% basis for managed business units, even where our interest is less than 100%. SHE data from operations that were disposed of or acquired during the year are generally included only for the period that the operations were under management control or during which Anglo American was responsible for the activities concerned.

## Comparability

SHE data are collected using the Anglo American corporate SHE database, with parameters defined in the Anglo American SHE dictionary. We use the tools and guidelines developed by the WBCSD's Greenhouse Gas Protocol Initiative for reporting our greenhouse gas emissions. Data reported for 1999, 2000 and 2001 are not always directly comparable owing to refinements in the methodology for determining certain data and enhancements in data collection systems. 2001 data have been more consistently and accurately collected than in 2000 owing to improvements in reporting methods. Parameters particularly impacted by comparability issues are:

- Energy consumption and CO<sub>2</sub> emissions due to changes in calculation methods at sites that are significant to the Group;
- Environmental incidents due to differences in interpretation of what constitutes an incident, how they are graded and more consistent reporting by business units; and
- Water used for primary activities, due to improving methods of data collection.

## Limitations

This is the second year that we have reported publicly our SHE performance, and our SHE data management systems and processes have been evolving. There are still some limitations in the reliability and comparability of the data and we are working to improve this.

General limitations that can affect the interpretation of the SHE data include the use of industry-wide factors for calculating or estimating parameters. Local cultures and practices can also affect some details of SHE data at site level. Certain specific limitations to our SHE data include:

- Most operations have their own SHE data collection systems. At present, there is little direct linkage to the corporate SHE database, and this introduces increased risk of error.
- Some difficulties are experienced in obtaining complete and accurate contractor information, and this impacts on the accuracy of the LTIFR.
- South African methane emissions are based on preliminary estimates and the methodology is being refined.
- SO<sub>2</sub> emission data are obtained from both mass balances and measurements, generally excluding emissions from fossil fuels.
- Differences in interpretation affect the classification of environmental incidents (graded as Levels 1, 2 or 3).

The nature of SHE data reported and the methods used for measuring, calculating or estimating such data are subject to some inherent limitations in terms of accuracy.

## Assurance

We engaged with our external assurance providers (KPMG) to carry out an independent review of the SHE data. The parameters selected by the auditors were fatalities, lost-time injury frequency rate, environmental incidents, SO<sub>2</sub> emissions, CO<sub>2</sub> emissions and energy consumption. The resulting independent review report from KPMG is found on page 41.

As our operations progress towards formal certification in the safety, health and environment fields, all our business units have both internal and external audit programmes in place. No material business units are excluded from audit programmes. There has been an increase in environmental audits since 2000, which reflects the focus on ISO 14001 implementation and certification. Similarly, the increase in management audits in the safety and environment fields reflects the current priorities of the Group, namely, systems implementation and improvement in performance.

The following tables summarise the status of formal certification of our managed business units:

### Safety and Health certification

Division	Operation	Type of certification achieved in or before 2001
Platinum	<ul style="list-style-type: none"> <li>• All operations</li> <li>• Precious Metals Refiners</li> </ul>	IRCA NOSCAR
Forest Products	<p>Mondi South Africa</p> <ul style="list-style-type: none"> <li>• Paper Division (Merebank)</li> <li>• Recycling Division (all operations)</li> <li>• Paper Division (Merebank)</li> <li>• Mondipak (Walvis Bay)</li> <li>• Mining Supplies Division (R&amp;D, Friedesheim, Klerksdorp, Welverdiend, Rustenburg)</li> <li>• Forests Division (Zululand)</li> <li>• Mondipak Division (Nelspruit, Port Elizabeth, East London)</li> <li>• Mining Supplies Division (Mkhulu, Kemp)</li> <li>• Forests Division (NECF, Zululand)</li> <li>• Forests Division (Piet Retief, Northern Region, Natal)</li> </ul> <p>Mondi Europe</p> <ul style="list-style-type: none"> <li>• Mondipak Division (Brakpan)</li> <li>• Mondipak Division (Mold)</li> </ul>	IRCA Diamond IRCA Platinum NOSA 5-star NOSA 5-star NOSA 5-star NOSA 4-star NOSA 4-star NOSA 4-star NOSA 4-star NOSA 3-star OHSAS 18001 OHSAS 18001
Coal	<ul style="list-style-type: none"> <li>• Goedehoop colliery</li> <li>• Carbones del Cerrejón</li> </ul>	NOSA 5-star NOSA 3-star
Ferrous Metals	<p>Highveld Steel</p> <ul style="list-style-type: none"> <li>• Rheem Vanderbijlpark</li> <li>• Mapochs mine, Rheem Cape Town, Rheem Durban</li> <li>• Rand Carbide, Transalloys</li> <li>• Vanchem</li> </ul>	NOSA 5-star NOSA 4-star NOSA 3-star NOSA 2-star

## Safety and Health certification (continued)

Ferrous Metals (continued)	Scaw group	<ul style="list-style-type: none"> <li>• McKinnon Chain</li> <li>• Consolidated Wire Industries, Flather Bright, Steel Wire Rope, Wire &amp; Strand</li> <li>• Fascor</li> <li>• Scaw Germiston</li> <li>• Standard Foundry</li> </ul>	<p>NOSA 5-star</p> <p>NOSA 4-star</p> <p>NOSA 3-star</p> <p>NOSA 2-star</p> <p>NOSA 1-star</p>
Base Metals		<ul style="list-style-type: none"> <li>• Mantos Blancos mine</li> <li>• Black Mountain</li> <li>• Mantoverde mine</li> <li>• Namakwa Sands mine and Mineral Separation Plant</li> <li>• Lisheen</li> <li>• Hudson Bay production sites, excluding support areas</li> </ul>	<p>NOSCAR</p> <p>NOSA 5-star</p> <p>NOSA 5-star</p> <p>NOSA 5-star</p> <p>ISRS level 7</p> <p>ISRS levels 2 to 5</p>
Industries		<ul style="list-style-type: none"> <li>• Boart Hard Materials BLSA-HM-HmP Manufacturing</li> <li>• Wendt WLS</li> <li>• Boart Springs</li> <li>• Roodepoort</li> </ul>	<p>NOSCAR</p> <p>NOSA 5-star</p> <p>NOSCAR</p> <p>NOSA 5-star</p>

## Environmental Management System certification

Division	ISO 14001 certification	Status towards full ISO 14001 certification (% by turnover)
Platinum	<ul style="list-style-type: none"> <li>• Bafokeng Rasimone mine (certification audit scheduled for March 2002)</li> </ul>	<p>5% of division</p> <p>100% by end of 2004</p>
Forest Products	<ul style="list-style-type: none"> <li>• Mondi Kraft (Richards Bay)</li> <li>• Mondi Kraft Silvacel (Richards Bay)</li> <li>• Mondi Paper Division (Merebank)</li> <li>• Mondipak Division (Brakpan and Port Elizabeth)</li> <li>• Frantschach (Sepap, Dynas, Patria)</li> <li>• Neusiedler (Hausmening, Kematen paper production unit)</li> </ul>	<p>80% of division</p> <p>100% by end of 2003</p>
Coal	<ul style="list-style-type: none"> <li>• Kriel colliery</li> </ul>	<p>3% of division</p> <p>100% by end 2004</p>
Industrial Minerals	<ul style="list-style-type: none"> <li>• Tarmac Northern – 35%</li> <li>• Tarmac Central – 45%</li> <li>• Tarmac Western – 40%</li> <li>• Tarmac Southern – 36%</li> <li>• Tarmac Recycling – 100%</li> <li>• Tarmac Middle East Al Futtaim – 100%</li> <li>• Cleveland Potash</li> </ul>	<p>32% of division</p> <p>100% by end 2004</p>
Ferrous Metals	<ul style="list-style-type: none"> <li>• Highveld Rand Carbide</li> <li>• Catalão</li> </ul>	<p>3% of division</p> <p>100% by end 2004</p>
Base Metals	<ul style="list-style-type: none"> <li>• Codemin</li> <li>• Mantos Blancos mine</li> <li>• Mantoverde mine</li> </ul>	<p>24% of division</p> <p>100% by end of 2003</p>
Industries	<ul style="list-style-type: none"> <li>• Boart Longyear Seco</li> <li>• Boart Longyear Springs (Mining Division)</li> <li>• Boart Longyear Canada Mississauga</li> <li>• Boart Longyear Germany</li> <li>• Wendt Germany</li> <li>• Boart Longyear Europe Shannon</li> <li>• Boart Longyear Europe Germany</li> <li>• Boart Longyear Ceramics</li> </ul>	<p>58% of division</p> <p>100% by end 2003</p>

Division	Other Environmental Management System certification	Status
Forest Products	<p><b>FSC</b> Forests Division (Piet Retief, Zululand, KwaZulu-Natal, Northern Region)</p> <p><b>FSC chain of custody</b> Mondi Kraft Division (Richards Bay) Mondi Kraft Silvacel (Richards Bay) Mondi Paper Division (Merebank) Mondi Timber (Peak and Ramanas) Neusiedler (Hausmening)</p>	<p>Full certification except for one new acquisition of 33,000 ha, which is scheduled for certification in 2002.</p>

# Independent review report



Anglo American plc  
20 Carlton House Terrace  
London SW1Y 5AN

To Anglo American plc

## Report of the independent reviewers on the Safety, Health and Environment Report 2001

### Introduction

We have been engaged by Anglo American plc to review selected safety, health and environment (SHE) performance data and associated statements as reported in its Safety, Health and Environment Report 2001 (the SHE report). The SHE performance data subject to our review for Anglo American plc and its subsidiary companies (the Group) were:

- Lost-time injury frequency rate;
- Fatalities;
- Sulphur dioxide emissions;
- Carbon dioxide emissions;
- Energy consumption; and
- Environmental incidents (Levels 1,2 and 3);

(collectively referred to as the selected SHE performance data).

The directors are responsible for the preparation of the SHE Report and the information and assessments contained within it, for determining the Group's objectives in respect of SHE information, and for establishing appropriate performance management and internal control systems from which the reported information is derived. Our responsibility is to report to you on the selected SHE performance data and associated statements based on the work referred to below. We also report if, in our opinion, any disclosures in the report relating to the selected SHE performance data and associated statements are inconsistent with our findings, if we have not received all the information and explanations we required to conduct our review, or if we became aware of additional information, the omission of which may result in the selected SHE performance data being materially misstated or misleading.

### Basis of review

There are no generally accepted standards for the reporting or review of SHE performance. Our work reflected emerging best practice for the review of non-financial performance reporting and was carried out by a multi-disciplinary team of SHE and assurance specialists. We applied a risk-based approach in our review, drawing on an understanding of the risks associated with reporting SHE performance and the systems and processes in place to mitigate these risks.

Our work consisted of:

- obtaining an understanding of the systems used to generate, aggregate and report SHE performance data at site, business unit, divisional and Group level;
- conducting eight site visits to review SHE performance data management systems and the associated reliability (such as completeness, accuracy and consistency) of the selected SHE performance data submitted for central consolidation. Our site visits included assessing the systems and processes the sites have in place to meet the requirements of the Group's SHE Reporting Guidance for the selected SHE performance data;
- performing a desk-top review of the selected SHE performance data submitted for central consolidation by the Group's reporting units and obtaining explanations for SHE performance trends;
- testing the accuracy of the aggregation process for the selected performance data at Group level; and
- reviewing the presentation of the selected SHE performance data and associated statements in the SHE report in light of the findings from the site visits and the desk-top review and our cumulative knowledge of the industry and the Group's operations.

We selected the SHE performance indicators for review by considering the Group's key SHE risks, identifying those SHE indicators most relevant to management and stakeholder decision-making processes and our experience of the associated SHE reporting systems and processes. We selected sites for review based on a range of risks and issues that may influence reporting in a geographically and operationally diverse organisation like Anglo American plc. Our work did not constitute an audit and, accordingly, provides only limited assurance on the reliability and comparability of the selected SHE performance data and associated statements. No assurance is given in relation to the SHE performance data not covered by our review.

### Considerations

It is important to read the reported SHE performance data and associated statements in the context of the summary of reporting policies and limitations on page 39. The reliability of SHE data is subject to inherent limitations given its nature and the methods for determining, calculating or estimating such data. Comparative SHE performance data included in this SHE report were prepared on the same basis as for the year ended 31 December 2000, except for energy consumption, carbon dioxide emissions and the classification of environmental incidents, with the effects explained on pages 20, 21, 23 and 39. We reviewed certain SHE performance data in the SHE report for the year ended 31 December 2000 and the scope of our work is set out in our review statement thereon dated 29 March 2001. Our review of the SHE indicators and the associated statements in the SHE report 2001 involved more comprehensive procedures than our review of selected SHE indicators and associated statements in the SHE report 2000.

### Opinion

During the course of our review nothing came to our attention to indicate that the selected SHE performance data and associated statements were materially misstated or misleading.

**KPMG**

Chartered Accountants  
22 April 2002

# Glossary

Acid rock drainage	Contaminated water resulting from oxidation of sulphur-containing minerals in rocks exposed to air and water in a mining environment. The water may be acidic (low pH) with elevated salts and metal concentrations, or neutralised (neutral pH) with elevated salt concentrations such as sulphate, calcium, magnesium and sodium.
AOX in waste water	Total quantity of chlorinated organics (AOX) in waste water.
AS/NZS 4801:2001	The Australian/New Zealand Standard occupational health and safety management systems: specifications with guidance for use.
BPD	Business Partners for Development, a joint initiative of the World Bank, CARE (a major international development and relief non-governmental organisation) and a number of companies (including Anglo American).
BS 8800	The British Standards Institution's guide to occupational health and safety management systems.
Coal mine methane	Quantity of methane (CH <sub>4</sub> ) generated as a result of coal mining activities.
CO <sub>2</sub> from electricity purchased	Calculated quantity of CO <sub>2</sub> emitted in the generation of the electricity purchased by a business unit. Country-specific conversion factors are used in the calculation.
CO <sub>2</sub> from processes and fossil fuels	Calculated quantity of CO <sub>2</sub> emitted from processes and from fossil fuel combustion.
COD in waste water	Total quantity of Chemical Oxygen Demand (COD) in waste water.
Fatality	The death of an employee or contractor resulting from a work-related injury.
FIFR	Fatal injury frequency rate – the number of fatalities per 200,000 hours worked.
FSC	Forest Stewardship Council, an international accreditation body. The goal of the FSC is to promote environmentally responsible, socially beneficial and economically viable management of the world's forests.
GHG	Greenhouse gas.
GMI	Global Mining Initiative established in October 1998. Founders were Anglo American, BHP, Billiton, Codelco, Newmont, Noranda, Phelps Dodge, Placer Dome, Rio Tinto and Western Mining Corporation.
Hours worked	Total number of hours worked by employees, including overtime and training, excluding leave, sickness and other absences. It includes the total number of contractor hours worked on site during the year.
ICMM	International Council on Mining and Metals.
IPCC	Intergovernmental Panel on Climate Change, a panel of scientific experts convened to advise the parties to the UNFCCC.
IRCA	International Risk Control Africa.
ISO 14001	An environmental management systems standard published by the International Standards Organisation.
ISRS	International Safety Rating System.
Kyoto Protocol	An international protocol, adopted in Kyoto, Japan, in December 1997, to control emissions of greenhouse gases under the UNFCCC.
Land altered for mineral extraction	Area of land under company charge at the end of the reporting period, where the original characteristics have been altered by mineral extraction and ancillary operations.
Land under company charge	Total land area managed by Anglo American business units.
LTI	Any occupational lost-time injury which renders the person unable to carry out his/her regular duties on the next day, and which results in one or more days away from work.
LTIFR	Lost-time injury frequency rate – the number of lost-time injuries per 200,000 hours worked.
Managed companies	Companies in which Anglo American has management control.
Management control	The full authority for a member of the Anglo American Group of companies to introduce and implement the Group's SHE policy.

MMSD	The Mining, Minerals and Sustainable Development project, an independent analytical study funded through the WBCSD, as part of the GMI.
NOSA	The international NOSA integrated 5-star system provides an auditing and certification service in occupational health and safety risk management. Star ratings, awarded according to an operation's level of compliance with NOSA standards, range from 1 (fair) to 5 (excellent).
NOSCAR	NOSA's 'Oscar', or top award, judged annually from the ranks of the best performers in industry and mining. These awards are made to NOSA graded companies with excellent occupational SHE standards that have achieved at least 95% of the NOSA 5-star system objectives.
OHSAS 18001	Occupational Health and Safety Assessment Series (specifications for occupational health and safety management systems).
Raw material used (by Forest Products division)	Total tonnes of logs, bagasse, chips, pulp, waste paper, and filler used in the manufacturing process to make the product.
Red data species	A global listing, sponsored by the World Conservation Union in Switzerland, of endangered species including birds, mammals, invertebrates and plants.
Solid waste generated	Non-hazardous solid waste disposed of to a legal landfill site.
Tailings and tailings dams	The fine fraction of waste rock remaining after the mining and on-site processing of mineral resources. This consists of finely ground particles and traces of process reagents and chemical residues. Tailings are piped into engineered impoundments known as tailings dams, which are developed, operated, monitored and maintained to prevent seepage and water contamination both during and after mining operations.
Tonnes milled	Total tonnes of ore processed, including tonnage used for heap leaching.
Tonnes mined	Total tonnes of ore and waste/overburden mined.
Total energy used	Calculated from electricity purchased and fossil fuels consumed.
Total grasslands and wetlands area	Area of land under company charge identified as grasslands or wetlands.
Total land area planted	Total forested area of land under company charge.
TSS in waste water	Total suspended solids in waste water.
UNEP	United Nations Environment Programme.
UNFCCC	United Nations Framework Convention on Climate Change, presented for signature in Rio de Janeiro in 1992.
Waste water discharged	Total volume of effluent discharged to surface water, for irrigation, to third parties for treatment and to river or ocean.
Water used for primary activities	Total new or make-up water entering the operation and used for the operation's primary activities. Primary activities are those activities in which the operation engages to its their product(s) and include dust suppression within the operational area.
WBCSD	The World Business Council for Sustainable Development, an association of corporations (including Anglo American plc) that presents the business case for sustainable development.
WEF	World Economic Forum.
WHO	World Health Organisation.
WRI	World Resources Institute.
WSSD	World Summit on Sustainable Development, to be held in Johannesburg, South Africa, from 26 August to 4 September 2002.

# Environmental data for managed companies for the year ended 31 December 2001

	CO <sub>2</sub> from processes and fossil fuels <sup>a</sup>	CO <sub>2</sub> from electricity purchased <sup>b</sup>	Total energy used <sup>c</sup>	land utilised by operations	Water Used for Primary activities	Tonnes mined/ Tonnes milled <sup>d</sup>	
	000 tonnes	000 tonnes	000 GJ	ha	000 m <sup>3</sup>	000 tonnes	
<b>Anglo Platinum</b>							
Bafokeng Rasimone Platinum Mine	19	142	916	925	1,533	1,892	
Lebowa Platinum Mine	3	124	628	282	3,577	1,397	
Potgietersrust Platinum	52	205	1,674	690	2,620	4,270	
Precious Metals Refiners	0	27	132	32	102	na	
RPM Amandelbult Section	7	553	2,687	719	6,824	7,086	
RPM Rustenburg Section	7	753	3,615	2,194	9,863	7,733	
RPM Union Section	21	493	2,551	1,807	5,657	4,466	
RPM Waterval Smelter	60	416	2,607	57	416	na	
Rustenburg Base Metals Refiners	131	145	2,093	145	799	na	
<b>Totals 2001</b>	<b>301</b>	<b>2,857</b>	<b>16,902</b>	<b>6,851</b>	<b>31,390</b>	<b>26,843</b>	
Totals 2000	302	NR	16,261	5,560	26,505	24,575	
<b>Anglo Coal</b>							
							<b>000 tonnes</b>
<b>Anglo Coal Australia</b>							
Callide	50	57	852	1,916	1,132	9,428	18
Dartbrook	467	49	229	96	174	3,360	505
Drayton	198	22	696	1,060	393	5,234	10
German Creek	59	120	767	3,726	1,459	5,912	1,299
Moranbah North	11	70	366	833	1,354	5,763	105
<b>Anglo Coal South Africa</b>							
Bank	3	74	380	660	1,076	5,238	201
Goedehoop	4	122	628	1,231	1,109	7,953	206
Greenside	2	30	161	394	252	2,989	84
Kleinkopje	35	92	902	2,219	1,555	8,009	84
Landau	10	51	377	1,351	186	5,875	49
Kriel	17	68	548	1,843	373	8,547	181
New Denmark	3	72	383	3,207	859	4,674	164
New Vaal	40	110	1,061	5	439	16,538	102
<b>Anglo Coal South America</b>							
Carbones del Cerrejón	90	1	1,251	54	199	3,269	*
<b>Totals 2001</b>	<b>988</b>	<b>938</b>	<b>8,602</b>	<b>18,595</b>	<b>10,561</b>	<b>92,788</b>	<b>3,010</b>
Totals 2000	176 <sup>e</sup>	NR	5,206 <sup>e</sup>	13,021 <sup>e</sup>	4,079 <sup>e</sup>	60,007 <sup>e</sup>	NR
<b>Anglo Base Metals</b>							
KCM	374	1,469	11,321	1,500	57,109	10,374	
Mantos Blancos Company	131	132	3,165	2,610	5,442	16,566	
Bindura Nickel Corporation (BNC)	63	258	1,903	869	2,514	1,951	
Codemin	85	8	2,033	14,986	1,950	464	
Loma de Níquel	263	98	5,847	232	3,074	777	
Namakwa Sands	252	425	3,515	1,572	7,236	1,572	
Hudson Bay	215	191	6,343	3,395	13,083	3,558	
Black Mountain	7	109	610	929	2,590	1,558	
Lisheen	3	74	414	150	9	1,146	
<b>Totals 2001</b>	<b>1,393</b>	<b>2,764</b>	<b>35,150</b>	<b>26,243</b>	<b>93,006</b>	<b>37,964</b>	
Totals 2000	870 <sup>e</sup>	NR	19,604 <sup>e</sup>	24,335	31,883	36,353	

Coal mine methane,  
CO<sub>2</sub> equivalent

Rounding of figures may cause computational discrepancies.

<sup>a</sup> CO<sub>2</sub> emissions from processes and fossil fuels consumed are calculated using the WBCSD Greenhouse Gas Protocol calculation tools, and do not include emissions from purchased electricity. The total for CO<sub>2</sub> emissions from processes and fossil fuels indicated on pages 3 and 23 includes head and regional offices and other sites.

<sup>b</sup> CO<sub>2</sub> emissions from purchased electricity are calculated using country specific factors for national grid electricity.

<sup>c</sup> Total energy used is calculated from electricity purchased and fossil fuels consumed. The total for energy consumption indicated on pages 3 and 21 includes head and regional offices and other sites.

<sup>d</sup> For Anglo Platinum and Anglo Base Metals, figures are tonnes milled; for Anglo Coal and Namakwa Sands, figures are tonnes mined.

<sup>e</sup> These data are not the same as reported in 2000 due to data refinements during 2001.

na Not applicable \* Not available NR Parameter not reported in 2000

	CO <sub>2</sub> from processes and fossil fuels <sup>a</sup>	CO <sub>2</sub> from electricity purchased <sup>b</sup>	Total energy used <sup>c</sup>	Land utilised by operations	Water used for primary activities
	000 tonnes	000 tonnes	000 GJ	ha	000 m <sup>3</sup>
<b>Anglo Industrial Minerals</b>					
Copebrás	45	5	1,245	80	7,703
Cleveland Potash	57	78	1,368	na	900
Steetley Iberia	14	3	209	10	6,900
Tarmac (Central Europe)	10	19	267	1,134	119
Tarmac (China)	15	3	212	na	66
Tarmac (France)	5	2	151	77	650
Tarmac (Middle East)	6	2	88	410	55
Tarmac UK	1,179	193	11,035	7,867	65,134
<b>Totals 2001</b>	<b>1,330</b>	<b>304</b>	<b>14,576</b>	<b>9,578</b>	<b>81,526</b>
Totals 2000	1,400 <sup>d</sup>	NR	10,230 <sup>d</sup>	8,652 <sup>d</sup>	58,307 <sup>d</sup>
<b>Anglo Ferrous Metals</b>					
Zimbabwe Alloys	50	237	1,617	79	606
Highveld Steel	3,754	2,476	52,530	1,405	9,293
Catalão	4	1	134	203	3,456
Iron Duke	1	1	20	237	6
Scaw Group	847	634	13,307	157	1,755
<b>Totals 2001</b>	<b>4,656</b>	<b>3,349</b>	<b>67,608</b>	<b>2,081</b>	<b>15,116</b>
Totals 2000	4,914 <sup>d</sup>	NR	70,187 <sup>d</sup>	2,377	14,148

Rounding of figures may cause computational discrepancies.

<sup>a</sup> CO<sub>2</sub> emissions from processes and fossil fuels consumed are calculated using the WBCSD Greenhouse Gas Protocol calculation tools, and do not include emissions from purchased electricity.

The total for CO<sub>2</sub> emissions from processes and fossil fuels indicated on pages 3 and 23 includes head and regional offices and other sites.

<sup>b</sup> CO<sub>2</sub> emissions from purchased electricity are calculated using country specific factors for national grid electricity.

<sup>c</sup> Total energy used is calculated from electricity purchased and fossil fuels consumed. The total for energy consumption indicated on pages 3 and 21 includes head and regional offices and other sites.

<sup>d</sup> These data are not the same as reported in 2000 due to data refinements during 2001.

na Not applicable \* Not available NR Parameter not reported in 2000

# Environmental data for managed companies for the year ended 31 December 2001 (continued)

Anglo Forest Products	CO <sub>2</sub> from processes and fossil fuels <sup>a</sup> 000 tonnes	CO <sub>2</sub> from electricity purchased <sup>b</sup> 000 tonnes	Total energy used <sup>c</sup> 000 GJ	Raw material used 000 tonnes	Water used for primary activities 000 m <sup>3</sup>	Particulate emissions tonnes
Mondi Limited						
Kraft						
Felixton	112	52	1,442	153	2,117	118
Piet Retief	113	61	1,496	203	840	321
Richards Bay	1,416	157	4,308	1,893	30,178	644
Silvacele	1	5	33	1,206	53	na
Paper						
Merebank	433	758	8,463	744	11,948	19
Timber	27	8	408	195	98	71
Mining Supplies	2	4	39	435	13	na
Mondipak	23	19	409	182	205	*
Cartonboard						
Springs	81	79	1,255	162	1,649	85
Mondi Packaging Poland	4	0	50	68	125	25
Neusiedler						
Dunaújváros	0	23	179	69	1,719	na
Szolnok	80	23	1,603	87	2,977	na
Neusiedler	180	20	3,612	264	6,574	0
Hadera	*	56	250	85	874	na
Ružomberok	138	93	3,355	141	30,509	209
Frantschach						
Dynas	26	10	1,277	348	15,384	*
Patria	52	3	854	405	6,673	89
Sepap	598	167	7,643	1,410	37,603	112
Świecie	558	185	7,069	1,665	22,424	432
<b>Totals 2001</b>	<b>3,843</b>	<b>1,723</b>	<b>43,744</b>	<b>9,716</b>	<b>171,964</b>	<b>2,126</b>
Totals 2000	2,549	NR	18,966	5,976	50,739	1,750

Rounding of figures may cause computational discrepancies.

<sup>a</sup> CO<sub>2</sub> emissions from processes and fossil fuels consumed are calculated using the WBCSD Greenhouse Gas Protocol calculation tools, and do not include emissions from purchased electricity. The total for CO<sub>2</sub> emissions from processes and fossil fuels indicated on pages 3 and 23 includes head and regional offices and other sites.

<sup>b</sup> CO<sub>2</sub> emissions from purchased electricity are calculated using country specific factors for national grid electricity.

<sup>c</sup> Total energy used is calculated from electricity purchased and fossil fuels consumed. The total for energy consumption indicated on pages 3 and 21 includes head and regional offices and other sites.

na Not applicable \* Not available NR Parameter not reported in 2000

<b>Anglo Forest Products (continued)</b>	<i>Solid waste generated</i>	<i>Waste water discharged</i>	<i>COD in waste water</i>	<i>AOX in waste water</i>	<i>TSS in waste water</i>	<i>Production for 2001<sup>a</sup></i>	<i>Production for 2000<sup>b</sup></i>
	tonnes	m <sup>3</sup>	tonnes	tonnes	tonnes	000 tonnes	000 tonnes
Mondi Limited							
Kraft							
Felixton	25,427	2,027	39,055	na	10,080	104	105
Piet Retief	10,092	607	2,441	na	653	126	132
Richards Bay	62,069	25,803	41,454	394	7,392	556	587
SilvaceL	7,343	21	na	na	na	913	988
Paper							
Merebank	136,731	10,894	8,656	na	589	499	509
Timber	400	33	0	na	0	118	343
Mining Supplies	1,703	na	na	na	na	377	309
Mondipak	570	157	392	na	na	296	304
Cartonboard							
Springs	65,149	1,258	2,133	na	89	132	138
Mondi Packaging Poland	*	*	*	*	*	73	NR
Neusiedler							
Dunaújváros	773	1,737	1,687	*	1,028	90	NR
Szolnok	5,996	2,235	1,182	*	99	110	NR
Neusiedler	342	5,452	3,260	*	222	336	NR
Hadera	*	901	901	*	691	110	NR
Ružomberok	29,319	35,438	5,204	*	546	166	NR
Frantschach							
Dynas	9,053	10,785	3,632	*	759	174	NR
Patria	7,121	6,067	365	*	0	247	NR
Sepap	36,030	34,271	5,238	14	1,286	383	NR
Świecie	28,789	19,147	1,858	*	234	631	NR
<b>Totals 2001</b>	<b>426,907</b>	<b>156,832</b>	<b>117,457</b>	<b>408</b>	<b>23,668</b>		
Totals 2000	291,904 <sup>b</sup>	50,704 <sup>b</sup>	110,426	375	19,868		

<b>Anglo Forest Products (continued)</b>	<i>Land under company charge</i>	<i>Total land area planted</i>	<i>Total grasslands and wetlands area</i>
	ha	ha	ha
Mondi Limited			
Forests			
<b>Totals 2001</b>	<b>530,672</b>	<b>310,713</b>	<b>82,259</b>
Totals 2000 <sup>b</sup>	641,330	403,000	92,340

Rounding of figures may cause computational discrepancies.

<sup>a</sup> Products are as follows:

Richards Bay – pulp and packaging papers; Felixton and Piet Retief – corrugating papers; SilvaceL – wood chips; Merebank – graphic papers;

Mining Supplies – mining timber; Springs – packaging board.

Timber and Mondipak report per 1,000 m<sup>3</sup> lumber produced and per 1 million m<sup>2</sup> corrugated boxes produced, respectively.

Mondi Packaging Poland – corrugated packaging; Neusiedler – office communications paper; Frantschach – industrial sack packaging; Świecie – pulp, sack paper and corrugated board.

<sup>b</sup> These data are not the same as reported in 2000 due to data refinements during 2001.

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## Other Safety, Health and Environment reports published by managed group companies

Anglo Coal Australia Safety, Health and Environment Report 2001  
Mondi Kraft Safety Health and Environmental Report 2001  
Mondi Kraft Corporate Social Investment 2000/1  
Mondi Packaging UK Safety, Health and Environmental Report 2001  
Mondi Paper Safety, Health and Environmental Report 2001  
Tarmac Safety, Health and Environment Report 2001

## Other reports available

Anglo American Annual Review 2001  
Anglo American Annual Report 2001

## Useful websites

GMI	<a href="http://www.globalmining.com">http://www.globalmining.com</a>
GMI conference	<a href="http://www.gmiconference.com">http://www.gmiconference.com</a>
GRI	<a href="http://www.globalreporting.org">http://www.globalreporting.org</a>
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