

ENVIRONMENTAL REVIEW



Kumba aims to minimise the environmental impact of its operations by taking a systematic and disciplined approach and applying sophisticated risk assessment techniques that directly inform its strategic initiatives and plans. During 2009, Kumba focused on the management of six environmental aspects, namely: energy, water, air quality, non-mineral waste, land and compliance to legal and other requirements. Within these, Kumba identified nine key risks for attention: water consumption and quality, dewatering, energy consumption, waste rock dump rehabilitation, managing farms owned by the company, dust emissions, hydrocarbon pollution, the generation and reduction of non-mineral waste and legislative compliance (refer to the summary table overleaf).

Environmental management is not confined to a single department within Kumba. For example, energy and water consumption and efficiency, plus greenhouse gas emissions, are championed by the Engineering Department. Coordinating environmental management is an intra- and inter-company affair with many internal engagements taking place. A strong connection with Anglo American also exists through which best practices, lessons and ideas are shared.

In the following pages, Kumba's strategy and performance with regards to environmental management are discussed.

ENERGY CONSUMED (GIGAJOULES)

5,063,745

GREENHOUSE GAS EMISSIONS (TONNES)

701,250

WATER CONSUMED (M³)

7.5 x 10⁶

STRATEGY

land management
strategy **finalised**

Environmental performance summary

Priorities	Focus area and initiatives	Performance
water	Dewatering	
	Sink structure repair	☹️
	Internal reviews on all work done on dewatering	😊
	Ongoing assistance to farmers	😊
	Geohydrological studies (Sishen and Kolomela mines)	😊
	Geotechnical studies (Sishen and Kolomela mines)	☹️
	Long-term strategy to manage and mitigate the impact	😊
	Consumption and quality	
	Implementation of licence conditions (Sishen Mine)	😊
	Governance (structures, roles and responsibilities)	😊
	Efficiency or saving initiatives	😊
	Water balance, water targets and footprint model	😊
	Contractual agreements with municipality (supply and quality)	😊
	Ongoing monitoring	😊
energy	Consumption	
	Energy savings and initiatives	😊
	Governance (structures, roles and responsibilities)	😊
	REDUCE model	😊
land	Rock waste dump rehabilitation	
	Rehabilitation strategy approved by DMR (Sishen Mine)	😊
	Shade netting trials (Sishen Mine)	😊
	Concurrent rehabilitation (Sishen Mine)	☹️
	Tyre pit rehabilitation (Thabazimbi Mine)	😊
	Kumba owned farms	
	Land management strategy	😊
air quality	Identify biodiversity opportunities	😊
	Identify enterprise development opportunities	😊
	Dust emissions	
	Finalise (Thabazimbi Mine) and implement (Sishen Mine) AQMP	😊
non-mineral waste	Ongoing monitoring	😊
	Upgrade of monitoring equipment and frequency	😊
	Hydrocarbon pollution	
	Construction (Thabazimbi Mine) and permitting (Sishen Mine) of treatment sites	☹️
	1st phase: rehabilitation of hydrocarbon polluted areas (Sishen Mine)	☹️
	Reduction methods for polluted soil (Sishen Mine)	😊
	Generation and reduction	
	Waste reduction targets	😊
legislation	Waste recycling plants	😊
	Integrated waste and water management plans	😊
	Opportunities for reuse of treated soil	☹️
	Compliance	
	External legal compliance audits	😊
	Internal review on all permits and licences	😊
	Closure of waste site	☹️
	Thabazimbi Mine water licence authorisation	☹️
	Authorisations	😊

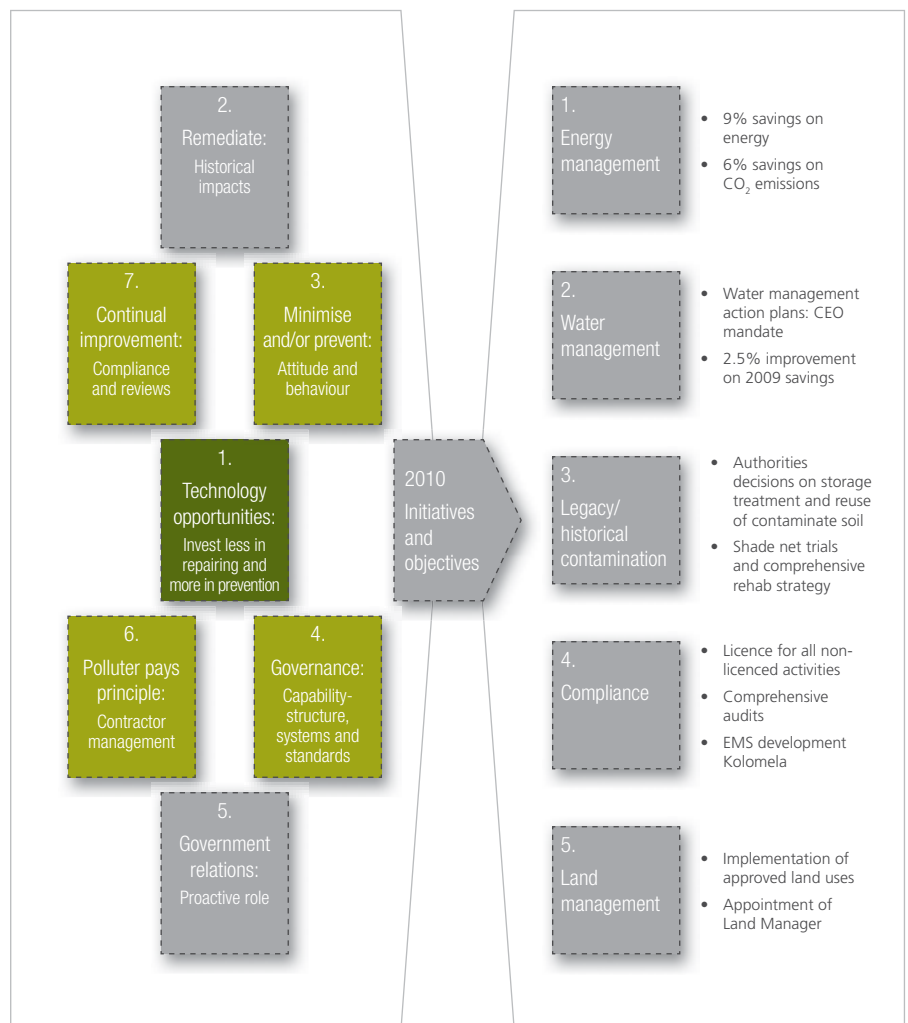
😊 Target achieved 🌟 Significant progress made: target likely to be achieved ☹️ Significant progress made: target likely not to be achieved 🙄 Target not achieved

Strategy

Kumba believes that a well conceived and executed environmental strategy will provide a competitive advantage by strengthening its position on current and future licences to operate. Its environmental strategy aims to position the company as a proactive responsible corporate citizen and to act beyond legislative compliance. This will be achieved through the strategic approaches shown in the figure to the right.

Environmental management programme

Sishen, Thabazimbi and Kolomela mines have approved Environmental Management Programmes (EMPRs) issued by the Department of Mineral Resources (DMR). As and when activities are changed or new activities added, the EMPRs are amended and submitted to the DMR for approval. In order to satisfy the requirements of Regulation 55 of the Mineral Petroleum and Resource Development Act (MPDRA, 2002) and Regulation GN 704, the mines undertake annual performance assessments of the commitments made in the EMPRs for submission to the DMR. As part of the mine closure plans, an extensive physical and financial assessment is also done to address the requirements of the MPRDA in relation to financial provisioning for mine closure. A key development during 2009 was the finalisation of shortfall arrangements for both Sishen and Thabazimbi mines.



Energy

Kumba's energy management programme is an extensive effort designed to understand how much energy Kumba uses, where this energy is used, how efficiently it is being used and then designing interventions to reduce overall consumption and to use energy more efficiently. The principles used to understand and manage energy consumption are also applied to water use.

Energy consumption

Kumba is a signatory to the National Energy Efficiency Accord and aims to reduce its energy consumption to 15% of the 2004 baseline by 2014. This implies a 1.5% reduction in energy consumption each year for the ten-year period which started in 2004. Thus for 2009, Kumba was required to have reduced its overall energy consumption by 7.5% since the 2004 baseline year (for 2010 the target is 9%).

During 2009, Kumba produced 42,298,046 tonnes of ore (2008: 36,265,639 tonnes). Energy consumed in 2009 was 5,063,745 GJ. This was higher than the 4,265,218 GJ consumed in 2008 – refer to graph below.

Energy efficiency

It is important to note that the more tonnes of iron ore Kumba mines the more energy it uses. There are also other factors that cannot be controlled that will result in higher energy consumption such as longer haul distances, lower quality ore and a deeper ore body. It is thus impossible to reduce absolute consumption relative to the 2004 baseline, but it is possible to use energy more efficiently (the concept of the adjusted baseline).

The adjusted baseline is calculated for each specific section or department of a mine.

The energy that a section or department will consume in 2009 by 2004 standards is calculated for that section by adjusting its 2004 consumption to its primary production variables for 2009 (e.g. tonnes mined or tonnes processed) and a secondary variable which cannot be controlled (e.g. haul distance or ore quality). The baselines for the different sections are added to determine the energy that the mine should have consumed in 2009 under conditions similar to 2004 and that is the adjusted baseline. The actual consumption for 2009 is then compared to the adjusted baseline and if the actual consumption is less it means the mine has used energy more efficiently. Kumba therefore determines in advance how much energy it will require for a given year based on 2004 standards and then calculates savings measured against this number.

Kumba's product intensity decreased marginally for 2009 compared with 2008. Kumba calculated that it would require 5,509,194 GJ for 2009 by using the adjusted baseline; it only consumed 5,063,745 GJ, a saving of 8.09 % which is 91.91 % of the adjusted baseline.

Energy saving initiatives

Kumba is pursuing several initiatives designed to reduce the amount of energy it uses:

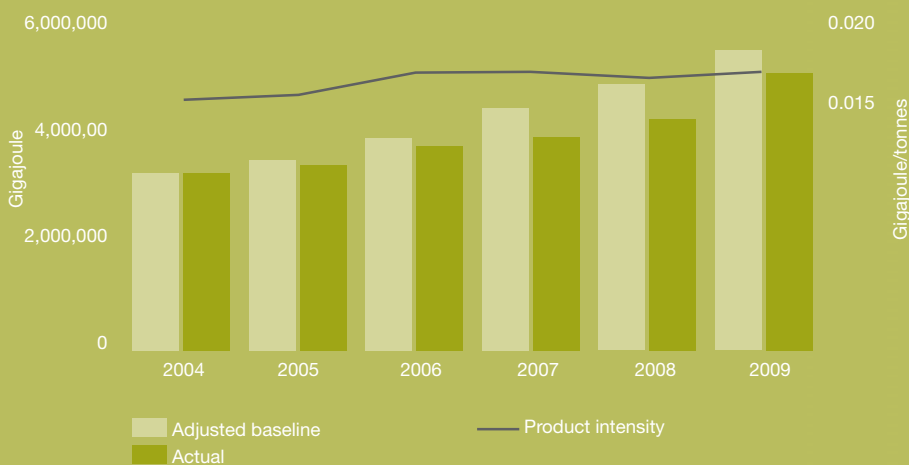
- Project REDUCE: this is the data management and modelling platform which Kumba uses to manage energy and emissions. REDUCE is also used to calculate the adjusted baseline.

ENERGY CONSUMPTION AND TONNES ORE PRODUCED





ENERGY EFFICIENCY



urgent action is required to manage current power demand. One of the key initiatives in this regard is Eskom's Power Conservation Programme (PCP), which, along with Demand Side Management (DSM) and cogeneration, form the pillars of the country's demand management strategy. PCP provides a short to medium-term solution to South Africa's electricity shortage and is designed to meet the country's energy needs. Kumba has been working with Eskom to ensure that it contributes to the national effort whilst simultaneously ensuring that power to its mines is guaranteed. The PCP consists of a range of elements, the most relevant to Kumba being the Energy Conservation Scheme (ECS). The ECS requires that all participating consumers achieve energy savings targets, with associated incentives, or face penalties for failing to do so. Kumba has agreed ECS allocations with Eskom for all its operations.

Several corrections and improvements to the system were effected during 2009.

- DEEMS (Diesel Energy Efficiency Management System): DEEMS is a unique system that monitors and analyses fuel efficiency in a complex and dynamic production environment by matching fuel usage to work done in comparison to a chosen baseline period. The key output of the system is energy and carbon emissions reduction amounting to between 10% – 15% in four years.
- Solar water heating: Sishen Mine is installing solar water heaters as part of its hostel conversion project.
- Heat pumps: The water heaters at Sishen Mine's change house are to be replaced

with more energy efficient heat pumps. A heat pump project also began at Thabazimbi Mine.

- Dust extraction systems: Kumba initiated a programme to replace its existing dust extraction systems with mist systems to save on electrical energy.
- Brute force feeders: Kumba replaced its electromechanical feeders with brute force feeders which are less energy intensive.

Electricity supply security

Securing the supply of electricity to Kumba remains a key focus. Whilst South Africa focuses on building new generation capacity,

The establishment of Kolomela Mine posed several challenges in terms of the ECS because it is a new mine with no Eskom baseline consumption. In order to receive the required electricity supply from Eskom, the mine is being designed to be as energy efficient as possible utilising the best energy efficiency technologies as a trade-off to further electricity reduction targets. Kumba also negotiated with Eskom that any electricity savings made on municipal connections will be accepted by Eskom and as a result the project is installing solar water heating systems in all of the houses that are currently being built to accommodate employees.

Climate change and greenhouse gas emissions

The tonnes of CO₂ equivalent generated by Kumba are a direct result of its use of primary and secondary sources of energy. Primary sources are diesel, petrol and explosives consumed; the sole secondary source is the electricity purchased from Eskom.

Climate change is a major global issue, one which justifies precautionary action in pursuit of a long-term goal of reduced greenhouse gas emissions. Public debate and government policy development concerning climate change intensified in the run-up to the December 2009 United Nations conference on climate change in Copenhagen, Denmark.

Although no new legally binding global treaty was agreed to, the participants, including the US and China, agreed to the Copenhagen Accord to set the world on a path towards greater climate security.

This requires deep cuts in emissions to limit the increase in global temperature to below 2°C. South Africa will take nationally appropriate mitigation action to enable a 34% deviation below the 'business as usual' emissions growth trajectory by 2020, and a 42% deviation below the 'business as usual' trajectory by 2025.

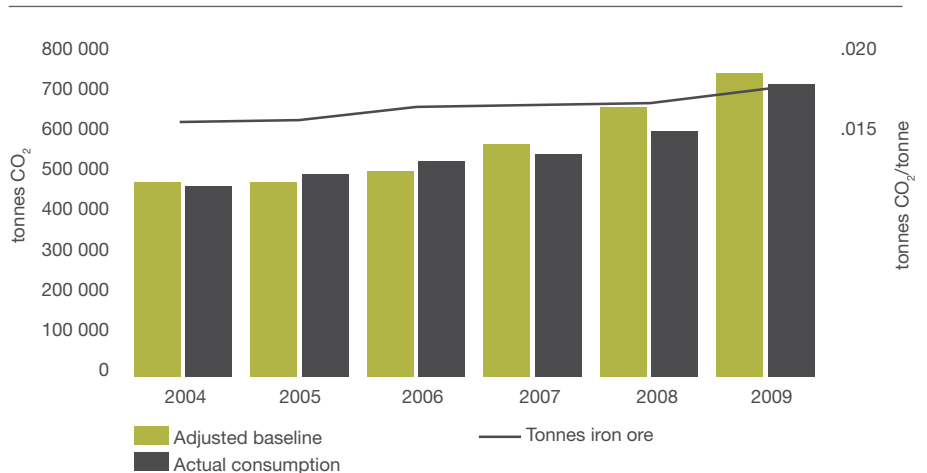
Given that Kumba's emissions stem from its energy use, reducing energy consumption and improving energy efficiency will limit greenhouse gas emissions. The increase in Kumba's mining activities will however mean that emissions targets cannot be met through efficiency improvements alone therefore opportunities for using renewable sources of energy are being investigated.

In particular, the Northern Cape, with its abundant sunlight, and where Sishen and Kolomela mines are located, lends itself an opportunity to using solar for energy generation and water heating.

Emissions and emissions intensity Kumba's target with regards to greenhouse gas emissions, as stipulated in the Energy Efficiency Accord, is a 1% reduction each year for the period 2004 to 2014, or a 10% reduction in emissions for that period.

Greenhouse gas emissions increased slightly against the adjusted baseline figure (719,870 tonnes CO₂ equivalent). The emissions target of 683,876 tonnes was not met with 701,250 tonnes emitted. Product intensity (expressed as tonnes CO₂/tonne ore) increased to 0.017 (2008: 0.016).

CO₂ EMISSIONS (TONNES) AND INTENSITY (TONNES PER CO₂ PRODUCT)



Dust particulate emissions

Kumba's primary concern with regards to air quality is the amount of dust generated by its activities – at the plant (transfer points, extraction systems, open areas and roads) and mining areas (mine and contractor haul roads).

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To manage its impacts and to ensure that it fulfils its legal obligations in regards to air quality, particularly dust emissions, Kumba has implemented a monitoring programme which measures total suspended particulate (nuisance dust) and PM10 (particulate matter not exceeding 10 µg/m³ of inhalable dust).

Air quality management plans (AQMP) are in place at Sishen and Thabazimbi mines. Oversight for the implementation of the plans rests with operational Dust Task Teams.

In 2010, the focus will be on implementing the recommendations made in the AQMP, which mainly entail the upgrade of monitoring equipment, increasing the frequency of monitoring, and improving dust control mechanisms in priority areas. Kolomela Mine will also develop its AQMP during 2010.

Kumba regularly tests and implements new dust suppressant systems and compounds. Thabazimbi Mine has successfully implemented a chemical dust suppression product on its roads as a means to combat dust. During 2009, Sishen Mine tested two chemical dust suppression products for use on haul roads. These products are added to water at low concentrations and improve the penetration capacity of the water, thus resulting in improved wetting efficiency. Through ongoing monitoring and improvement, and investment into dust control measures, Kumba is confident that it will position its operations in line with legislative requirements.



Land

Land management at Kumba encompasses three interconnected elements: waste rock dump rehabilitation, the management of land other than that used for mining, and closure planning and financial provision.

Waste rock dump rehabilitation
A key milestone achieved was the DMT's approval of Sishen Mine's rehabilitation strategy. The strategy motivated for rehabilitation to be undertaken at 24 degree slope angles as opposed to the 18 degree slope angle committed to in the approved EMPR. The strategy further motivated that shade net trials be undertaken over a five-year period to determine if rehabilitation can be achieved at 37 degree slope angles and that ongoing care and maintenance be carried out to address any issues related to safety, stability, dust and erosion that may arise during the remaining life of mine.

Management of land reserved for future mining
Kumba owns land associated with its mining and prospecting operations, much of which is reserved for future mining. Most of the land surrounds areas in which Kumba is actively mining and in many instances the land forms part of Kumba's mining rights areas. The use of this land was identified as one of the key operational risks mainly due to employee and public safety, legal obligations

associated with the land, illegal occupants and possible land degradation from overgrazing. On this basis, a decision was made to develop a land management strategy for Kumba.

The land management strategy, which was developed in 2009, provides an integrative framework in which Kumba can effectively manage its landholdings, including the legal liabilities associated with them in order to leave behind a legacy of sustainable development. Kumba's land management strategy further sets out the criteria for land management and provides decision-support tools to enable land managers within Kumba to identify viable land use options.

Mining activities are inherently transient. The implication of this is that Kumba will rehabilitate its land in an effort to create a viable land end use and obtain a mine closure certificate once mining is completed, thereby divesting itself of further responsibilities in relation to the land. It seems reasonable therefore that any interim land use that is applied must not undermine Kumba's mining interests, must be undertaken in support of a mine's closure objectives and should have the potential to reduce mine closure costs. It is for this reason that the land management strategy provides direction to the mines to ensure that any interim land use must not create unnecessary legal liabilities for Kumba and such land uses should, where possible, make a contribution towards sustainable development, conservation and the protection of the environment.

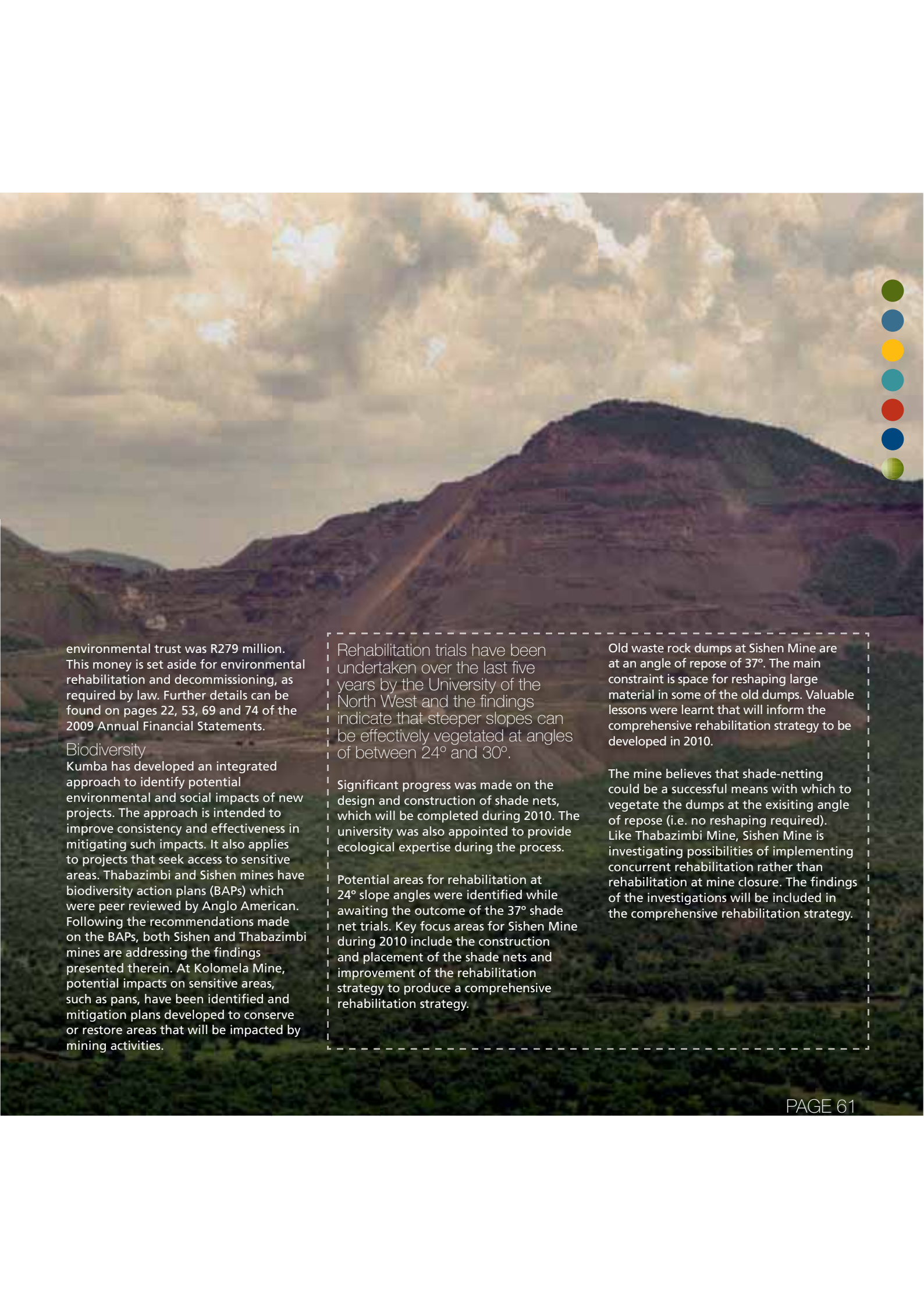
Outcomes of Kumba's land management strategy are as follows:

- The development of a proper governance methodology for overall land use management;
- The minimisation of legal risks and liabilities;
- The optimal use of particular land holdings based on their environmental constraints and opportunities;
- The identification of opportunities for community development projects;
- The conservation of ecologically sensitive habitat and species.

An example of the direction provided by the strategy is the recent opening of a bed and breakfast at the Ben Alberts nature reserve near Thabazimbi Mine.

Closure planning and financial provision

Sishen and Thabazimbi mines developed their preliminary closure plans which are in line with the Anglo Closure Toolbox. Closure cost estimates are reviewed on an annual basis and quarterly contributions are made by the mines into the Rehabilitation Trust Fund. A key milestone during 2009 was the provision of the shortfalls for both Thabazimbi and Sishen Mines, and the calculation of the closure cost estimates for Kolomela Mine. Closure cost estimates for Thabazimbi and Sishen Mines were audited by KPMG and action plans were developed to address areas of improvement. As at 31 December 2009, the total investments held by the



environmental trust was R279 million. This money is set aside for environmental rehabilitation and decommissioning, as required by law. Further details can be found on pages 22, 53, 69 and 74 of the 2009 Annual Financial Statements.

Biodiversity

Kumba has developed an integrated approach to identify potential environmental and social impacts of new projects. The approach is intended to improve consistency and effectiveness in mitigating such impacts. It also applies to projects that seek access to sensitive areas. Thabazimbi and Sishen mines have biodiversity action plans (BAPs) which were peer reviewed by Anglo American. Following the recommendations made on the BAPs, both Sishen and Thabazimbi mines are addressing the findings presented therein. At Kolomela Mine, potential impacts on sensitive areas, such as pans, have been identified and mitigation plans developed to conserve or restore areas that will be impacted by mining activities.

Rehabilitation trials have been undertaken over the last five years by the University of the North West and the findings indicate that steeper slopes can be effectively vegetated at angles of between 24° and 30°.

Significant progress was made on the design and construction of shade nets, which will be completed during 2010. The university was also appointed to provide ecological expertise during the process.

Potential areas for rehabilitation at 24° slope angles were identified while awaiting the outcome of the 37° shade net trials. Key focus areas for Sishen Mine during 2010 include the construction and placement of the shade nets and improvement of the rehabilitation strategy to produce a comprehensive rehabilitation strategy.

Old waste rock dumps at Sishen Mine are at an angle of repose of 37°. The main constraint is space for reshaping large material in some of the old dumps. Valuable lessons were learnt that will inform the comprehensive rehabilitation strategy to be developed in 2010.

The mine believes that shade-netting could be a successful means with which to vegetate the dumps at the existing angle of repose (i.e. no reshaping required). Like Thabazimbi Mine, Sishen Mine is investigating possibilities of implementing concurrent rehabilitation rather than rehabilitation at mine closure. The findings of the investigations will be included in the comprehensive rehabilitation strategy.

ISO 14001 certification

Thabazimbi and Sishen mine's environmental management systems were audited by external independent auditors against the ISO 14001 standard for re-certification. Two major findings were raised at Thabazimbi Mine and zero major findings at Sishen Mine. Thabazimbi Mine's major findings were related to training and training records and emergency response. Corrective actions were implemented to the satisfaction of the external auditors. Thabazimbi and Sishen mines retained their ISO 14001 Certification.

Incidents

A total of 104 level 1 environmental incidents were reported during 2009 (2007: 57; 2008: 60). Sishen Mine reported 57 of these, Thabazimbi Mine reported 47. During 2009, ten level 2 (2008: 7) incidents were recorded at Sishen Mine, zero were reported from Thabazimbi Mine. There were no level 3 incidents reported (2008: 0).

Compliance

In August 2009, Kumba Iron Ore was issued with a directive to pay an administrative fine of R218 500 for commencing listed activities on the Sishen South Project without authorisation from the relevant authority. This administrative fine was paid as part of the regulatory rectification process. Kumba is committed to ensuring that such non-compliance does not recur and has since enhanced its resources and associated operational processes.

Kumba conducts regular internal and external audits to get an independent opinion on the performance of its operations against legislative requirements. All Kumba operations are based in South Africa, and the assessment is limited to South African legislative requirements and Kumba's own policies, procedures, and guidelines. Self-assessments using the Anglo Environmental Way were also conducted during 2009. The following table summarises the outcomes of the audits conducted at all Kumba operations and management plans developed to address areas of improvements.

INCIDENTS





Summary of key audit findings

Audit	Auditor	Key issues	Reasons for any non-compliance	Management actions
Legal compliance and peer review at all operations including explorations.	MSA and Anglo American	<ul style="list-style-type: none"> • Non-compliance with new NEMA: Waste Management Act • Compliance with some of the conditions of licences such as timeous reporting to authorities on significant incidents and other reports. • Lack of environmental technical expertise in full-filling the obligations of the prospecting rights conditions 	<ul style="list-style-type: none"> • Primarily due to recent changes to the legislation which led to confusion between MPRDA and NEMA scheduled activities • Various amendments to the EMP and Record of Decisions on new activities led to minor slippages in implementing all licence conditions. • Lack of resources to conduct EMP performance assessments for exploration. 	<ul style="list-style-type: none"> • An application was lodged with the provincial and national authorities to license activities • Compliance registers were developed to track and monitor compliance to license conditions • An Environmental Manager for Projects and Exploration was appointed in 2010.
Governance and assurance on sustainable development and Mining Charter	ABAS	<ul style="list-style-type: none"> • Lack of a central governance process and functional ownership in respect of Mining Charter compliance 	<ul style="list-style-type: none"> • Different departments were responsible to manage and implement elements of the Mining Charter and SLP commitments without central coordination. 	<ul style="list-style-type: none"> • Company Secretary is now a central point of contact. His responsibility entails liaising with different owners of the process to ensure that all documentation required in support of the various acts are centrally accessible
Water audit at Thabazimbi Mine in line with the National Water Act	MSA: Water Licence Specialist	<ul style="list-style-type: none"> • Incorrect application forms submitted 	<ul style="list-style-type: none"> • Misinterpretation of the Act with respect to water use classification and registration. 	<ul style="list-style-type: none"> • Revised licence application forms submitted to the authority. The mine received its draft licence for comment in 2010.

Waste generation and reduction

Kumba's aspiration is to achieve zero waste at all operations in support of the Polokwane Declaration.





Pollution prevention

The declaration set a national goal of reducing waste generation and disposal by 50% and 25% respectively by 2012 and further aims to develop a plan for South Africa to achieve zero waste by 2022. We continue to investigate various options to reduce the quantity of waste disposed at landfill sites.

During 2009, the mines developed waste management objectives and targets. The focus was on reducing the waste disposed of at landfills through implementing waste reduction and recycling initiatives. A 2% target was set by each mine for the reduction of waste being disposed of at landfill sites. Sishen Mine generated 6,643 tonnes of non mineral waste during 2009 of which 70% (4,623 tones) were reused/recycled.

This was achieved through a strong recycling drive. During 2010, Sishen Mine will maximise its recycling initiative by investigating other waste streams that can be recycled. Thabazimbi Mine developed a recycling plan during the last quarter of 2009, for implementation during 2010. This will include an investigation into the feasibility of a waste separation and sorting plant.

Potential soil and water contamination by hydrocarbon oil, diesel, petrol) spillages and leakages was identified as a key operational risk at Kumba's operations.

The risk is actively monitored by means of groundwater sampling to determine the presence and extent of hydrocarbon contamination. Various technologies were investigated to treat contaminated soil at Sishen and Thabazimbi mines. During 2009, samples of treated soil were taken to independent laboratories to test the effectiveness of these technologies, the results of which will be reported in 2010. Capital was allocated to remediate the affected areas during 2010. Investigations are under way to identify possible means of reducing contaminated soil at source. Negotiations with authorities for licensing the storage, treatment and reuse of contaminated soil commenced in 2009. If successful, this will mean that the mines will reuse approximately 30,000 tonnes of treated soil which could have been disposed of at landfill sites – this demonstrates an initiative implemented in support of the Polokwane Declaration.

Water

Kumba's sources of water include groundwater, treated effluent and an unquantified amount of rainwater entering the system through open dams that are connected to the primary water system.

Primary water consumed

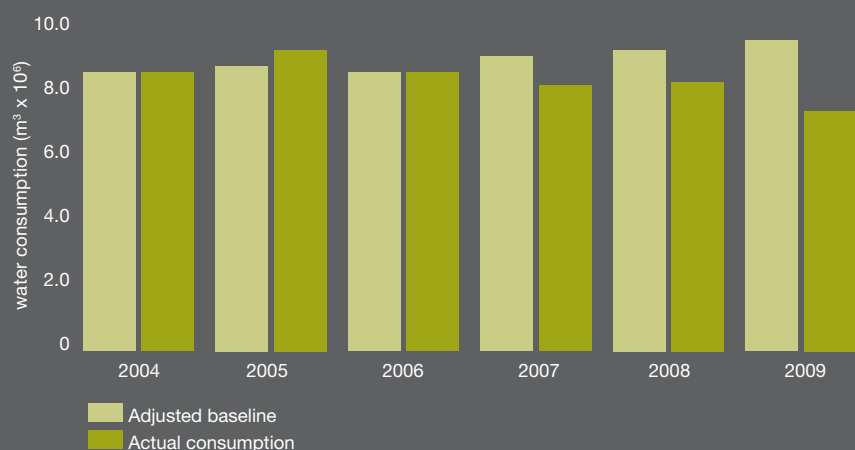
The concept of basing the targeted water consumption on the production for the particular year was introduced in 2008. This expresses the water use intensity in terms of volume of water per tonne of total product produced. A lowering of the water intensity reflects improvements in water efficiency. Increases in production inevitably lead to increases in water consumption.

Kumba's total iron ore production increased in the period 2004 to 2009 from 30.2 million tonnes per annum to 41.4 million tonnes per annum. This was mainly attributed to the commissioning of the new JIG plant at Sishen Mine. Therefore, theoretically, the

amount of water that should have been used in production should have increased from $8.7 \times 10^6 \text{ m}^3$ in 2004 to $9.7 \times 10^6 \text{ m}^3$ in 2009. However, in 2009, the consumption figure was only $7.5 \times 10^6 \text{ m}^3$, which indicated a 23% saving on the theoretically predicted amount for 2009.

The original target (before the concept of correcting for production was introduced) set in 2004 was to save 1% on net water consumption per annum. The target for 2009 was therefore to achieve a total saving of 5% on the net use. The actual saving, despite the increase in production, amounted to 14%. This means that the original target of a 14% saving set for

KUMBA TOTAL WATER CONSUMPTION FOR PRIMARY WATER USES





2014 has already been achieved, despite the higher production to date.

In future, new water consumption targets, based upon the production-corrected figures will be set for each year. The water consumption target for 2010 is set at an improvement in water use efficiency of 2.5%, and will be based upon production targets for 2010. The amount of water required to produce a tonne of iron ore product at Sishen and Thabazimbi mines combined is 188 litres.

Efficiency and savings initiatives

At both Sishen and Thabazimbi mines, the focus for 2010 will be to improve water use in the following areas:

- Water recovery from the general site, from the plant and from the slimes dams
- Improve dust suppression techniques to reduce water usage
- Consider process improvements to reduce water requirements
- Consider the increased use of treated effluent from municipal waste water treatment works.

Water quality

Surface water quality, including drinking water, and groundwater quality are monitored on a monthly and quarterly basis, respectively. During 2009, water quality tests did not detect any significant deviations from water quality targets specified by DWAF and DMR for drinking water.

High concentrations of nitrate were encountered in certain groundwater monitoring boreholes at Sishen Mine, in particular at the explosives plant. This historical pollution is due to the improper design of the nitrate store. Measures were put in place to prevent recurrence.

Dewatering

A conceptual model of the region's hydrogeology was completed and the process for evaluating claims has been tested on two farms in the Kathu area.

As part of the hydrogeological studies, 15 of the 18 planned boreholes on Sishen Mine property were sunk. The data from these is in the process of being interpreted and will be communicated as the information becomes available. The remaining 26 holes fall outside Kumba property and will be drilled on completion of the Sishen Mine drilling.

During 2009, an audit of the main water supply line to the farmers was conducted. It revealed that the pipe burst frequently resulting in an unsustainable water supply to the farmers. A contractor was appointed to rectify the main water supply line.

Water discharge

Kumba operations applies a zero effluent discharge philosophy. We are not aware of any water discharges which occurred outside the boundaries of our operations.