the A MAGAZINE

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GETTING SERIOUS ABOUT THE GREEN ECONOMY

AngloAmerican

Real Mining. Real People. Real Difference.

IF YOU CAN PUT RESPONSIBILITY OVER RISK AND RESPECT BEFORE REWARD. IF YOU CAN THINK FORWARD, BY LEARNING FROM THE PAST AND CAN KEEP TRUST ON THE SAME PEDESTAL AS PROFIT. IF YOU CAN ADMIRE FOUNDATIONS AS MUCH AS WHAT'S BUILT UPON THEM. IF YOU SEEK THE BIGGER PICTURE, BY EXAMINING EVERY DETAIL. IF YOU CAN DREAM BIG AND KEEP YOUR EGO SMALL. IF YOU HAVE THE COURAGE TO QUESTION WHAT YOU THINK IS NOT RIGHT, AND CHAMPION WHAT IS. THEN YOU UNDERSTAND WHAT IT TAKES TO WORK FOR ANGLO AMERICAN.

AngloAmerican

Real Mining. Real People. Real Difference.

SUITING UP FOR A GREENER FUTURE

GODFREY GOMWE
EXECUTIVE DIRECTOR
ANGLO AMERICAN
SOUTH AFRICA LTD

The opportunity for South Africa to host the COP17 conference at the end of November is both a privilege and an important milestone. As a major corporate in South Africa, Anglo American is actively involved in supporting our government to deliver a successful COP, and we are proud to be able to showcase our commitment to the environment at this event.

We have been part of the South African way of life for nearly 95 years and are committed to contributing to the country's ongoing development and prosperity in the future. Even though South Africa is a developing country, it has taken on a leading role in helping to shape the international climate change agenda. This is borne out by the decision to host COP17 in our country. As a relatively energy-intensive user, a major producer of coal and a neighbour to many under-developed communities, it becomes clear why tackling climate change is so strategically important to us.

Climate change is a critical issue for the world. The challenge, however, is to meet increasing energy needs to enable economic and social development while at the same time significantly reducing greenhouse gas emissions.

We believe that this challenge is also an opportunity – not only in new markets for commodities such as platinum and copper, which are emerging from environmentally friendly technologies, but also to develop close partnerships with local communities and governments to address the causes and impacts of climate change. We have already invested more than R1.4 billion in low-carbon technology. Our Platinum business, for example, has launched a R100 million fund to invest in platinum-based technology companies in South Africa. This includes a partnership with fuel cell company Altergy and the South African government to manufacture and market fuel cell systems (see article on page 4). Coal will remain one of the main sources of energy, particularly for developing countries, for many years. We are committed to helping find workable solutions to reduce carbon emissions, especially in relation to coal's use as a future energy source, and so we are funding a number of clean coal research and development projects.

At the same time, we are integrating climate change into our social investment and enterprise development initiatives, most recently through the launch of a new R100 million Green Fund within our flagship Zimele enterprise development programme, which will help to establish SMEs that will drive the green economy in South Africa (see article on page 17).

Our immediate task, however, is to 'get our house in order', by gaining a better understanding of our energy consumption through our ECO_2MAN programme (see article on page 14). We have already begun setting clear performance objectives for operations across the world, and focusing on implementing projects that deliver energy and carbon savings.

Across the Group, we are working to improve the efficiency of our operations to reduce our energy usage and carbon footprint. Our coal mining operations in Australia and South Africa, for example, have been investing in very different technologies, both of which can significantly reduce our methane emissions. These are covered in more detail on page 15.

We are only at the beginning of our journey, but Anglo American fully supports the long-term move to a low-carbon society. We will participate in and continue to contribute to the debate about how to achieve this, while working in close consultation with governments and other stakeholders, and building on the many pockets of excellence already established throughout our business.

Businesses and individuals have the opportunity and responsibility to make a real impact on climate change and therefore our world as we know it. It is a responsibility that none of us should take lightly.

IN THIS ISSUE

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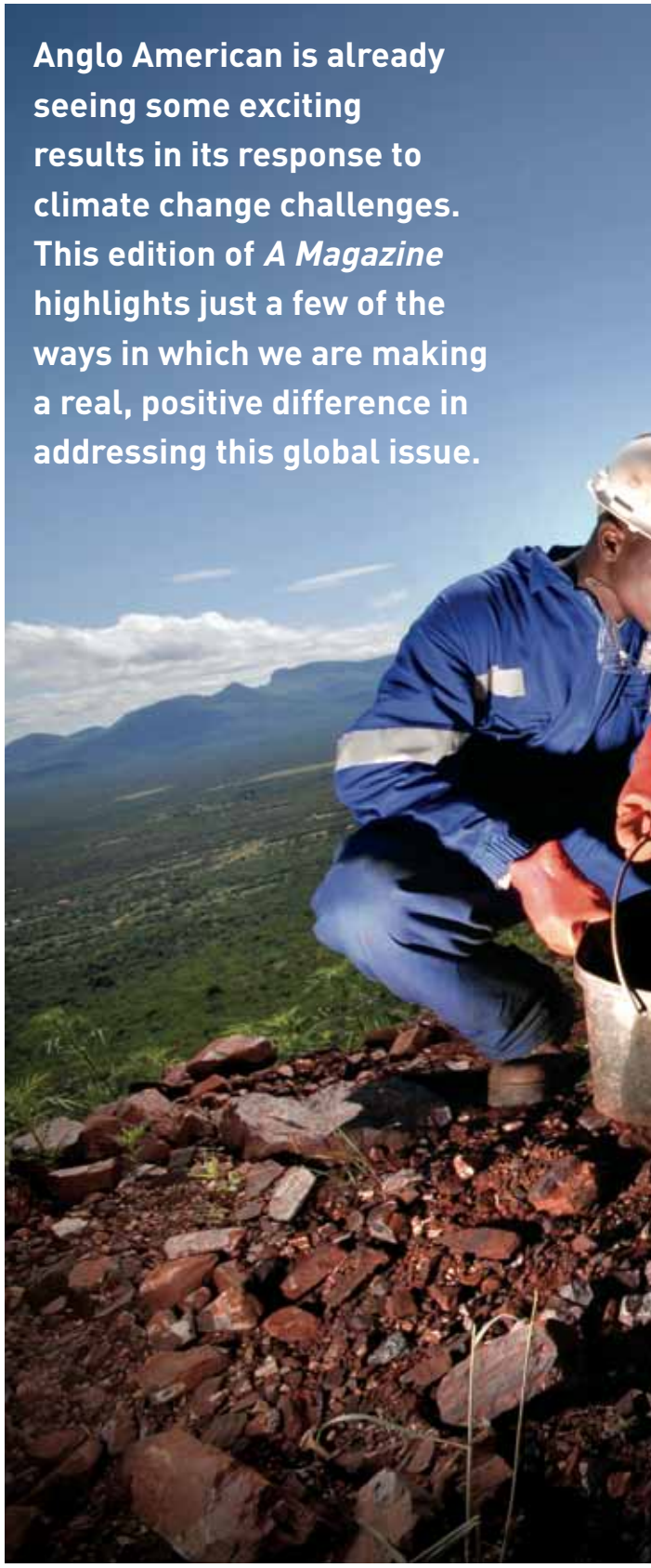
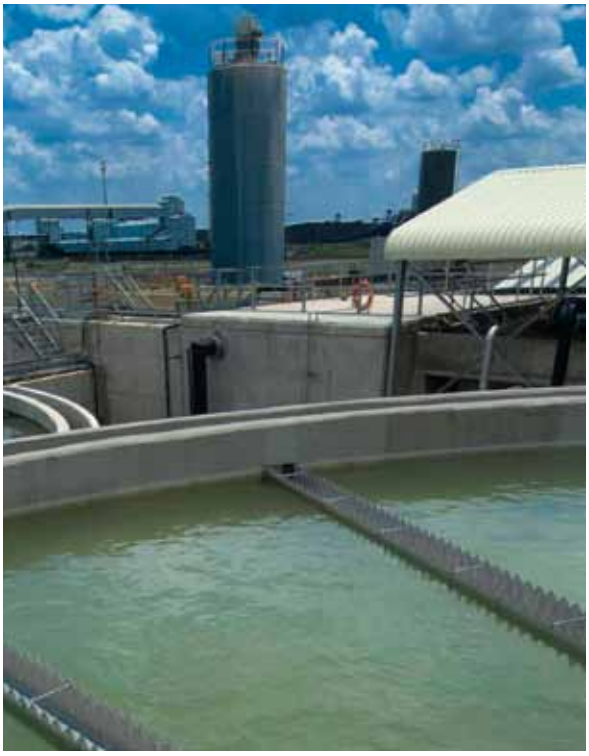
NOTE: Please note that any rand/dollar conversions contained in this edition are based on the exchange rate on the day of going to print.

Anglo American is already seeing some exciting results in its response to climate change challenges. This edition of *A Magazine* highlights just a few of the ways in which we are making a real, positive difference in addressing this global issue.



Re-greening at Kumba Iron Ore's Thabazimbi mine in the North West Province.



01

MAKE MINE A DOUBLE

Thermal Coal is on track to double its treatment capacity to 50 megalitres of mine water per day (Ml/day) after gaining approval for the R733 million expansion of the flagship eMalahleni Water Reclamation Plant.

This brings to more than R1 billion the amount that Anglo American has spent on water purification technology in the Witbank coalfields, enabling the Group to supply more potable water to the water-stressed local municipality and other bulk users. Participating in this exciting new venture is BHP Billiton Energy Coal South Africa, a partner in the existing plant which is looking to increase its current allocation of 1 Ml/day to a total of 4.6 Ml/day. According to project manager Thubendran Naidu, "The expanded plant will accommodate the continued expansion of Landau colliery and address the mine's water-related environmental obligations once it has come to the end of its life." Construction will be complete in the third quarter of 2013.

FINDING A CLEANER, QUIETER ALTERNATIVE

Platinum-based fuel cells have the potential to be an important element in the transition to a low-carbon economy. How? By enabling the provision of clean, reliable and cost-effective power.

One of the key limitations of renewable energy sources is storage of the energy generated and matching peak generation with peak demand. Fuel cells offer a solution.

A fuel cell is an electrochemical cell that converts chemical energy into electricity and offers a cleaner and greener alternative to electricity generated from a fossil fuel-fired power station. Anthea Bath, head of market research and development at Anglo American's Platinum business, explains how fuel cells operate in combination with wind power: "When electricity generated by wind turbines exceeds grid requirements, the excess can be used to produce hydrogen through the electrolysis of water. Hydrogen can be stored and the platinum fuel cell can convert it to electricity on demand – when the wind isn't blowing. Platinum group metals are also used in the electrolysis process. As a catalyst, the metals are only used and not consumed."

Platinum-based fuel cells offer high efficiency, versatility and scalability. Anglo American believes that they are a necessary part of the global energy future and that South Africa has an opportunity to play a part in the global provision of platinum-based fuel cells and fuel cell expertise.

Collaboration between Platinum and the Department of Science and Technology (DST) is set to considerably further the development of this technology in South Africa. Platinum created a fund called the Platinum Group Metal Development Fund (PGMDF), which last year made its first investment with Altergy fuel cell systems and which involves the manufacture and marketing of fuel cell systems locally and in sub-Saharan Africa. It is the first investment of this kind in Africa.

"Platinum is conducting risk assessments on applications of these systems in our operations such as powering mining locomotives, back-up mine communications systems and power systems. We are demonstrating how fuel cells can operate in a mining environment, and showing Platinum's commitment to the industry," says Bath. "This ground-breaking technology not only has significant commercial potential, it also has the potential to be an important element in the transition to a low-carbon economy."

To date 28 large-scale fuel cell units have been deployed in South Africa, and interest continues to grow.

01 The eMalahleni Water Reclamation Plant is set to double its production capacity.

02 Goedehoop community development manager David Netshieneulu and Marti Becht with a seamstress involved in the 'In Touch' project.

03 Seamstresses hard at work.

02

03

GOEDEHOOP'S ON THE BALL

Women from Goedehoop colliery's sustainable development centre benefited from the hype around the recent Rugby World Cup with their creation of rugby balls made out of recycled billboard material, plastic bags, sheets and bubble wrap.

The initiative forms part of the waste management company Enviroserv's 'In Touch' campaign, which gives these women an opportunity to earn a living while at the same time cleaning up the environment.

According to Marti Becht who runs the centre, 16 unemployed seamstresses were trained and produced an initial 1,000-plus authentic-looking balls for the initiative, with more orders soon following. The venture is set to grow well beyond the Rugby World Cup, with various South African rugby unions expressing an interest in using the balls to promote the sport in rural communities.

"These women, who come mostly from nearby informal settlements and farming communities, are able to earn up to R200 per day," says Becht, adding that they take pride in their work and the fact that they are now able to pay for necessities like food and their children's education.

The project was recently featured on CNN, which visited Goedehoop's enterprising women to find out how they are benefiting from the project.

FAST FACT

The Nedbank Capital Green Mining Awards recognise and celebrate the important contribution that responsible, sustainable and environmentally aware mining and mineral beneficiation make to the economic development of South Africa and Africa.

TOP SCORE, WITH 3 OUT OF 4 GREEN MINING AWARDS

Anglo American's commitment to sustainability saw the company win three out of four categories at the sixth annual Nedbank Capital Green Mining Awards.

Anglo American's Kumba Iron Ore business won in the sustainability category for its John Taolo Gaetsewe rural research project at Sishen mine in the Northern Cape, while Anglo American's Thermal Coal business was a joint winner in the environmental category for its gypsum housing project.

Thermal Coal and Kumba Iron Ore were also joint winners in the socio-economic category: Thermal Coal was recognised for its HIV/AIDS workplace programme and Kumba Iron Ore for its Ulysses Gogi Modise (UGM) wellness clinic at Sishen mine. The Thermal Coal business also won second place in this category for its Science, Career Guidance and Information and Communications Technology (ICT) Resources Centre.

"We are committed, in everything we do, to going beyond compliance in order to minimise our environmental footprint and uplift our host communities. Nedbank's recognition of the strength of our initiatives reinforces that we are on track in terms of achieving these goals and creating real and sustainable change for communities surrounding our operations."

GODFREY GOMWE, executive director, Anglo American South Africa Ltd

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MILLION
LTI-FREE HOURS

HERE'S THE GREENFIELD PROJECT WITH ZERO HARM

At Kolomela the message is clear – safety is the first priority.

"In every announcement we make, we repeat the underlying principles that have supported our safety accomplishments," says Willem Roux, safety and health manager of the Sishen South/Kolomela Project, which is part of Anglo American's Kumba Iron Ore business. The project has an enviable safety record, having notched up 14 million LTI-free man hours earlier this year.

The Kolomela Project is now in its final stage of construction and a variety of company-employed workers and contractors have been involved over the years. The entire workforce, from employees to contractors, have followed the Anglo American culture of Zero Harm.

The site regrettably experienced a death and lost-time injury early in 2010 and the project team leaders are committed to ensuring that this type of loss of life is not repeated.

Kolomela's world-class safety records relate to the construction of the mine site and building of a large number of houses in the town. These statistics do not yet include mining operations.

The Kolomela Project is expected to maintain its current achievements of being ahead of time and under budget, and safety remains the team's first priority.

"It is especially encouraging to know that on this new project safety is clearly at the heart of the business. By establishing such a great track record at Kolomela you are raising the bar on safety and demonstrating that Zero Harm is indeed attainable in practice. It is important to have such beacons as Kolomela to help guide and inspire the rest of Anglo American's Group."

SIR JOHN PARKER, Chairman, Anglo American

FAST FACTS

What Kolomela has achieved:

- **5 million LTI-free man hours on 20 August 2010.**
- **7 million on 22 October 2010.**
- **10 million on 23 February 2011.**
- **11 million on 31 March 2011.**
- **12 million on 13 May 2011.**
- **13 million on 20 June 2011.**
- **14 million on 26 July 2011.**

THERMAL COAL SHINES AT MINESAFE 2011

Employees at Thermal Coal have every reason to feel pleased with themselves: their safety performance was held up as an example to the industry at the MineSafe 2011 awards in Johannesburg in August.

In his address, the Department of Mineral Resources' (DMR's) chief inspector of mines, David Msiza, made mention of Thermal Coal's safety performance, saying that the company is an "example to the rest of the industry".

Masiza's comments were highly justified: New Vaal colliery walked away with the top award in the coal sector, while Goedehoop, Greenside, New Denmark and Isibonelo collieries earned third, fourth, fifth and seventh places. Says Thermal Coal head of safety, Philip Fourie: "This is the first time that industry awards have been judged on all injuries and not purely fatalities. The fact that Thermal Coal received five of the seven announced awards in the coal sector shows that we are well on our way to achieving Zero Harm."

The conference – hosted by the Southern African Institute of Mining and Metallurgy, the Association of Mine Managers South Africa and the South African Colliery Managers Association – is designed to share best practice among mining houses with the aim of achieving Zero Harm. It has the backing of the DMR, the National Union of Mineworkers (NUM), Solidarity and the United Association of South Africa.

Awards were presented to the best in class over a range of commodities, including gold, platinum, coal and diamonds.

"The fact that Thermal Coal received five of the seven announced awards in the coal sector shows that we are well on our way to Zero Harm."

PHILIP FOURIE, Thermal Coal head of safety

01 Tshepo Mothone works as an operator at Thabazimbi mine. As a permanent employee of Kumba Iron Ore, he derives additional benefit from his employment by being a beneficiary of the company employee share ownership plan known as Envision.

ENVISION SHOWS THE WAY – THE UNIONS' VIEW

Envision, Kumba Iron Ore's Employee Share Ownership Plan (ESOP), has been lauded by organised labour as the way to go in the empowerment of employees in South Africa.

In an article published earlier this year in *Business Report*, spokesman for the National Union of Mineworkers (NUM), Lesiba Seshoka, described Envision as possibly the best such initiative in place in the country. "We are very excited about the outcome of this scheme and believe it should be the model that is adopted by all mining companies," he said.

Kumba Iron Ore's Employee Share Ownership Plan, or Envision as it is commonly known, was implemented to provide an incentive to employees who are permanently employed by Kumba in South Africa and who do not participate in the other share schemes of the Group. Employee beneficiaries of Envision receive a portion of all dividends received by Envision in respect of the underlying shares.

The size of the scheme – both in terms of the number of beneficiaries and the scale of the potential payout – makes it one of the most impressive, if not the most significant broad based black economic empowerment transaction in South Africa.

NUM and trade union Solidarity have both commended Kumba management for engaging extensively with union representatives in the design of the plan. Seshoka is quoted by the *Citizen* newspaper as welcoming the sizeable Envision payout at the end of the 2011. "We believe it's the correct model which many companies should follow. It's a wonderful one," he said.

Gideon du Plessis of Solidarity commended Kumba in *Business Report* for its initiative and challenged all other employers in the mining industry to follow its example. "This is real worker empowerment, it creates real ownership and wealth for the workforce; it is better than creating bogus black economic empowerment companies," he said.

FAST FACT

To date, R215 million of dividends have been distributed to Kumba Iron Ore employees via the Envision scheme.

Mkgadi Matlala, a drill rig operator in the North Pit at Platinum's Mogalakwena mine.

WE'RE STEERING

THE DRIVE FOR DIVERSITY

Anglo American has made good strides in attracting women to its fold. But technical disciplines remain a challenge. To this end, the Group has become the first corporate sponsor of Women in Mining South Africa (WiMSA), a voluntary association that is dedicated to promoting the employment, retention and professional development of women in the mining sector. "This is just one of the many initiatives that feed into Anglo American's broader gender diversity strategy, and we are delighted to be associated with a professional, energetic group such as this one," explains Colleen Elliott, head of corporate centre human resources and remuneration.

"Regardless of which discipline you are in, it can be difficult to work within the mining industry, and this is why we have chosen to sponsor WiMSA's first full year of operating costs."

With members who are full-time, enthusiastic and skilled business women, WiMSA is specifically designed to provide an information sharing and networking platform for professionals, graduates and students in the industry. Membership is free, and is not restricted to any particular mining company. Anyone can join, either as a member or mentor, and regular events ensure ample opportunity to build contacts, share experiences and seek advice and support.

"We are excited to be sponsored by Anglo American", says Pamela Naidoo, chairperson of WiMSA.

"The company's ethos of inclusivity and promoting mining as a profession across a broad spectrum of careers is very much echoed by the philosophy of WiMSA. The 2011 sponsorship has enabled us to make dramatic progress in our mentoring programme, which we offer to all members. WiMSA offers inter-organisational and multi-disciplinary mentors who are happy to share their experience.

"The sponsorship has also allowed WiMSA to appoint a part-time administrator to assist the voluntary organising committee and improve our communications and events."

Petro du Pisani, principal geophysicist at Anglo American and a committee member of WiMSA, explains that WiMSA provides a platform for women to network and share their experiences of the industry. Regular events are held where members are motivated by passionate speakers and enticed to share their knowledge by getting involved in the mentorship programme.

"There is a need for guidance from other women in the industry who understand the unique challenges the women in the South African context face," adds Gisela Gips, technical development manager – metallurgy. "This is where WiMSA's mentoring program is so beneficial, as it provides an opportunity to do just that."

IT'S A WRAP!

"Our advertising campaign reiterates our long-term commitment to effecting sustainable change, partnering for best effect, and creating a real difference for this country."

PRANILL RAMCHANDER, head of corporate communications, Anglo American, South Africa

If you were one of the three million people who pass through Johannesburg every day, you may have seen the massive building wrap next to the Anglo American building in Anderson Street. But have you seen it at night? *A Magazine* spoke to Pranill Ramchander, head of corporate communications in South Africa, to shed a little light on the issue.

This multi storey-sized advertisement, which showcases the Group's contribution to job creation and enterprise development in South Africa, is part of the second phase of Anglo American's high-impact national advertising campaign.

"It is more crucial than ever to reiterate our commitment to this country and its people," says Ramchander. "Social, economic, political, and environmental shifts are happening at an unprecedented pace. This translates into heightened pressure to deliver on issues such as employment, empowerment, community development and transformation. As a mining company, we now have to earn not only our 'economic' licence to operate, but our 'social' licence as well."

Through media such as outdoor, radio, print, and online, this campaign highlights some of the successes that Anglo American has achieved by constantly balancing the need to be globally competitive with the welfare of the people and environments in which the Group operates.

"We have always been willing to partner with communities, government and South Africans as a whole to help solve the country's challenges," says Ramchander. "We can only help to create a better future for all by being part of the solution, and that is exactly what the new advertising campaign reflects."

As part of the campaign, Anglo American has identified prominent sites in Johannesburg as branding opportunities. These include brand-wrapped buildings and billboards to communicate the breadth of the campaign, which, in turn, underscores the Group's commitment as a responsible corporate citizen. This is a first for the local mining sector.

FAST FACTS

- **At night, light beams from the hard hats worn by Anglo American employees in the building wrap – but only for limited periods, in line with the Group's commitment to conserving energy.**
- **The campaign is targeted at a wide audience to support Anglo American's belief that it is part and parcel of the social fabric of this country, and accountable not only to a few, but to many South Africans.**

01

LEADING BY EXAMPLE

FAST FACT

Anglo American's carbon footprint of 20 million tonnes is dwarfed by that of its customers when they use its coal – about 170 million tonnes. The company therefore invests in technologies to save carbon for both itself and the end-users of its products.

01 Nosimo Macatsha (left) and hydrogeologist Peter Madanda, discuss drill samples at the groundwater remediation project at Sishen mine.

02 Samantha Hoe-Richardson, head of sustainable development and energy, Anglo American.

With no legally binding worldwide climate change agreement in place, how do companies like Anglo American respond to the challenges and opportunities of climate change? By taking a global approach ...

"I see from now until at least 2015 as a period when there will be no globally agreed government policies in place to guide our investment decisions in carbon reduction," says Samantha Hoe-Richardson, Anglo American's head of sustainable development and energy. "But we have a clear strategy and an interim goal of achieving the maximum economically sustainable energy and carbon savings in our business and in the use of our products."

Hoe-Richardson explains that Anglo American's climate change strategy seeks to address three key business risks: an increase in the cost of doing business; changes to our markets; and the physical impact of a changing climate on operations and surrounding communities. The Group aims to address these in a phased approach, with a strong initial emphasis on what she describes as 'getting our house in order', which is essentially a focus on operational excellence.

"Our business is growing and mining conditions are becoming more challenging, which means that our energy intensity is also increasing," she says. "As resources become scarcer we have to mine deeper, haul further and work harder to produce the same. The energy we consume accounts for 70% of our greenhouse gas (GHG) emissions; our primary response to climate change is therefore to use energy more efficiently and to also minimise GHGs directly emitted during our operational processes.

"What this means is improving our own performance through the introduction of clear targets and standards and then ensuring that our business units have identified and prioritised savings projects to deliver against them."

Operational excellence

Anglo American's ECO_2MAN programme (which is an abbreviation for Energy and CO_2 MANagement) is a structured approach that helps operations to manage energy and carbon emissions and identify opportunities for innovative savings projects (see article on page 14 for more about this new programme).

A new Water Efficiency Target Tool (WETT) is being used along the same lines to improve sites' management of water, making Anglo American more resilient to the risk of scarcity of water supply, one of the effects of climate change.

Anglo American's water specialist Vinesh Dilsook explains that in 2010, a WETT pilot within Platinum resulted in a 10% improvement in water efficiency over 12 months. "It raised awareness as we were asking people to do things differently," he says. "We established water communities at an

operational level and encouraged people to focus on water-saving projects. We discussed water-use trends and abatement plans and the committees shared best practice."

Investing in research

"There's no quick fix for climate change. Technology has an important role to play and we are investing in projects that seek to minimise the carbon footprint of mining today and enable us to run cost-efficient, low-carbon mines in 20 years' time," says Hoe-Richardson.

Research plays a critical role in finding innovative solutions to reducing GHGs. One example is Anglo American's research partnership with Johnson Matthey to tackle Ventilation Air Methane (VAM), which currently accounts for the bulk of the Group's carbon footprint in Australia.

There is a lot of research activity in Australia. Anglo American is working with MBD Energy, an Australian company, on algae systems to capture CO_2 in coal plants. It is also a member of the CO_2CRC, which is running the Otway storage project, the country's first demonstration of the deep geological storage of carbon dioxide. Meanwhile in the US, we are a member of the FutureGen Industrial Alliance, which is partnering with the US Department of Energy to build a near-zero emissions coal-fuelled power plant.

In South Africa, Anglo American is not only a major coal supplier, but it is also the largest producer of platinum group metals (PGMs), which have unique properties that enable energy savings and emissions reduction. The catalytic properties of PGMs reduce the pressure and temperature requirements of many industrial applications, significantly reducing energy demand. PGMs can also be used in fuel cells, ranging from palm-sized batteries to providing power at multi-megawatt scale.

The Platinum business is currently working with the Department of Science and Technology to develop a market for and local manufacturing of these fuel cells to reduce reliance on fossil fuels. This is aligned with government's goals to increase in-country beneficiation and create jobs. Platinum has also launched a R100 million fund to invest in platinum-based technology companies.

Community partnerships

"There is no single answer to the issue of climate change and it won't be solved by the actions of one organisation or country. By working in partnership and consultation with governments and other stakeholders we can develop collaborative solutions underpinned by effective public policy," says Hoe-Richardson.

In South Africa, we are a founding member of the Industry Task Team on Climate Change, which was set up to create a consolidated response from the mining sector to the South African Treasury's discussion paper on carbon taxation. We are also a member of the South African Centre of Carbon Capture and Storage, a partnership between government and industry.

"Outside of our operations, we are encouraging energy efficiency among local communities," adds Hoe-Richardson. "In South Africa, our Zimele enterprise development programme, which finances entrepreneurship through business loans, has launched the Zimele Green Fund for environmentally sustainable business projects."

Anglo American is also jointly supporting studies in two areas where the Green Fund could play a part. The first is a community energy study into the economic viability of installing basic solar water heating and ceiling insulation in low-income homes in mining communities. Through the Green Fund, small businesses could be supported to manufacture and install these heating and insulation systems.

The second area is green charcoal. Produced from agricultural waste, 'biochar' can be put into the ground to store carbon and improve soil productivity. Trialled in Senegal by NGO Pro-Natura, biochar has been proven to improve crop yields by up to 200%.

Thinking long term

In combating the third risk associated with climate change – the physical effects – Anglo American is looking more closely at sites' exposure.

"Climate science is incredibly difficult to attach a probability to, but there are trends," says Hoe-Richardson. "From the work we have done at one of our sites, we believe we will see wetter wet seasons and drier dry seasons – extremes that could affect production and increase the instances of disease. We're asking ourselves which sites are most exposed and when, and we're going to create a risk model to help those sites put management plans in place. We will then look at how we can manage all this scientific data to benefit the communities around us who are equally exposed."

While these consequences might not be seen until much further into the future, Anglo American invests in long-term assets, and so preparing climate-adaptation measures today will be cost-effective.

"It may feel like a long way away, but, really, it highlights that we are only at the beginning of our journey when it comes to dealing with climate change."

02

"We want to see equitable policy that benefits the environment and society; that allows businesses to continue to play an effective role; and that includes incentives and backing for developing commercially available technology."

SAMANTHA HOE-RICHARDSON, Anglo American's head of sustainable development and energy

Promising to 'leave your mark on the world' is a message of hope about leaving a positive legacy. But knowing how man's activities are damaging our planet, what can we do as individuals, businesses and society at large to ensure that we live up to such a promise? Identifying how we can alter the path we are on might be a better approach.

01

DON'T MAKE A MARK, MAKE A DIFFERENCE

In 2007, the Intergovernmental Panel on Climate Change announced that the planet has warmed about 0.75 degrees Celsius since the beginning of the 20th century, with a 90% or greater chance that global warming over the last 50 years is due to human activity. Nearly all climate scientists agree that global temperatures will continue to rise, although by how much depends on future emissions of greenhouse gases (GHGs) and other human activities. Most people accept that human-made emissions of greenhouse gases can be blamed for fewer cold days, hotter nights, killer heat waves, floods and heavy rains, devastating droughts, and an increase in hurricane and tropical storm strength. So what behaviours are we willing to change to make a difference?

Avoid

Start by stopping – that is, stop doing things that cause emissions unnecessarily. For example, do you really need to make that trip in your car, or can you walk, use public transport or get a lift with a friend instead?

Leaving your car at home just two days a week will reduce greenhouse gas emissions by an average of 727 kg per year (around 10% of the 7,276 kg of home energy, transportation and household waste emissions an average person in the United States produces annually).

It is not as impossible as it seems: try combining activities and errands into one trip, or chat to colleagues about car sharing once in a while.

Also be more conscious about recycling. Make this easy by installing communal recycling bins, one for each waste type, and then ensuring that the waste is disposed of correctly. Also support recycling markets by buying products and/or packaging made from recycled materials. Give old items to schools or charities, instead of throwing them out.

01 Rudi van Aarde, an engineering services foreman at New Vaal colliery, replaces an ordinary light bulb with a more energy-efficient compact fluorescent lamp.

Reduce

What's good for the planet, is often good for your pocket – by saving energy you can reduce your carbon footprint and your electricity bill at the same time. Start by replacing your light bulbs with low energy bulbs – they use about a fifth of the energy and last at least six to eight times longer. And remember to switch off or unplug appliances and entertainment devices when you are not using them, including chargers. Some devices can use up to 90% as much power in standby mode as when they are on.

In your kitchen, use the microwave to reheat food or cook small portions. Although a microwave uses a lot of power, it does so over a very short time and so saves energy overall. Also, boil water in a kettle rather than on the stove – it saves 50% to 70% of the electricity needed.

Municipal water systems use a lot of energy to purify and distribute water, so saving water, especially hot water, can lower greenhouse gas emissions. Turn the water off while washing your hands, and do not throw general waste down the toilet (water is wasted with each flush). Fix leaking taps and toilets immediately. According to the US Environmental Protection Agency website (www.epa.gov) a leaking toilet can waste as much as 380 to 760 litres of water a day.

Before buying a new or used vehicle, check its emissions and fuel economy performance. Improve fuel economy and therefore emissions by driving carefully, so as not to brake and accelerate too hard and too often. Reduce idling and unload unnecessary items in your boot to reduce weight. If you have a removable roof rack that you are not using, take it off to improve fuel economy by as much as 5%. Make sure that your tyres are at the right pressure. Under-inflated tyres can increase fuel consumption by 3%. Use cruise control, if you have it.

Offset

You can offset some or all of your emissions, for example, your car mileage for a year or a flight abroad. First, calculate the emissions you produce (a number of websites offer carbon footprint calculators, such as www.trees.co.za, www.cap.org.za, and, www.carbonfootprint.com).

Then buy an equivalent amount of 'carbon credits' from projects that have saved carbon dioxide. There are many different types of offsetting projects worldwide, generally involving energy efficiency or renewable energy. One such project in South Africa includes collecting methane to generate electricity from landfill sites in Durban. Remember to choose a project that is backed by the Quality Assurance Scheme for Carbon. Alternatively, when booking a flight online many airlines now offer you the option to offset the amount of carbon dioxide that your seat on the flight will produce by contributing to a specific 'green' project.

We can and must make a difference. All it takes is a little effort.

COMMITTED TO A 7% IMPROVEMENT

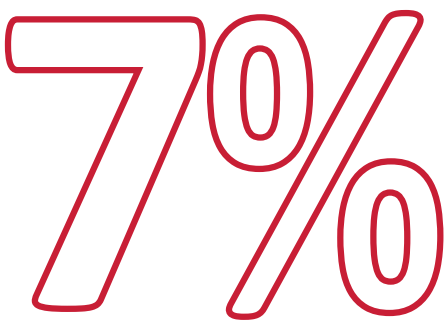
Anglo American's Platinum business has made its commitment clear: a 7% reduction in carbon emissions by 2014.

"One cannot reduce carbon emissions without increasing efficiency," says Krish Pillay, head of engineering: corporate at Platinum.

This follows on from recent improvements in energy efficiency: Platinum replaced electric geysers with heat pumps, with a saving of 50-70% of electricity use for heating. The team also replaced more than 180,000 lamps with more energy efficient ones, saving some 10 MW. Other ongoing initiatives are also providing real increases in energy efficiency, translating into direct electricity usage cost savings.

"Our efforts align with Eskom's drive to conserve energy, notably through its *49 million* project, which encourages households to conserve energy," says Pillay.

"We believe that it is every South African's responsibility to conserve energy – not only because of the shortage of electricity, but also because we care for the future of our planet."



FAST FACT

If all 49 million South Africans switch off one light of 14 watts (W) for four hours during peak electricity consumption period, we save 2,744 megawatt hours (MWh) of energy. If we switch off 10 million geysers of 2,000 W each during peak period, we reduce the load on Eskom's power stations by 5,600 MW. To put this in perspective, according to Eskom, 1,800 MW is enough to power a city the size of Durban.

ECO_2MAN: A NEW WAY OF TALKING ABOUT ENERGY AND CARBON

"ECO_2MAN gives us a common language with which to talk to each other in Anglo American, to suppliers and to business partners about carbon and energy management issues. It also creates a common platform for collaboration and understanding how our partners' environmental approaches correspond with ours."

STAN PILLAY, manager: climate change and energy at Anglo American

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- **Greenhouse gases (GHGs) play an important role in the regulation of the Earth's energy balance. They consist mainly of water vapour, carbon dioxide, methane, nitrous oxide, ozone and CFCs.**
- **The natural greenhouse effect is a warming process whereby the GHGs in the atmosphere trap the infrared heat that is trying to escape back into space. The greenhouse gases then raise the temperature of the lower atmosphere and the earth's surface.**
- **Human activities release greenhouse gas emissions into the atmosphere – using electricity generated from fossil fuel power stations, burning gas for heating or driving a car. These increased GHGs have enhanced the natural greenhouse effect, contributing to global warming.**

"Our energy consumption accounts for 70% of our greenhouse gas (GHG) emissions, and our primary response to climate change is therefore to use energy more efficiently and minimise the GHGs emitted during our operational processes," says Stan Pillay, manager: climate change and energy at Anglo American. "This means improving our own performance by setting clear objectives and standards, and then ensuring that our business units identify and implement savings projects.

"Our programme for doing this is ECO_2MAN."

ECO_2MAN is an abbreviation for Energy and CO_2 MANagement a programme that is designed to help Anglo American better understand its future energy consumption and GHG footprint, and improve planning around energy and GHG over the life of an asset. It also helps to identify the least-cost energy savings measures that will enable the Group to meet its savings targets.

What ECO_2MAN does

ECO_2MAN is linked to Anglo American's Group Technical Standard on energy and GHG emissions management. It was successfully trialled in 2010 at nine operating sites and the Minas Rio project in Brazil, and has subsequently been implemented at all our business units across the Group. It provides, for the first time, a consistent and robust way of forecasting Anglo American's energy consumption and climate change impacts, and guiding performance so that targeted objectives can be achieved.

ECO_2MAN demands that sites consider energy and carbon in their operational planning and in the budgeting process. It also requires them to identify and implement projects for achieving energy and GHG performance targets. To support these efforts, all sites will have accountable energy managers/champions in place.

What it has achieved

- Every Anglo American site now has new bottom-up targets for saving energy, GHG and water, based on a 'business-as-usual' methodology. This approach sets out the forecast energy demand and GHG emissions curve, taking variable operating conditions into account.
- Every site has identified projects for achieving these savings. By way of example, a study at Sishen mine identified 46 energy and GHG initiatives with a potential saving ranging from R65 million to R122 million a year.

MOBILE FLARING:
A UNIQUELY HOME-GROWN SOLUTION

DID YOU KNOW?

Under the Kyoto Protocol, methane flaring is an eligible Clean Development Mechanism (CDM) activity. As a result, the methane flaring project at New Denmark could generate more than R62.7 million in revenue in its first decade through the sale of certified emission reduction credits – effectively transforming an environmental liability into an asset.

Methane concentrations in South African coal mines are generally very low, with some build-up in the deeper underground mines. This is due to the relatively shallow coal seam depth, which means that over time the methane migrates through the strata and escapes.

At mines like Thermal Coal's New Denmark colliery, diluted methane escapes as each block of coal is mined. Regularly spaced boreholes drilled from the surface are used to drain methane out of the underground mining panels. The methane concentrations vary, so the boreholes are monitored regularly. Those that emit consistent methane above a certain level are 'flared', a process in which the gas is mixed with air and burned off, rendering the gas 18.5 times less harmful to the environment.

The emissions are not predictable, however, so you have to monitor the boreholes and relocate the flare all the time – hence the value in the mobile flaring unit that has been developed and installed at New Denmark specifically for this purpose. This is expected to reduce the mine's annual methane emissions by 15% and will more than pay for itself within three years.

The variability of the emissions at New Denmark, plus the low average concentrations, means that it is extremely difficult and not economically viable to try and capture the gas instead, which is precisely why the mobile flaring unit is so effective.

In Australia, on the other hand, coal mine methane concentrations are significantly higher, providing the opportunity to capture and use a portion of the methane. A portion of the coal seam methane is drained ahead of mining and the collected rich gas is either sold into the pipeline grid or supplied to methane-fired gas turbines to generate electricity.

Additional highly dilute concentrations of methane escape and flow along the mine's ventilation circuit. By this stage the gas is so dilute (making up only 0.5% of the total air being vented) that there is no technology currently available to re-concentrate the gas. Trying to manage it before it reaches the ventilation shafts also isn't a safe option.

Technical and safety issues associated with the capture and handling of fugitive emissions – the unintended emissions that arise during the production and distribution of fossil fuels such as coal – suggest that there is a technology gap of around 10 years before a solution is likely. Nonetheless, Anglo American is partnering with the chemical company Johnson Matthey on a pilot project using catalysts for the capture and combustion of ventilation air methane.

01 New Denmark colliery.

02 The mobile flare is a joint New Denmark-Gemini Carbon concept and is a world first in Clean Development Mechanisms.

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IN THE KNOW

Methane is found, in differing concentrations, in the majority of coal seams where it is produced during the geological formation of coal. It is released when the coal seam is broken up through the mining process or through natural processes such as erosion.

Within a mine, methane is a significant health and safety risk. While it is not toxic, it is an asphyxiant, highly flammable, and potentially explosive.

In some cases coal companies need to drain methane gas before mining starts to prevent the risk of outbursts (the spontaneous ejection of gas, coal and rock) and to control gas concentrations. In underground mines, the workspace is continually ventilated to dilute any present methane to safe levels. This is often referred to as ventilation air methane or VAM, and it is typically released into the atmosphere.

However, methane is also a greenhouse gas (GHG) that is 21 times more damaging to the environment than CO_2, and thus venting is not the preferred option. It accounts for 17% of Anglo American's carbon footprint and is its largest single source of GHG emissions.

Anglo American is the largest single shareholder in MBD Energy, an Australian-based company that has developed proprietary processes for the commercial farming of algae. By using waste carbon dioxide (CO_2) as its primary feedstock, it is able to produce carbon neutral oil and animal feed, both of which have a role in addressing energy and food security. A pilot project to test the viability of a commercial-scale CO_2 to Energy Algal Synthesiser is under way at one of Australia's largest coal fired power generators, Tarong Power Station.

CASE STUDY

ALGAE: A SIMPLE SOLUTION TO A COMPLEX CHALLENGE

Why is Anglo American involved?

Anglo American's initial investment in MBD Energy was in 2009 and the group now has a stake of around 20%. This investment creates the prospect for the development of a cutting-edge organic CO_2 capture process that could help ensure the future place of coal in the energy supply chain if it was successfully adopted on a large scale.

Why algae?

Algae are among earth's simplest life forms. There are hundreds of thousands of varieties. Most are the size of bacteria, though in the form of seaweeds, they can grow up to 50 metres long. Algae are plants, and like other plants, mostly grow by photosynthesis. They convert carbon dioxide and sunshine into oxygen and biomass. They are able to grow almost anywhere – including deserts and in seawater – and they produce approximately half of earth's atmospheric oxygen.

They can be farmed for the production of second-generation biofuels, yet can crop on waste or non-arable land. It has been claimed that algae could produce up to 300 times more oil per acre than conventional crops such as rapeseed, palms and soybeans, with harvesting cycles of between one and 10 days.

They can be fed on waste water – including sewage – and can use the CO_2 produced by other industrial processes. Coal-fired power stations, for example, could provide both 'fuel' and an ideal location for algae farms.

Algae-based fuels are essentially carbon-neutral. While they do not reduce atmospheric CO_2– because any CO_2 taken out of the atmosphere by the algae is returned when the biofuels are burned – they would eliminate the introduction of new CO_2 by displacing conventional hydrocarbons.

Once the oil has been extracted from the algae, the remaining biomass has other uses. It can be digested to produce methane; or burned as a biomass fuel in its own right for power generation; it can be fermented to produce ethanol; or used as animal feed.

NEW ZIMELE FUND GETS THE 'GREEN' LIGHT

Climate change poses business risk – but also opportunity, and the launch of the new Green Fund by Zimele, Anglo American's enterprise development arm, intends to help South African entrepreneurs target the emerging green economy.

The Green Fund is the fifth Zimele fund that supports and mentors entrepreneurs. With an initial commitment of R100 million from Anglo American, the Green Fund will focus on supporting environmentally sustainable businesses that could range from clean energy to recycling.

Launched in November 2011, the fund is part of Anglo American's commitment to mining safely and sustainably.

"We are committed to helping our operations and communities tackle the issue of climate change and this fund demonstrates how we can work in partnership to achieve this goal," explains Nick van Rensburg, managing director of Zimele.

"The Fund specifically seeks to empower entrepreneurs and SMEs to operate in the green economy, boost job creation and build up the industry. It will invest in viable SMEs that satisfy specific criteria."

Three of the businesses being assisted by the Green Fund are:

- **Masakhane Consulting and Projects …** this recycling business collects and recycles metal, glass and paper from existing and new mines within a 100 km radius. Based in Kuruman in the Northern Cape, Masakhane Consulting and Projects generates sales of around R570,000 per annum, employing nine people.
- **Reikaeletse Cleaning Services …** a cleaning and grass-cutting business that removes alien and invasive species. Working primarily in Kimberley in the Northern Cape, Reikaeletse Cleaning Services generates revenue of around R420,000 per annum and provides work for 19 people.
- **Reel Gardening …** an innovative seed business that enables people with limited or no skills or education, to grow vegetables using 80% less water. Based in Blairgowrie, Johannesburg, Reel Gardening generates sales of around R1.5 million per annum, and employs nine people.

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DID YOU KNOW?

- **The word 'Zimele' is derived from the African languages Zulu and Xhosa, and means 'to be independent' or 'to stand on one's own feet'.**
- **Since 2008 Zimele has invested R530 million in 1,001 businesses that collectively employ 18,783 people, and generate an annual turnover of approximately R1.9 billion.**
- **Zimele's other four funds include the Supply Chain Fund, the Anglo American Khula Mining Fund, the Community Fund, and the Olwazini Fund.**

01 Claire Reid invented the concept of Reel Gardening, which provides an easy and very water-efficient way to grow vegetables.

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NICKEL WORTH (WAY) MORE THAN A DIME

Global demand for iron ore, coal, nickel and copper is skyrocketing. Huge, low-grade nickel deposits exist in Brazil, but to date, there has been no known profitable way to extract the metal. Ten years in the making, from concept to a pilot plant, Anglo American's nickel research project (ARNi) is now tackling a profitable prospect that has been simply waiting to be explored.

01 Nico Groenewald (left) and Jaison Sibanda, researchers at Anglo American's nickel research project (ARNi) test plant at the Crown Mines North Campus.

02 Haematite.

More than 70% of the world's nickel resources are found in lateritic nickel ore deposits, which are usually very large tonnage, low-grade deposits located close to the surface, explains Mark Carlisle, ARNi project manager. Typically this ore is extensively weathered, which means that it requires a lot of effort to extract the metal, and usually involves a great quantity of chemicals and/or energy.

"The ARNi project started as a research project aimed at developing a new nickel laterite atmospheric leach process," says Carlisle. "The goal is to develop a process that minimises the use of these chemicals and reduces the energy needed. In other words – a process that is environmentally, technically and financially superior to any of the other extraction options currently available."

The method that has subsequently been developed, potentially achieves just that.

"The new ARNi process could allow us to treat the full laterite horizon (in other words, both the limonite and saprolite minerals that are found in the deposit), whereas other hydrometallurgical processes only treat the limonite," says Carlisle. "A separate process is then required to treat the rest."

He adds that ARNi is capable of regenerating the majority of its reagents (the substances needed for the treatment process) in a closed loop system. It has a small residue disposal footprint and produces an environmentally stable residue, all while producing nickel metal and cobalt salts for sale into the market.

In less technical terms, this means that Anglo American now potentially has an economically viable way to process the difficult nickel ores that contain the bulk of the world's available nickel metal.

The ARNi project has progressed to the piloting stage, and the team recently completed a very successful leach pilot programme, followed by an equally successful reagent regeneration programme. In both instances, the technical ability and success of the process has been proven, and data gathered will enable the team to draw up an accurate design and financial model for the process.

The research team is currently gearing up for a second leach pilot run to collect sufficient samples and feed material in order to run a refinery pilot plant in 2012. On completion of the pilot plant test work, the ARNi process will be a strong contender for the development of Anglo American's Brazilian nickel laterite resources.

FAST FACT

Lateritic nickel ore deposits are the richest source of nickel, but existing commercial processes to extract it are expensive and do not generate a healthy return on investment. The development of the ARNi process means that Anglo American now has an economically viable alternative.

WHERE DOES ARFe FIT IN?

Nickel is only a minor component of nickel laterite deposits, with iron, silicon and magnesium making up the bulk of the ore. In monetary terms, nickel and cobalt are the primary products, but there are advantages in extracting the iron – not only because this generates additional revenue for a project, but also because it significantly reduces the amount of 'left over' materials (tailings) that have to be stored once the ore processing is complete.

This is the focus of Anglo American's iron research project (ARFe), a research initiative that aims to produce iron as a saleable by-product, providing an alternative to the ARNi process and a direct competitor to the high pressure acid leaching (HPAL) method.

Mark Carlisle, ARFe project manager, explains that when processed at a typical 45 kilotonnes per annum (ktpa) plant using HPAL, 3.5 megatonnes per annum (Mtpa) of ore will produce around 5 Mtpa of residue (mainly because gypsum forms when lime is used for neutralisation).

With the ARFe concept, the same plant would produce approximately 2.0 Mtpa of saleable hematite (an iron oxide) and only 1.5 Mtpa of residue. All of the sulphur is internally recycled and less neutralisation is needed because the value metals are recovered through co-crystallisation.

"We believe that these factors will translate into lower operating cost compared to existing technologies," says Carlisle.

He adds that while the ARNi process can technically process laterite ores at any ratio, it is not economically viable for deposits that only contain limonite. The ARFe conceptual process is therefore aimed at these limonite-only ores.

"ARFe is at the conceptual phase, and now needs to be refined and improved," he says.

"The next phase of development starts in 2014. The immediate challenge for the team is to prove that the iron by-product is saleable and that it can be produced with a positive business case."

FAST FACT

ARNi offers a potential alternative to combined HPAL and pyrometallurgy treatment processes, while ARFe competes directly with HPAL.

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01 Black Wattle Dump, Mpumalanga, an Anglo American Khula Mining Fund project.

02 By adopting winter seeding in fields similar to this one, the team at New Vaal colliery has increased the effective seeding and final rehabilitation 'window' from three months to six or more, which dramatically accelerates the rehabilitation process.

03 A sand truck carrying sand up a ramp from an opencast pit at New Vaal colliery in 2003.

MAKING A FUND-AMENTAL DIFFERENCE

The Anglo American Khula Mining Fund, a 50:50 joint venture between Anglo American and Khula Enterprise Finance Limited (a government-owned entity), supports early-stage BEE mining development enterprises. The Fund is calling on junior mining companies to benefit from their financial assistance, technical expertise and mentoring.

"The purpose of the fund," says fund manager Mxolisi Kota, "is to bridge the gap between companies whose mineral projects are at the prospecting and evaluation stages and the point at which banks would be willing to consider financing such ventures once they develop to the definitive (bankable) feasibility stage. Without this, many black-owned junior mining companies wouldn't be afforded the opportunity to operate in the formal mining sector."

With investment capital of around R200 million, the Anglo American Khula Mining Fund is well placed to financially empower emerging junior mining enterprises that aspire to enter the mainstream mining industry. With equity and loan finance of up to R40 million per project (with loans currently charged at the prevailing prime interest rate), and the support of the Zimele incubation framework, the organisation is also a value-adding investor in the projects it supports.

Anglo American's dedicated enterprise development arm, Zimele, has a well-established incubation model that offers a wider infrastructure, including a company secretary; comprehensive and specialist technical assistance during the high-risk exploration and pre-feasibility stages of mineral project development; and advice on how to develop, operate and monetise the value embedded in these mineral projects. Combined, it all serves to ensure that each venture reaches its predetermined target stage.

Says Kota, "The history of mining in South Africa is dominated by large multinationals. Through this fund we're trying to facilitate diversification of the local mining industry by making it easier for junior companies to enter, as is the case in countries such as Australia, Canada and Russia."

WE'RE DIGGING UP NEW POTENTIAL

Since its launch in 2003, the Anglo American Khula Mining Fund has invested in more than 20 successful investments. One such success story is export coal producer Leeuw Mining and Exploration (LME), which recently sold a 74% stake to coal exploration and development company, Keaton Energy. LME was set up eight years ago through a BEE transaction with Anglo American's Thermal Coal business. Another flagship investment is the Black Wattle coal reclamation project, which has shown both sustained operational and financial performance. The project is managed by Zingaro Trade 51 (Pty) Ltd, a black-empowered special purpose joint venture between Eyethu Coal and Geovicon. For more information on the services and assistance provided by the Anglo American Khula Mining Fund go to www.angloamerican.co.za or contact Mxolisi Kota at mkota@angloamerican.co.za or on 011 638 4172.

WINTER SEEDING PROJECT TAKES ROOT

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New Vaal colliery has achieved a major breakthrough with a seeding technique that could reduce its rehabilitation process by as much as 10 years.

According to Anglo American's rehabilitation and biodiversity superintendent Gareth Corbett, seeding traditionally takes place in the wet summer months, as commercial grass seed germinates under wet conditions. However, this restricts operations to a three-month window – not long enough to keep pace with expanding mining operations.

"A year ago we decided to fly in the face of conventional wisdom by seeding during the winter months, using seeds from natural grasses that we collected and harvested ourselves," says Corbett. "Natural seed germinates in response to increasing daylight hours, rising soil temperatures and early rains, the conditions which occur during late winter and early spring. We were able to establish a grassed landscape before the advent of heavy rains." This has not only helped significantly in rehabilitation, it has also reduced soil erosion and the run-off of water into the pit during the heavy spring rains.

By adopting winter seeding, the team has increased the effective seeding and final rehabilitation 'window' from three months to six or more, which dramatically accelerates the rehabilitation process.

"All areas left unseeded carry a liability of R27,500 per hectare," says Corbett. "Therefore, reducing the number of unseeded hectares results in a potentially significant saving. The progressive savings trend for 2011 is R1.9 million, which is encouraging considering this is the first full cycle of the initiative."

The collection of natural grass species from the surrounding veld is crucial to the project. The mine has engaged with the School of Biological and Conservation Sciences at the University of KwaZulu-Natal, which is developing a mobile seed harvester that can be used in this and similar projects.

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DID YOU KNOW?

It is estimated that New Vaal's seeding liability will be cancelled out at least 10 years ahead of schedule, saving around R1.2 million per year.

FAST FACT

As part of this project, Free State Province is planning to perform high volume MMC procedures to a target group of 14-49 years for five years, and thereafter will encourage newborns to be circumcised at birth.

EDUCATE, ACT, PREVENT

The Motheo municipality in the Free State serves an estimated population of more than 813,700 people, 83% of whom are uninsured and completely dependent on public health facilities.

Working in conjunction with Anglo American's Chairman's Fund, which has provided a once-off grant of R1.69 million, the province's Department of Health runs an extensive Medical Male Circumcision (MMC) campaign as part of its primary health care service. Initially, the Department had an MMC site in each of the four districts. The support provided by the Chairman's Fund is now being used to establish and equip two more sites, as well as a nurse-initiated anti-retroviral therapy treatment programme at one of the district clinics.

Studies suggest that male circumcision reduces HIV transmission by 60% in South Africa. However, according to a report from the National Communication Survey, only 4% of the people in the Free State Province are aware of the HIV prevention benefits of MMC, and only 34% of the male population is reportedly circumcised.

Following the establishment of the new MMC clinics, plus the related awareness campaigns and workshops being run by the Department, it aims to turn this situation around. Its target is to circumcise 1.5 million men by 2012.

SIYAZISIZA PUTS FOOD ON THE TABLE, AND HOPE IN THEIR HEARTS

Established in 1987 by a group of concerned businessmen to help alleviate poverty in northern KwaZulu-Natal, the Siyazisiza Trust is an old and trusted development partner of Anglo American's Chairman's Fund, and a shining example of best practice community development.

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The Trust promotes food security and small enterprise development in rural communities by providing start-up equipment, supplies and training for diverse projects such as poultry production, craft manufacturing, vegetable and fruit businesses, and any other business initiatives that the community identifies.

Its process of engagement has been proven over the past 23 years; importantly, Siyazisiza only goes where it is invited. Ongoing monitoring and mentoring by field staff is central to Siyazisiza's model, and as communities gain experience, skills and confidence, their ability to manage on their own increases.

Siyazisiza is a 'go-to' organisation for rural livelihood experience, and has made many valuable connections, including with the South African Institute of Entrepreneurship in the training of their AgriPlanner and Best Game models, which teach agricultural planning and basic business skills respectively.

Siyazisiza is well known to the Chairman's Fund, which has provided cumulative funding of R2.7 million over the past six years, directly benefiting more than 2,700 community members (80% of which are women) and indirectly benefiting a further 21,912.

01 Some of the 21 project members of Jameson Drift Community Garden (1.5 ha in size) in Nkandla, showing their fine crop of onions.

02 Joan van Maanen, who has been with the Topsy Foundation since 2001, attends to a patient at the HIV/AIDS care clinic in Mpumalanga.

02

GIVING A HELPING, HEALTHY HAND

More than 2,500 patients each month are taken care of at the free Topsy Comprehensive HIV/AIDS Care Clinic in Mpumalanga, where the Topsy Foundation has been working since 2000 to provide medical and support services to families in rural communities.

The clinic, which provides a full range of HIV/AIDS testing, counselling and treatment services, as well as TB diagnosis and treatment, and (most recently) cervical cancer screenings, is just one of three programmes that the foundation operates. Anglo American's Chairman's Fund supports the clinic and home-based care projects.

Ayanda Magwaza, donor relationship manager at the Topsy Foundation, explains that its community outreach programme provides home-based care to around 3,000 patients a year. "This figure has more than doubled in the past couple of years," she says, "In 2009 we launched a third programme focusing on skills training for beadwork and sewing, to provide a source of income for impoverished beneficiaries."

The impact that the organisation has on communities is immense and continues to grow. A recent agreement with the Department of Health has seen it provide ARV medication and contribute to lab costs. The clinic now also has an X-ray room and pharmacy, as well as two data capturing systems that ensure accurate, efficient administration of beneficiary services. The Chairman's Fund supports the Topsy Foundation to the tune of R400 000 per year, totalling R1.25 million between 2006 and 2011.

"We are continuously appreciative of this support," says Magwaza. "It enables us to continue pursuing our vision of flourishing rural communities, where a generation of young people are productive participants in society in spite of the impact of HIV/AIDS."

A NEW SCIENCE OF TEACHING

An innovative teacher mentoring programme is giving first-time teachers in the Western Cape a way to bridge the gap between their theoretical knowledge and academic training, and the practical requirements of the school curriculum, as well as the realities faced in schools.

This two-year pilot project, known as the Joint Mentorship Project, is being run by the Western Cape Primary Science Programme (PSP), in partnership with the Western Cape Education Department, the University of the Western Cape and the Maths Education Primary Programme (MEPP). The pilot will involve mentoring 20 teachers in schools in the Western Cape, and is being part-funded by a R500,000 contribution from Anglo American's Chairman's Fund for 2011.

Unlike many other countries, South Africa has no formal process or structure in place to guide the induction of novice teachers, nor is there any existing local research on the processes, pressures and conditions under which first-time teachers grapple with their craft.

Undertaking such research, and piloting a mentoring model in practice with new teachers in the field, will reveal to what extent a formal system of support can alleviate the stress, feelings of isolation and other factors often experienced by new teachers, and which hamper quality teaching and learning.

Established in 1985, PSP is a centre of excellence in primary education and works to improve the quality of teaching and learning of the natural sciences and related subjects in disadvantaged primary schools in the province. To date, it has worked with over 7,357 teachers from 750 primary schools, reaching more than 367,000 learners.

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LEARNERS GAIN THE MOST IMPORTANT CERTIFICATE OF ALL

A recent intervention at Greenside colliery has resulted in more than 200 young learners receiving their birth certificates for the first time. This has enabled them to qualify for desperately needed state benefits and food packages for them and their households.

01 It's a hearty 'hands up' for learners at Edward Matyeka Primary, Greenside colliery's adopted school. More than 200 of 1,000 children have now received birth certificates for the first time.

02 Hundreds of spouses participated in safety workshops hosted by Thermal Coal. Participants signed a safety pledge, committing themselves to making safety a habit – at home, at work and in the community.

03 Thermal Coal head of operations Dave Haselau and Zibulo colliery's general manager Wally Tollemache at the official inauguration of the new 'Mary-Ann' service cage.

At least 70% of the 1,000 learners at Greenside colliery's adopted school, Edward Matyeka Primary, are orphans, and many of them have the added burden of heading up their own households. "They are further disadvantaged by the fact that very few of them have any form of proof of identity, which is needed to qualify for social grants and food parcels," says the mine's community development superintendent, Glanrose Shimusi.

The mine contacted the local offices of the Department of Home Affairs, the Department of Social Development and the South African Security Agency to explain the children's plight and to establish a joint initiative to arrange the help they so badly need.

The school's liaison committee also contacted all known formal and informal guardians, mostly grandparents, inviting them to meet with department officials. "Their response was excellent, and the result is that birth certificates were issued to more than 200 children," says Shimusi. "Each child will qualify for an allowance of R210 every month as well as a monthly parcel of basic foodstuffs and toiletries."

But it doesn't end there. Social workers are now trying to contact relatives and family friends of a further 400 learners to gather the information needed to issue their documentation. "The assistance we have received from the departments and their helpers has been outstanding, and we hope that most of the other children will soon qualify for benefits."

Shimusi adds that it is not just the children who will benefit but also the many members of their extended families and households. And because goodwill is contagious, the initiative has encouraged the local Department of Home Affairs to consider a similar operation for the benefit of out-of-school youths in the townships around eMalahleni.

SAFE AS HOUSES

Thermal Coal recently hosted several workshops aimed at building greater awareness of health and safety among the wives and husbands of employees.

The workshops formed part of a special workstream focusing on family safety – one of 10 safety workstreams that Thermal Coal has created to help address the issues that prevent it from reaching the ultimate goal of Zero Harm.

Says Thermal Coal team champion, Elsa Jennings: "We always focus on safety in the workplace, but safety should be a habit in everyday life – in the home and in our communities." She explains that the 'Family Safety Journey' aims to make families and communities aware of the correct safety behaviour, and to encourage them to always behave according to safety, health and environmental guidelines.

Phase one of the initiative kicked off in March with employees being given monthly fact sheets covering a range of safety-related topics. Phase two was rolled out to the children of employees in October.

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The recent workshops, targeted at employees' spouses, attracted hundreds of participants in eMalahleni, Middelburg, Kriel and Vereeniging, and highlighted the fact that partners too have an important role to play in Anglo American's quest for Zero Harm. The day's line-up included a quiz to find out how much audiences knew about personal safety, a self-defence demonstration, a viewing of the company's latest HIV/AIDS industrial theatre production, 'Tsoha', and a musical session with a 'silent conductor', in which each member of the audience played an instrument to experience the power of working together.

MARY-ANN GIVES ZIBULO A LIFT

Thermal Coal's Zibulo colliery recently celebrated the official launch of the 'Mary-Ann', the colliery's brand new service cage.

The Mary-Ann brings welcome relief to Zibulo's underground staff who, before her arrival, walked 900 m to the incline, a further 1 km down the incline, and yet another 200 m to their section.

The cage can accommodate a maximum of eight people, has a lifting capacity of 1,000 kg, and transports its passengers 115 m underground at a rate of three metres per second.

Featuring the latest available technology, the cage is fully automated and operates in the same way as a normal lift or elevator. Says winder engineer Derik Dreyer: "It was designed to meet and exceed the minimum safety requirements as laid down by the Mine Health and Safety Act, and is one of the first winders that can be inspected using the headgear's programmable logic controllers (PLC)." The cage underwent a 10-day commissioning and testing period before it was licensed for operation by the Department of Mineral Resources.

Thermal Coal head of operations Dave Haselau officiated at Mary-Ann's inauguration, cutting a red ribbon before handing her over to mine general manager Wally Tollemache. Mary-Ann is the first of Zibulo's two cages; the second and larger cage will be used to take vehicles and mining equipment underground.

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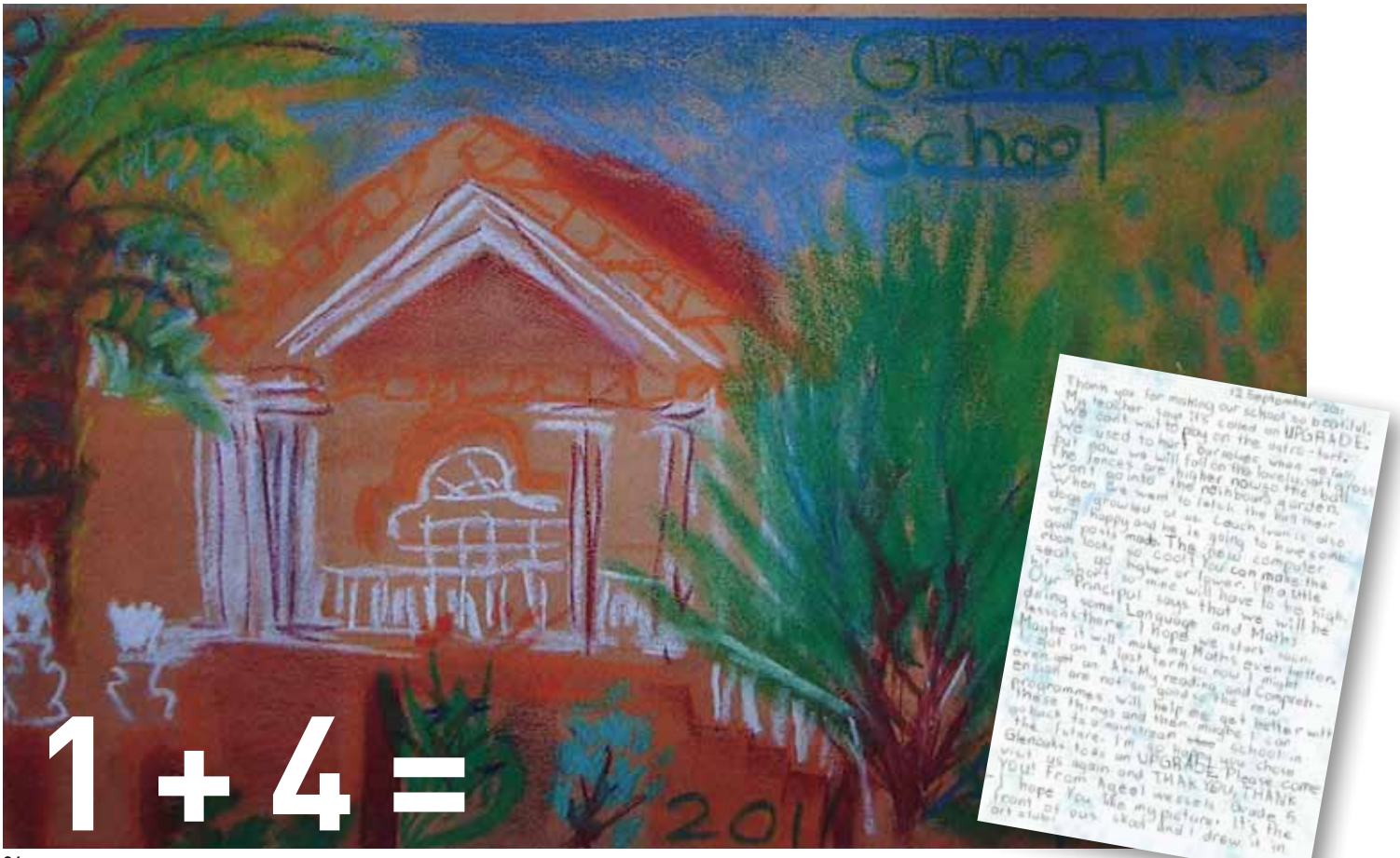
DID YOU KNOW?

'Mary-Ann' is a name that is often given to service cages. It originates from the United Kingdom and it is said that the aristocratic mine owner who installed the first device named it after his mistress.



01

SO MUCH MORE ...

Kumba Iron Ore has joined hands with four of its suppliers to significantly upgrade the facilities at Glenoaks Primary, a remedial school in Kensington, Johannesburg. This represents just part of the approximate R188 million that the company aims to have invested in community and social projects by the end of this year.

Glenoaks is an independent school catering for children with barriers to learning, and who cannot typically be accommodated in a government school. Kumba Iron Ore was responsible for upgrading the school's two playgrounds – including the supply of Astro Turf and fencing. Until now, playing, sport and physical education took place on a concrete tennis court.

Kumba is also supplying the teachers with laptops and specialised hardware to help them provide first-class teaching to the 155 students in their care. The project is a true partnership in education, with Kumba supplier Hatch Africa upgrading the school's computer centre and providing the full IT infrastructure, computer equipment, air-conditioning, lighting and security. MTN supplied network points and provided special needs software, while Matlapeng Housing and TFMC contributed financially towards the cost of the project.

The children previously worked on old and unreliable computers, and the 'computer centre' was little more than a basic room utilised for this purpose. An urgent need also existed for specialised CAMI software, which is a reading, spelling and maths programme that is aligned to the South African curriculum.

The new facilities were officially opened by Dolly Mokgatle, Chair of the Sustainable Development Committee of the Kumba Iron Ore Board, in September. The project was coordinated by Susan van der Walt and Anton Uys from Kumba's Supply Chain.

PUTTING THE 'GREATEST' IN THE GREATEST TRAIN RACE

It was Thermal Coal's biggest wellness event of the year, when more than 20,500 runners and walkers from across our operations took part in the 25th annual Greatest Train Race.

Not only did Thermal Coal provide a large proportion of the entries, but Anglo American was also one of the title sponsors of the race, which is rated as being the largest single fund-raising event in Mpumalanga.

The entries for this year's race were the most ever, and raised approximately R1 million for local charities. The beneficiaries include three children's homes, four homes for the aged and Hospice, while funds will also be used to provide sanitation and basic educational aids in rural pre-primary and primary schools.

Organised by the rotary clubs of Witbank and Middelburg, the race is billed as South Africa's largest community event and this year was no exception, attracting more than 20,500 competitors. Most participants took part as members of relay teams, although several hundred athletes completed the entire 28 km route as individual entrants.

There was more than a hint of spring in the air as runners, walkers and, of course, the train, left Witbank Station under a clear blue sky heading for the finish line in the grounds of the Steve Tshwete municipal offices in Middelburg.

Thermal Coal's athletes claimed outright victory in the mixed section of the running event, and were the first male walking team home.

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01 Grade 5 pupil at Glenoaks Primary, Aqeel Wessels, sent this letter of thanks, plus a drawing of his school, to the team at Kumba Iron Ore following the school upgrade project.

02 & 03 The Greatest Train Race is billed as South Africa's largest community event and this year was no exception, attracting more than 20,500 competitors.

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'BATHO PELE' – PEOPLE FIRST

Here's a health care service that has long arms to reach out and touch those who would not normally have access to essential health care – and it is exactly what the John Taolo Gaetsewe District needs.

A collection of villages, which have suffered as a result of their isolation and size, will now have access to much-needed primary and secondary health care, thanks to the Batho Pele Mobile Health Units, an initiative of Kumba Iron Ore, Anglo American's iron ore business.

The nine mobile units will provide a free health service to 14,800 people in the John Taolo Gaetsewe district, Kuruman, in the Northern Cape, who before had to travel up to 170 km to get to the nearest clinic.

Rotating on a four-week cycle, spending a week at a time at each site, the service will cover a broad spectrum of health care needs, from optometry and dentistry to counselling and general medical services. It includes general practitioner, eye-care, dental-care, voluntary testing and counselling, ablution, accommodation and kitchen units, as well as an operating theatre and mobile clinic.

The units, which started operating on 1 September, were built and equipped at a cost of R19 million. In addition to this capital investment, Kumba will also pay the operating cost of the service, which after two years will be transferred to the Department of Health.

Kumba Iron Ore chief executive Chris Griffith says that the Batho Pele initiative goes to the heart of Kumba's core values. "We want to see the results of our mining success to have a tangible and lasting impact throughout the communities in which we operate. Mining sustainably and for the benefit of all South Africans is our goal, and this drives our social and community development plans. These plans aim to address issues such as rural poverty, skills and enterprise development, education and health care, which are so important for the sustainable future all South Africans want and deserve."

01 Bringing health care to the community is a goal that all the stakeholders involved in Batho Pele Health Project share.

02 From left are Chris Griffith, chief executive of Kumba Iron Ore, Hazel Jenkins, Northern Cape premier, Dr Aaron Motsoaledi, minister of health, and Andrew Loots, general manager of Sishen mine.

03 A fully equipped dental care unit ensures that patients get the best dental care on offer.

"Kumba is ahead of everybody else. I want units like these in every village in the country."

DR AARON MOTSOALEDI, minister of health

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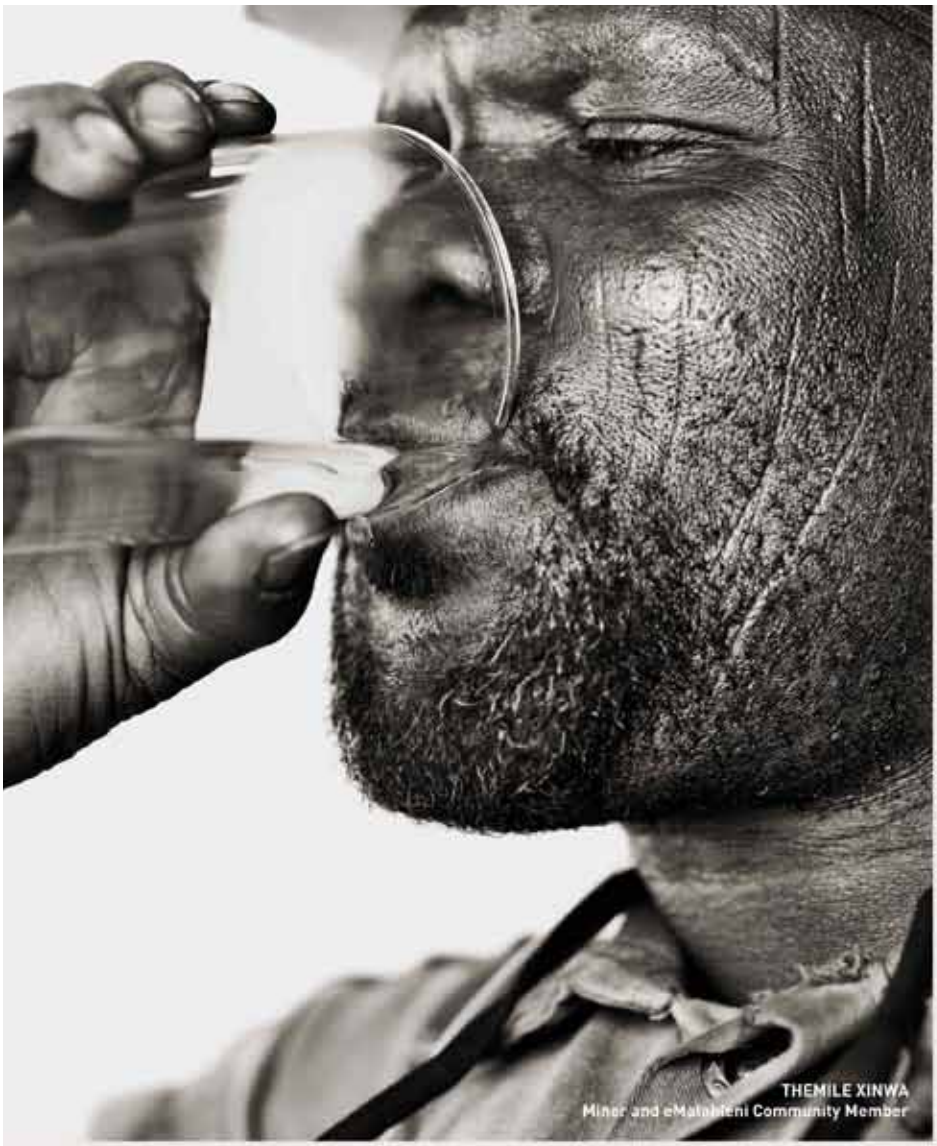

A MINE MAKES A GOOD NEIGHBOUR. TO US, THAT MEANS SHARING COMMON RESOURCES.

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IT IS A SOLUTION THAT DOES BOTH PARTIES PROUD. AND SINCE WE KEEP GROWING, AS A COMPANY AND A COUNTRY, WE PLAN TO EXPAND THE FACILITY TO CLEAN 50 MILLION LITRES EVERY DAY BY 2013.

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