



Cerro Vanguardia, Brazil

Case study: AngloGold Ashanti and climate change

In December 2007, CEO Mark Cutifani set a short- to medium-term target for the group of reducing energy consumption by 15% per ounce of gold produced and a medium- to longer-term target of reducing greenhouse gas emissions (GHGs) by 30% per ounce produced.

Says Cutifani, “Improving our energy efficiency just makes good business sense and I expect that we will be able to make some quick gains – reductions of between 10 and 15% – by improving what we do and how we do it.

“As far as climate change is concerned, there is no doubt that we as a company need to address the issue. I have set a stretch target for reducing greenhouse gas emissions on a per ounce basis of 25 to 30%. But I would rather we do that than set out to achieve only what we know we can achieve. Now we have the challenge of starting to look at a whole range of non-traditional means of attacking the problem.”

Cutifani addressed an internal AngloGold Ashanti climate change workshop in December 2007, attended by environmental and engineering personnel from around the group and other specialists. This followed the development of an internal position paper on climate change, including the opportunities and risks faced by the group, which is a precursor to a formal and public AngloGold Ashanti climate change position statement. The latter will be reviewed by the company’s Exco by mid-2008.

As a first step, operations within the group have been tasked with undertaking a detailed baseline carbon footprint analysis by the end of 2008 and with developing and implementing action plans to effect significant reductions.

It is of particular significance to the company that the people most likely to be most affected by climate change are the poor, who rely on subsistence and seasonal agriculture to lift them from poverty, many of whom may be part of communities and countries in which the company has operations. In addition to its own internal carbon emission reduction initiatives, the company believes that its integrated approach to environmental management and community development programmes should consider and address ways in which to mitigate the impacts of climate change on its host communities, through adaptation initiatives.

Reporting

AngloGold Ashanti is a member of the International Council on Mining and Metals and hence both subscribes to its position statement and commits to report on its GHG emissions. In 2007, AngloGold Ashanti participated in the Carbon Disclosure Project (CDP) survey of the top 40 JSE companies. The CDP is a global initiative for reporting on GHG emissions and for ascertaining companies' responses to climate change. The company's response may be found at www.cdproject.net.

AngloGold Ashanti has committed to reporting in accordance with the GRI requirements – which include a number of energy and climate-related indicators – and will incrementally provide information on a company and group basis as this becomes available. See pages 178 to 179 for further information and our website for our full GRI environmental performance indicators response at www.aga-reports.com/07/environment.pdf.

Opportunities and risks

Some of the risks and opportunities for the company that have been identified are described below.

The risks include the following:

- Higher energy costs resulting from the global growth in carbon taxes as well as increasing fossil fuel and grid electricity costs.
- More frequent and more intense storm events requiring more costly engineering safeguards for tailings facilities, waste rock dumps and other vulnerable structures.
- Reduced water availability which will have an impact on processing capacity at some sites.
- Higher insurance premiums – these are likely to be still higher if the company is perceived not to be actively addressing its climate risks.
- Increased pressure from neighbouring communities struggling with disease, crop failure and the depletion of natural resources.
- Increased expectations from host governments for corporate involvement in managing the challenges of adaptation to climate change.

The opportunities include the following:

- Emissions trading projects that provide potential investment and income for projects that also reduce our operating costs and greenhouse gas footprint.

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- Realised cost savings from energy switching and efficiency projects.
- Exploiting research and development tax rebates where they exist by undertaking or supporting renewable energy and energy efficiency projects.
- Large-scale projects that address national and company energy security through investments in renewable energy and provide long-term carbon trading opportunities.
- Enhanced relationships with key stakeholders as we develop grass-roots adaptation projects.
- Working with host governments and industry to develop wide-ranging adaptive capacities and technology changes.

Emissions trading

A specific area of interest to the company, which hosts many operations in developing countries, is the potential for emissions trading. Various GHG reduction and trading systems have been developed to enable companies to achieve a portion of their GHG reduction obligations through investing in projects that result in the global reduction of greenhouse gases. The South American operations are currently actively looking at specific opportunities.

While the company has in recent years looked into several possible CDM projects, these were not deemed to be viable for a range of reasons. Part of Cutifani's brief to staff has been the directive to reassess CDM opportunities. An initial assessment of potential projects includes those associated with:

- Switching to more energy efficient technologies in operations
- Reforestation and off-minesite revegetation



About emissions trading

Various GHG reduction and trading systems have been developed to enable companies to achieve a portion of their GHG reduction obligations through investing in projects that result in the global reduction of greenhouse gases.

Each ton of carbon dioxide equivalent reduced under the Kyoto Protocol's Clean Development Mechanism (CDM) becomes a Certified Emissions Reduction (CER), which is tradable. The emissions reductions from CDM projects must be effected in developing countries. The developed country emitter (the investor) wins by achieving a portion of its target at a lower cost than would have been possible in that country and the host wins by receiving funds to improve technology and performance.

The EU Emissions Trading Scheme (ETS) is the largest scheme currently in existence, although some US states and Australia have also announced systems. The ETS requires that credits are bought through the CDM. There are currently very few CDM projects in Africa, which is again an opportunity for the company.



Cerro Vanguardia, Argentina

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- Using gravity and underground heat to generate power in underground mining
- Fuel switching
- Fuel management systems
- Biomass co-generation
- Renewable energy
- Sequestration of carbon dioxide in closed underground mines.

Says Andrew Mackenzie, Manager, Corporate Environmental Affairs: "The workshop has provided the impetus and targets needed to ensure that we can drive a group-wide response to climate change as a strategic company imperative. While we have a long way to go, looking back we have undertaken a number of initiatives on which we can build."

Among these initiatives are:

- The South American operations prepared an inventory of their direct (from sources owned or controlled by the company) and indirect (from the generation of imported electricity, heat or steam) GHG emissions in 2006. Fossil fuel combustion (59%) and land use change (i.e. removal of vegetation) (27%) were the largest contributors. *See case study Analysis of carbon footprint in South America – www.aga-reports.com/07/GHGs-SouthAmerica.htm.*
- Through the National Business Initiative, the South African operations committed to an Energy Efficiency Accord with government in 2005. The headline commitment is to reduce energy demand by 12% by 2015. Former CEO, Bobby Godsell signed on behalf of AngloGold Ashanti and Business Unity South Africa. *See case study on the National Energy Efficiency Accord – AngloGold Ashanti's role and contribution at www.aga-reports.com/07/energy-accord.htm.*
- The South African operations have achieved significant improvements in energy consumption and efficiency – an 18% improvement since 2004. The challenges brought by the early 2008 power crisis increase the incentive to improve these efficiencies further. A significant proportion of the work has been paid for by the electricity utility, Eskom, under its demand side management programme, as these improvements assist the national utility in optimising its systems. Completed and planned activities include:
 - energy efficiency projects, including heat recovery, use of a three pipe chamber system to pump water, replacing incandescent with compact fluorescent lights, and replacing cap lamp bulbs with LEDs;
 - peak dipping, by switching off compressors when they are not needed; and
 - load shifting, by scheduling activities to take place during low demand periods.*See the case study on Energy recovery at Mponeng – www.aga-reports.com/07/energy-mponeng.htm.*
- A sophisticated integrated energy management system is in place at the South African operations.

As a member of the International Council of Mining and Metals (ICMM), AngloGold Ashanti is a party to the ICMM's position on and commitment to climate change management and mitigation.

In line with the ICMM

The ICMM's position on climate change commits its member companies to:

- continue to meet or exceed government requirements, contributing positively wherever they operate;
- monitor and report GHG emissions consistent with international standards, in line with their commitment to report in accordance with the Global Reporting Initiative framework; and
- reduce GHG emissions as measured in absolute terms or per unit of production or through improved energy efficiency.

ICMM recently started a project to determine an energy efficiency metric that takes account of the challenges faced by mining and metals companies. AngloGold Ashanti is actively involved in the project. The issue is that, as a particular mine goes deeper and accesses poorer ore grades, energy consumption per unit of rock mined or ounce produced will rise, other matters being equal. This presents a challenge unique to the extractive industries.

Next steps

Concludes Mackenzie, "In addition to the agreement of the company's formal climate change position, we are in the process of developing a comprehensive business strategy to take advantage of the opportunities and mitigate the threats presented by climate change. This will include reducing the company's GHG emissions intensity; preparing for the likely impacts of climate change; providing opportunities for offsetting emissions; and facilitating the trading of carbon reduction credits."



Geita, Tanzania