



RESPONSIBLE ENVIRONMENTAL STEWARDSHIP

Our approach is to meet our compliance obligations and voluntary commitments while proactively addressing opportunities to continually improve the efficiency with which we make use of the natural resources where we operate.



Click here to see more on AngloGold Ashanti Environmental Framework in 2015



IN FOCUS

One reportable incident in 2016, compared to four in 2015

South Africa and Continental Africa Regions achieved a first year without a reportable environmental incident

Australia achieved its third year without a reportable environmental incident

KEY FEATURES

At AngloGold Ashanti we understand that demonstrating responsible environmental stewardship is an important aspect of acquiring and maintaining our social licence to operate. Our approach is to meet our compliance obligations and voluntary commitments while preventing pollution and proactively addressing opportunities to improve the efficiency with which we make use of the natural resources where we operate. During 2016 our efforts were focused on water use and efficiency; tailings management; land stewardship; energy efficiency and security; and reducing our greenhouse gas (GHG) emissions. Beyond these focus areas, we continuously review and improve our processes to manage air quality, biodiversity, chemicals and waste effectively.

Having updated the [AngloGold Ashanti Environmental Framework in 2015](#) and defining our strategic focus areas for the next three years, our challenge is to continue evolving our management of environmental risks and liabilities. In 2015, we adopted the BowTie (BTA) Risk Analyses tool to supplement the risk management approaches of our ISO14001 Environmental Management Systems. While our operations have risk prevention and mitigation controls in place, the BTA approach aids in assessing their effectiveness, defining new controls and identifying those controls that are critical in managing risk. During 2016, we began using the BTA tool to review the management of priority risks within the unique circumstances of each operating mine.

Over time AngloGold Ashanti has managed to drastically reduce its reportable environmental incidents as a result of a number of interventions. These range from the rigorous implementation and maintenance of our standards, to building new infrastructure to deal with these challenges. Building on this success, in 2016, our reportable incidents target was set at zero and moderate severity incident targets were adopted in the company's internal performance metrics.

OUR ACTIONS IN 2016 AND OUR PERFORMANCE

TAILINGS

Responsible disposal of tailings is an important environmental consideration for a mining operation during its life cycle. Our duty is

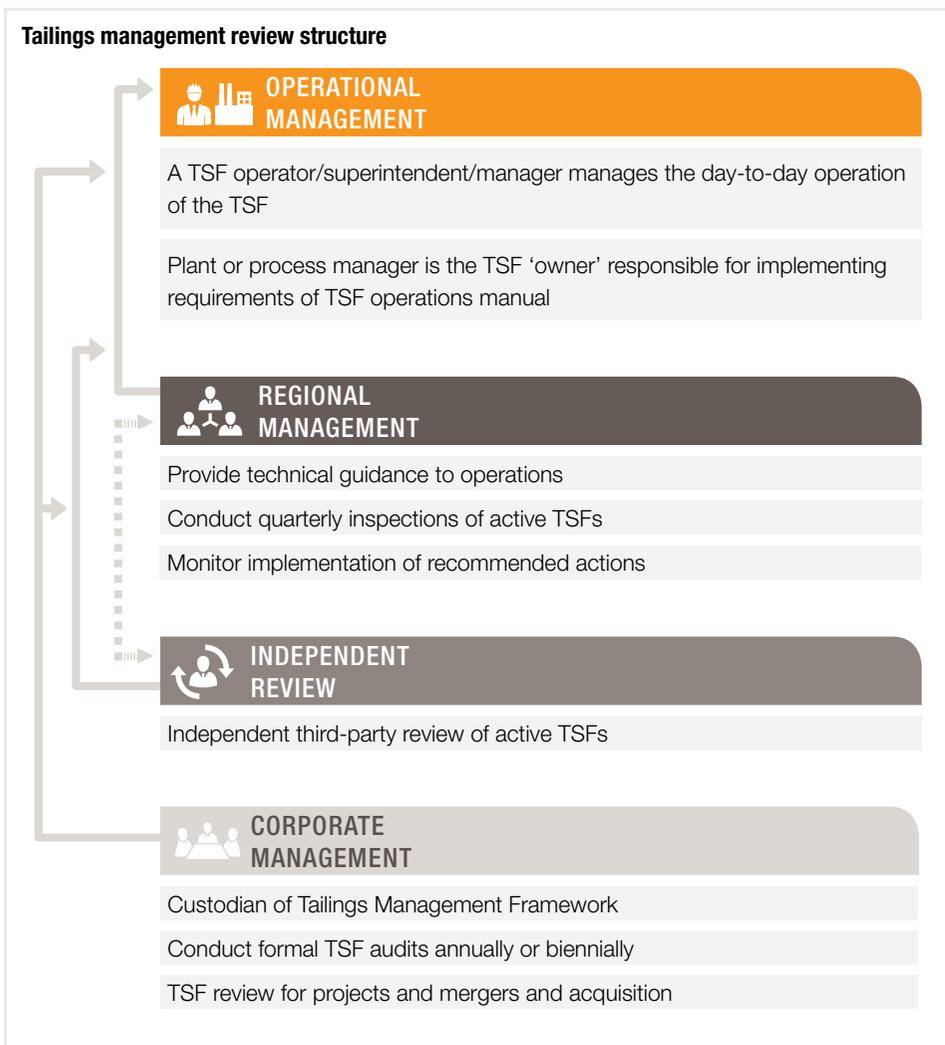
to ensure that tailings are inert, stable and contained. AngloGold Ashanti has robust systems and processes in place to manage tailings facilities. Our Tailings Management Framework, initially developed in April 2002 and followed by subsequent updates, was informed by regulation as well as a number of best practice standards and guidelines. These include the SANS Standard for Mine Residue – South African legislation covering the disposal of mine residue; the Guide to the Management of Tailings facilities, published by the Mining Association of Canada; and the International Commission on Large Dams (ICOLD).

Our framework sets out the principles, standards and guidelines that are followed by our regions and operations to ensure tailings facilities are effectively and responsibly managed. The functioning of Tailings Storage Facilities (TSFs) are managed at operational and regional levels, and these management systems are assessed externally by independent review and audited at corporate level.

In December 2015, the International Council on Mining and Metals (ICMM) convened a global review of TSFs in response to recent storage facility failures in Brazil and Canada (unrelated to AngloGold Ashanti). The review focused on the standards, critical control strategies, governance and emergency preparedness of surface tailings management and included input from approximately 25 member companies. AngloGold Ashanti actively participated in the review.



RESPONSIBLE ENVIRONMENTAL STEWARDSHIP (CONTINUED)



The primary factor raised by the working group was effective governance of tailings facilities. The ICMM subsequently released a [position statement](#) which commits members to implementing practices consistent with the newly developed Tailings Governance Framework. The framework, developed by the working group, articulates expectations for member companies regarding accountability, responsibility and competency; planning and resourcing; risk management, change management; emergency preparedness and response; and review and assurance. Our Tailings Management Framework is well aligned with the ICMM Tailings Governance Framework.

In Brazil, the state of Minas Gerais passed new legislation and established the Mining Activities Chamber (CMI) to approve environmental licensing for specific mining activities and projects. The CMI comprises representatives from government and civil society. The new legislation includes a dam safety technical audit process which is applied as part of the approval process for all mining tailings facilities requesting expansion. In 2016, AngloGold Ashanti's Cuiabá Mine received approval to operate its recently raised TSF under the new legislation.

In South Africa, the build-up of water levels on the Kareerand TSF was identified as a concern requiring a pro-active response. By the end

of the reporting year operating personnel had successfully reduced the TSF pool inventory through increased water recycling.

CYANIDE

AngloGold Ashanti is a founding signatory to the International Cyanide Management Code (ICMC). The Cyanide Code was developed by a multi-stakeholder steering committee under the guidance of the United Nations Environmental Program (UNEP) is a voluntary programme for gold mining companies focused exclusively on the safe manufacture, transportation, use and disposal of cyanide in the production of gold. Companies that adopt the Cyanide Code are required to have mining operations audited by independent third parties to determine the status of the code implementation. The majority of AngloGold Ashanti's operations have been certified under the code. During the 2016 reporting year, Iduapriem Mine in Ghana and Geita Gold Mine in Tanzania received full Cyanide Code certification having achieved compliance with the required residual cyanide levels in tailings through process interventions and optimisations.

ENERGY AND GHG EMISSIONS

Most of AngloGold Ashanti's energy is derived from fossil fuels. It is either purchased from utilities or generated by our operations through the combustion of fossil fuels.

¹ [Click here to see more on ICMM's Tailing Position Statement](#)



RESPONSIBLE ENVIRONMENTAL STEWARDSHIP (CONTINUED)

A small percentage of our energy is sourced from hydropower. Since 2013, AngloGold Ashanti's energy consumption has edged downwards as a result of cost savings, energy efficiency initiatives, divestments as well as the scaling down of operations. Furthermore, the recent implementation of Operational Excellence principles for energy management at our international operations has resulted in identifying additional opportunities for savings. More than 95% of the company's greenhouse gas (GHG) emissions arise from energy consumption. The energy efficiency initiatives we implement therefore have a direct impact in lowering our GHG emissions and in improving our carbon efficiency. Approximately 70% of our total GHG emissions are indirect emissions attributed to the electricity purchased by our South African operations from the national utility that uses a high proportion of coal-fired stations.

South Africa

Energy security improved in 2016, largely as a result of lower national energy demand. This provided the national energy utility, Eskom, with an opportunity for maintenance to improve generation plant availability. In addition, some of the new build generation came on line which further reduced the risk of load shedding compared to the poor reserve margin seen in recent years. However, a slower economy is creating lower demand for energy and an improvement in reserve margin, which could stabilise energy security for the next few years

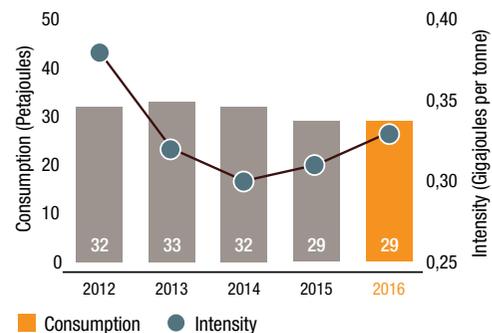
until new projects are fully operational.

In 2016, the South Africa Region managed to reduce its overall energy consumption year-on-year by 1.06%. Meticulous energy management and reporting, together with numerous efficiency projects across the operations assisted in realising these savings. One particular project, the Vaal River Compressor Real-time Dynamic Control System (REMS-DCS) was nominated for and won the 2016 South African Association for Energy Efficiency project of the year. This project was initiated as part of the national utility's Demand Side Management initiative and executed at our Vaal River operations. The project achieved a reduction of 1.65MW during the evening peak period and realised an annual savings of approximately \$140,000, although the total savings as a result of multiple parallel projects on compressed air efficiency have yielded almost twice this number. Full automatic compressed air control on the scale introduced by this project has never been achieved in the mining environment.

Australia

Electrical power at our Australian operations is generated by on-site power stations predominantly using natural gas delivered by the Eastern Goldfields Pipeline, which was completed in December 2015. Gas delivery during 2016 was uninterrupted and all performance expectations were met. A small number of diesel units remained at each site

Energy consumption and intensity



GHG emissions and intensity





RESPONSIBLE ENVIRONMENTAL STEWARDSHIP (CONTINUED)

to provide peak load capability and emergency back-up power for critical systems should gas supply be interrupted. Operational Excellence initiatives launched in the region have improved energy efficiency and include: optimisation of compressed air, oxygen generation and distribution systems; installation of LED lighting; use of solar powered remote pumping equipment; and introducing priority road rules (PRR) at Tropicana Gold Mine. Under PRR, stop signs were removed from haulage circuits, and right-of-way authority assigned to different classes of vehicles. Emergency vehicles take priority, followed by production equipment, including haul trucks, then working machines and light vehicles. This has enabled free flow of traffic without compromising safety, significantly reducing haul truck fuel consumption and improving load and haul productivity.

Continental Africa

Operations across the Continental Africa Region were some of the first to embrace Operational Excellence principles. Onsite diagnostics at each mine enabled the identification of incremental energy saving opportunities and development of tools to further refine and implement identified actions. Actions across the region in 2016 include renegotiation of utility tariffs, replication of best practices from other AngloGold Ashanti mines, and increased use of solar power for roadway lighting and other applications. A study is underway to identify the cost and benefit of replacing the traditional water-based dust suppression process with an environmentally-friendly haul road additive. Coupled with improved haul road designs, the benefits, in addition to reduced fuel usage, include water savings, improved tyre life, and elimination of water-spraying trucks.

At Geita Gold Mine in Tanzania, we initiated a large-scale project to replace an existing generator power station, whose units are now at the end of their economic life, with a new power station utilising fuel-efficient generators and a modern power station design. While the company considered the option of hybrid power stations utilising both traditional engine generators and photovoltaic solar power in an attempt to lower power generation costs and improve our use of renewable energy, the physical constraints of our mine concession would not enable a solar power field large enough to make a hybrid power station design cost effective. However, the new power station will encompass diesel-powered units that enable each generator to provide electrical power under a variety of load conditions without sacrificing fuel efficiency. The new power station is scheduled to be commissioned late in 2018.

Americas

Hydropower capacity in Brazil recovered from drought conditions in prior years, providing improved reliability in electrical power supply. Energy efficiency improvement and cost reduction activities continue in the region, leveraging Operational Excellence principles to further drive improvements.

Other actions within the Americas Region include the continued implementation of the ISO 50001 Energy Management Standard and the AngloGold Ashanti Energy Management System. A particular area of focus in 2016 was employee engagement through increased energy awareness. Our operations across Brazil deployed visual aids to stress the value and importance of energy efficiency, multimedia interactions with employees, and reward and recognition initiatives for site energy teams.





RESPONSIBLE ENVIRONMENTAL STEWARDSHIP (CONTINUED)

Energy projects underway include continuation of the Ventilation-on-Demand control system; expansion of real-time energy metering and data analysis; and the addition of energy efficiency automation controls to production equipment (ore crushers, conveyors, etc.). The latter enables our systems to shutdown high energy consuming equipment after a set period of idle time, further improving our energy consumption per tonne of ore treated.

CLIMATE CHANGE REGULATION

In 2015, we reported that the South African National Treasury released a draft bill for proposed carbon tax with the view of bringing the tax into effect in 2017. However, during his October 2016 budget speech, the Minister of Finance announced that government deferred the topic until 2017, making the likelihood of implementation closer to 2018. AngloGold Ashanti's direct (Scope 1) emissions in South Africa are dwarfed by the indirect (Scope 2) emissions – 101,000 tonnes CO₂-e of direct emissions vs 2,626,000 tonnes of CO₂-e of indirect emissions in 2016.

Our main exposure to the South African Carbon Tax will therefore be through the increased cost of electricity purchased from the national utility provider Eskom. The impact of the carbon tax is expected to escalate after 2020 when rebates, implemented as a means of ameliorating the impact of the carbon tax on the economy, are expected to be phased out.

In Australia, the government introduced the carbon emissions Safeguard Mechanism, aimed at limiting future growth in GHG emissions. After setting baseline emission thresholds, the Safeguard Mechanism requires that companies submit carbon credits or pay penalties for excess emissions. Sunrise Dam applied using its baseline emissions in accordance with the regulatory scheme's default mechanism. Tropicana Gold Mine will apply for a baseline emission level using the alternative Calculated Baseline method during 2017.

WATER

In December 2016, the ICMM released a Water Position Statement following a consultative process that sets out its member's approach to water stewardship. The commitments require members to apply strong and transparent water governance; manage water at operations effectively; and to collaborate with governments and other stakeholders to achieve responsible and sustainable water use. AngloGold Ashanti is well prepared to meet the Position Statement commitments.

In addition to rainfall that is collected on operating facilities, AngloGold Ashanti operations typically draw from up to three sources for water. The first is groundwater that is either pumped from borefields which collects in our underground operations as it seeps down through fissures and cracks. We also purchase water from utilities, in some jurisdictions where we operate and lastly we may be permitted to abstract from surface water sources, such as

rivers or lakes. We continually work to optimise the use of raw water in our operations, seeking to maximise water recycling to the extent possible, and to ensure the safe discharge of excess water to the environment.

During 2016, South Africa experienced one of its most severe droughts in history and water levels in rivers and dams were critically low in our areas of operation. The Department of Water and Sanitation introduced strict water restrictions across business sectors as well as households. The South African operations managed to maintain production without disruption due to the careful management of its water inventories.

As in 2015, the risk from extraneous water remained a high priority in South Africa and a number of proactive measures to ensure the effective management of this potential risk, were put in place. At the Vaal River operations the neighbouring Buffelsfontein Gold Mine began decanting approximately 6 million litres of water per day into AngloGold Ashanti's Great Nologwa portion of the Moab Khotsoeng Mine. This water was evacuated from the underground mine and utilised in the metallurgical operations. This strategy enabled the reduction of raw water intake from the Vaal River.

In Guinea, the growth of the Siguiiri Mine's TSF necessitated the expansion of its return water facility. This imperviously-lined dam was successfully expanded during 2016. The increased capacity to store storm water



collected from the tailings facility saw a 34% reduction in raw water abstraction from the Tinkisso River in 2016. There was a corresponding increase in the use of recycled water in the metallurgical operations.

BIODIVERSITY

The Great Victoria Desert Biodiversity Trust, established during 2014 as part of the offset strategy for Tropicana Mine in Western Australia, made good progress in 2016.

A series of workshops were held to progress the Adaptive Management Partnership (AMP) and more clearly define its role over



RESPONSIBLE ENVIRONMENTAL STEWARDSHIP (CONTINUED)

time with the involvement of the traditional owners of the area and other parties. The AMP represents a coordinated approach to implementing adaptive management in the region by combining the philosophies and tools of landscape-scale management (Open Standards for the Practice of Conservation) and collective action (Collective Impact). The workshops were designed to reach a shared agreement on the key assets, threats and strategies. This work included a focus on achieving better outcomes for endangered species, the Malleefowl and Sandhill Dunnart, improving biodiversity, reducing large destructive fires across the region,

and empowering traditional owners with the necessary skills and training.

The Córrego do Sítio I and Córrego do Sítio II operations in Brazil each maintained legal forest reserves adjacent to their operational areas as biodiversity offsets. In 2016, the regulator approved trans-locating these reserves into two new Private Natural Reserves (RPPNs). The new RPPNs, comprising a total of 508 hectares, are adjacent to the Caraça and Gandarela national parks respectively. These will contribute to preserving the important Atlantic Forest biome and to maintain its biodiversity.

DESCRIPTION OF ENVIRONMENTAL INCIDENT

Site: Queiroz Industrial Complex, Brazil

Date: 12 May 2016

Incident: The construction of a new spillway at the Cocoruto dam that serves as the final effluent control point for the Queiroz Industrial Complex, required its operating water level to be lowered by up to 4 meters. During May, several operational upsets and the theft of power cables from a critical water recirculation pump resulted in large volumes of partly treatment effluent flowing into the dam. The flow could not be absorbed owing to the construction work and water marginally exceeding the effluent compliance limits for arsenic and WAD cyanide was released from the dam's effluent canal to the downstream river. At the time, no adverse water quality changes were recorded in the river.

Corrective action: The effluent alert thresholds for WAD cyanide and arsenic were lowered allowing for proactive actions to be taken at the water effluent treatment section. The final effluent monitoring frequency was increased to four-hour intervals and the reagent dosage rate in the effluent treatment plant was increased to reduce the likelihood of non-complaint effluent during the spillway construction phase. Cameras were also installed to increase security monitoring of the stolen water recirculation pump cables.

