



SAFETY
AT SOUTH32

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Metrics describing health, safety, environment and community (HSEC) performance in this document apply to "operated assets" that have been wholly operated by South32, or that have been operated by South32 in a joint venture operation, from 1 July 2016 to 30 June 2017 (FY17). South32 aligns to the International Council on Mining and Metals (ICMM) Sustainable Development Framework and we report our sustainability information in accordance with the Global Reporting Initiative (GRI) G4 'Core', including the GRI Mining and Metals Sector Disclosures. The GRI Navigator and Sustainability data tables are available on the South32 website at www.south32.net. KPMG has provided independent assurance on South32's sustainability information, as presented on South32's [website](#).

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SAFETY

Nothing is more important to us than creating a working environment where everyone goes home safe and well every day.

Our Care Strategy aims to create a culture where every employee and contractor feels valued and respected, where everyone can ask 'How can this work be done better?' We continue to coach and support our people to ensure they have the right skills and capabilities to redesign, perform and direct work safely. By creating a culture of care that embraces diversity of thought, employees are encouraged to challenge workplace practices if they think they could be unsafe.

It is deeply regrettable that we lost one of our colleagues during the year in a work-related incident. In November 2016, a contractor was fatally injured during relining activities at the Oxygen Blown Converter at our Metalloys Manganese Smelter in South Africa. Our immediate response was to ensure that family and colleagues were offered our full support. We conducted a detailed investigation led by a member of our Lead Team, which was reviewed by the Sustainability Committee of the Board, the CEO, and the management team to ensure we learn from what happened.

“We have focused our efforts and resources on continuing to implement our Care Strategy.”

While we have improved our safety performance significantly compared to last financial year, a single fatality is one too many. We have focused our efforts and resources on continuing to implement our Care Strategy. Through this, we are building an inclusive workplace with a strong culture of care and accountability, where work is well-designed and we continuously improve and learn.

In May 2017, a security contractor was attacked and fatally injured in a brutal crime while guarding an area of the Klipspruit Extension Project near our Klipspruit colliery in South Africa. Although this did not occur at our workplace, it had an impact on all of us, and an investigation was conducted to identify lessons that could be incorporated into our planning as we look to commence development activity over the coming six months.

Our Total Recordable Injury Frequency (TRIF)⁽¹⁾ was 6.02 per million hours worked, representing an improvement on last year's TRIF of 7.7 per million hours worked. TRIF decreased in both the Australia and Africa regions in FY17. This performance reflects a 'better than target' rating against our Sustainability Key Performance Indicator (KPI).

Table 1 Total Recordable Injury Frequency (TRIF)

	FY16	FY17
Africa region	3.52	2.43
Australia region	15.14	13.33
South32	7.74	6.02

(1) TRIF: (The sum of fatalities + lost-time cases + restricted work cases + medical treatment cases) multiplied by 1,000,000 divided by actual hours worked. Stated in units of recordable injuries per million hours worked. To ensure that incident classification definitions are applied uniformly across our workforce, we have adopted the United States Government Occupational Safety and Health Assessment (OSHA) guidelines for the recording and reporting of occupational injuries and illnesses.

SUSTAINABLE DEVELOPMENT GOALS



Our approach to safety aligns to the sustainable development goals

South32 supports the United Nations (UN) Sustainable Development Goals (SDGs). The United Nations 2030 Agenda for Sustainable Development defined 17 SDGs in September 2015 that seek to address the world's greatest challenges. The SDGs build on the work undertaken through the Millennium Development Goals but have a greater focus on the involvement of the private sector. South32 plans align with the SDGs. The key to a successful result is working with stakeholders to develop and implement actions that contribute to sustainable development.



SDG3: Ensure healthy lives and promote well-being for all at all ages

Our work is managed through a comprehensive framework and our Care Strategy aims to limit exposures to safety risks. This includes Community safety, in particular progress against the target to reduce traffic accidents.



SDG12: Responsible Consumption and Production

We continuously improve our product stewardship including the safe handling of our commodities and the materials used in production.

SAFETY MANAGEMENT

To manage our key material risks, our operations have a comprehensive safety management system that sets out minimum mandatory controls for confined space events, dropped and falling objects, electric shock, fall/movement of ground, lifting events, light vehicle and mobile equipment events, loss of containment of materials, moving machinery parts, and personnel falling from height. There are also minimum mandatory requirements for two control systems, permit to work and isolation, which all our operations are required to meet. An extensive risk assessment process is used to understand, manage and, where reasonably practicable, eliminate material risks to our people through the redesign of work.

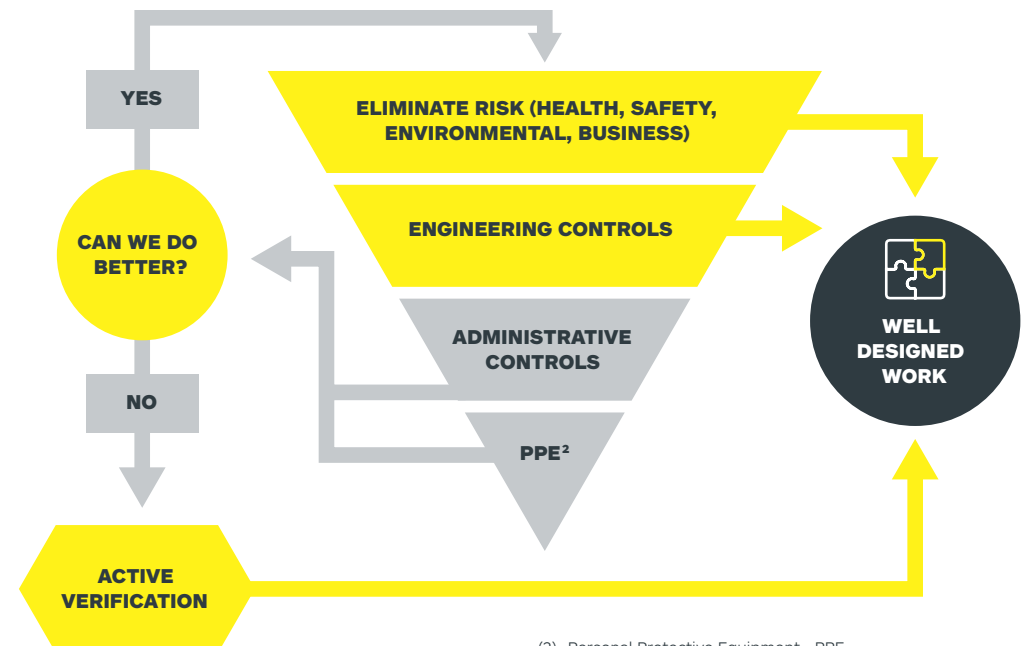
Broader industry data, including the International Council on Mining and Metals (ICMM) Benchmarking Safety Data report, and our significant safety event data is analysed to continually improve our operating standards and ensure that key material risk areas appropriately reflect our risk profile. Minimum mandatory controls are regularly assessed for effectiveness in keeping our people safe and we conduct corporate and regional assurance and engage in peer-to-peer level checks to ensure safety standards are effectively implemented. In line with the continuous improvement focus, critical controls are reviewed in teams to assess where opportunities for work redesign can be completed.

A key aspect of managing safety risk is the focus on well-designed work. This introduces the hierarchy of controls with an Active Verification step. This step is used if the elimination of risk or engineering controls cannot be put in place and ensures that administrative controls are being followed, either through direct observation or by utilising technology.

As a global company, our people travel to many parts of the world. To ensure their safety as far as practically possible, airlines are assessed to internationally recognised practices, destination risks and travellers' flights are monitored through International SOS, and employees who are booked to travel will automatically receive travel advice about their destination so that they can assist in managing their own safety.



Diagram 1 How our Care Strategy works



IMPLEMENTING OUR CARE STRATEGY

In FY17, we made significant progress implementing our Care Strategy. The implementation of the Care Strategy has been tailored for each region to cater for their unique context and culture.

AFRICA REGION

Employees in the Africa region are implementing the Care Strategy through a targeted approach to leadership and culture change. In FY17, workshops were held with leaders from across all our Africa region operations. As individual accountability is key to creating a high performance organisation, these workshops have focused on bringing about cultural and behavioural change through creating an inclusive workplace where everyone contributes to improvement. A process to identify and champion role models whose behaviour exemplifies the Care Strategy was introduced, demonstrating the Care Strategy in action and providing examples to all employees on how they can contribute to making our workplace safer. Our contractors are also working with us to ensure our Care Strategy is understood, integrated and standardised into their management practices.



AUSTRALIA REGION

Employees in the Australia region are focusing on developing leadership behaviours that support an inclusive workplace.

Well-designed work metrics are tracking the performance of each operation to ensure individual fatal risks and tasks are well designed. Metrics have been established to measure improvements in work design.

The goal is to have everyone involved in improving our business. There has been a focus on the role of technology as an enabler to improve our safety performance. We have introduced a software system that captures and tracks the implementation of new ideas and provides performance feedback to all employees registered in the system. By March 2017, 55 per cent of Australia region employees were active users of the system and more than 2,000 ideas had been implemented, resulting in improvements in safety, environmental impact, cost, revenue and employee satisfaction.



CASE STUDY

Khutala training facility achieves safety excellence

Our South Africa Energy Coal operations are leading the way at our Khutala mine with safety training, using simulators to train employees before they go underground.

The training facility includes a purpose-built underground mock mine as well as training simulators for equipment, including the continuous miner, shuttle car and load haul dumper. The simulators provide immediate feedback when a mistake is made and mimic real life situations, making them a highly effective way to train operators in a completely safe and risk-free environment.

The mock mine was built to demonstrate geotechnical and ventilation features experienced at past underground accident sites from a range of South African coal mines. The facility simulates a lamp room and waiting area and has a ventilation system which can be varied to allow training on effective ventilation flow. It also features a simulated methane explosion and the practical escape strategy to an equipped rescue bay. All of this takes place within a smoke-filled mock mining environment where noise is transmitted through a sound system to depict a realistic underground emergency.





CASE STUDY

Sending the message to return to work safely after Christmas

A regional road safety campaign entitled 'Take Care – We Need You' was rolled out during the 2016 festive period in the Africa region to encourage our employees to take care on the roads. This was in response to a national effort to improve road safety due to road deaths increasing from 1,535 in the 2014 festive season, to 1,755 in the 2015 festive season³.

The campaign shared information and road safety tips on fatigue management, road conditions, vehicle condition, road worthiness and substance abuse, all of which are major causes of road accidents in Southern Africa. The message was taken into the homes of our workforce through a competition for children to submit posters on road safety.

Each of our operations implemented customised campaigns, which included vehicle checks at our Hillside aluminum smelter and a display of crashed vehicles at Khutala Colliery, while Klipspruit Colliery engaged employees by distributing road safety pamphlets and competition forms.



MANAGING UNDERGROUND GAS AT ILLAWARRA METALLURGICAL COAL

The potential for elevated levels of methane gas are a material risk for our Illawarra Metallurgical Coal underground mining operations. Concentrations of methane between 5 and 15 per cent in air form an explosive mix. Our mine design criteria include methane gas drainage and mine ventilation systems, which are designed and operated to control methane gas levels. Along with a number of other controls, these systems remove methane gas from our underground operations through both pre-mining and post-mining drainage systems, as well as dilution and removal of any latent gas through the mine ventilation network.

During FY17, we experienced a number of elevated gas levels at Illawarra Metallurgical Coal's Appin colliery. While none of these levels reached the 5 per cent threshold, the events resulted in an intervention by the New South Wales Resources Regulator. We continue to work closely with the Regulator to ensure we can return our operations at Appin to safe, predictable and reliable operations.

To do this, we are conducting an in-depth, staged review of both our operating systems and practices, which includes reassessing the Appin Area 9 Project and the integration of the Area 7 and 9 operations into one mine. The review process is being conducted in a staged approach. The first phase involves reviewing all aspects of our ventilation and gas drainage infrastructure, management systems, processes and organisational structures, and is supported by independent experts conducting a range of root cause analyses. The second phase includes further detailed engineering analyses, a staged and controlled ramp up of operations with a particular focus on the reliability of our gas management, ventilation and high voltage reticulation systems. The reliability and predictability of Appin's performance through phase two will inform the third phase, which will examine how these learnings can be implemented into the longer term operating configuration and to return the operation to safe, reliable and sustainable levels of production, in a controlled and predictable manner.

(3) Source: <https://www.arrivealive.co.za/news.aspx?s=1&i=22624&page=Statement-by-Transport-Minister-Dipuo-Peters-on-the-occasion-to-release-the-preliminary-festive-season-report-for-December-2015-and-January-2016>

EMERGENCY PREPAREDNESS

Our operations are required to develop and implement Crisis and Emergency Management Plans. These plans are regularly tested to verify a team's ability to respond to a significant event, should one occur.

Plans include guidelines for appointing an emergency response team that would oversee frontline response and, in the event of the situation being upgraded, how to assemble a management team and communicate the event.

Our Crisis and Emergency Management Plans provide protection against injury or loss of life by assisting to minimise our impact on the environment and the surrounding communities by ensuring a well-coordinated emergency response. The mitigation of significant operational loss, business continuity and recovery are part of the plan.



CASE STUDY

Faster emergency response at South Africa Energy Coal

A new reporting application has improved communications between the full-time Emergency Response Team (ERT) and the volunteer ERT at South Africa Energy Coal. This ensures the timely assignment of suitable and available response resources and a reduction in response times.

Due to the size of our operations, knowing where members of the volunteer team are can greatly assist response times in an emergency.

Volunteer ERT members, along with permanent fire and rescue paramedics and other stakeholders, worked together to develop a new application which uses the Mining Execution System (MES) at the Wolvekrans Middleburg Complex. MES is a reporting platform that uses multiple information sources to control the flow and storage of data and to calculate, distribute and display data in various forms.

The new system contains the skill sets, competencies, availability and call out history of emergency response volunteers and permanent fire and rescue paramedics and can be accessed during an emergency. Full time ERT members and volunteers log in to the system to update their status and availability daily. If a person fails to update their status, an automated reminder is sent to their mobile phone.





Our purpose

Our purpose is to make a difference by developing natural resources, improving people's lives now and for generations to come. We are trusted by our owners and partners to realise the potential of their resources.



Our strategy

Our business strategy is to invest in high-quality metals and mining operations that allow our distinctive capabilities and regional model to stretch performance in a sustainable way. By maintaining financial discipline, we will deliver sector leading total shareholder returns.

We will continue to:

- Optimise the performance of our existing operations
- Unlock their potential by converting high value resource into reserve
- Identify new opportunities to compete for capital



Our values

Care

We care about people, the communities we're a part of and the world we depend on.

Trust

We deliver on our commitments and rely on each other to do the right thing.

Togetherness

We value difference and we openly listen and share, knowing that together we are better.

Excellence

We are courageous and challenge ourselves to be the best in what matters.

