



# CLIMATE CHANGE AT SOUTH32



Our response to climate change is strategic and globally aligned.

# CLIMATE CHANGE AT SOUTH32

## OUR APPROACH

The impacts of climate change are increasingly being felt around the world: changing weather patterns, regulation and societal expectations. As a diversified global mining and metals company we are working to avoid and manage climate change risks, as well as take advantage of the opportunities we have to create a more prosperous future for our business, society and future generations to come.

In December 2015, 195 nations committed to the Paris Agreement at the 21st conference of the parties (COP21). This was a landmark global decision to reduce carbon emissions to avoid our shared earth warming by more than 2 degrees celsius (with a stretch ambition of limiting warming to 1.5 degrees celsius).

South32 is committed to this global goal and we will continue to align our climate change response with the United Nations Framework Convention of Climate Change (UNFCCC) actions, the Intergovernmental Panel on Climate Change (IPCC) scientific reports and national legislation as it emerges. Our approach to mitigating climate change risk, and taking advantage of opportunity, is integrated into our business strategy.

## OUR STRATEGY

To ensure we mitigate or adapt to climate change risks, take advantage of opportunities and support global action, in FY2016, our first full year of operation, we created our Climate Change Strategy.

### Our strategy is built on three focus areas:

- 1. Climate Change Opportunity** – Our purpose is to make a difference by developing natural resources, improving people's lives now and for generations to come. As such, we need to ensure our commodity portfolio remains in demand in a world limited to 2 degrees or less of global warming. In response, we:
  - Commit to continuing to provide the raw materials that support climate action and enable the transition to a lower carbon future. Accordingly, we have chosen not to develop any new greenfield energy coal basins.
  - Work in partnership with green finance providers to create long-term benefits to society and the environment.
- 2. Climate Resilience** – To work toward climate resilience for our host communities and operations, we need to understand and respond to the physical impacts of climate change, including changed weather and temperature.

We will:

- Implement Intelligent Land Management (ILM), whereby land holdings are used to create enduring social, economic and environmental value through projects such as water and biodiversity conservation.
  - Incorporate climate change modelling in our planning and investment decisions to ensure our host communities and operations are more resilient to changes in rainfall, temperature and extreme weather events.
- 3. Emission Reduction** – We must all work to reduce the amount of carbon released to the atmosphere if we are to avoid the worst impacts of climate change.
    - Our short-term emission reduction target is to stay below our FY2015 emission baseline in FY2021.
    - We will review our emission reduction approach every five years from 2021, in line with IPCC updated scientific reports, to ensure we make a pragmatic and affordable transition toward the global goal of achieving net zero emissions by 2050.

Each of these focus areas is detailed further in the following pages.

A red-tailed black cockatoo, Worsley Alumina.





## FOCUS 1: CLIMATE CHANGE OPPORTUNITY

To ensure the long-term prosperity of our business, we will need to be agile and entrepreneurial in recognising the changing demands for natural resources as the world transitions to a carbon constrained future. As a mining and metals company, a number of our commodities are critical in supporting a transition to a future where carbon emissions are restricted.

This includes metallurgical coal and manganese to create high quality steel for climate resilient infrastructure, aluminium for lightweighting and creating more efficient transport options, and manganese and nickel, which are used in some battery technologies, supporting the uptake of renewables.

Other commodities, such as energy coal, would require significant changes in sequestration technology (e.g. carbon capture and storage) or other actions (e.g. reforestation) to experience ongoing demand in a carbon constrained world.

In FY2016, we completed an analysis of the types of commodities that would be required in a carbon constrained future. We assessed a range of value chains and emerging trends in energy markets, consumer preferences and emerging technology. The findings from this work have been integrated into our business strategy.

We are also undertaking an analysis of our current commodity portfolio to assess how resilient it is to a carbon constrained future. The results of our portfolio analysis will be communicated in FY2017.

Climate change is a global challenge, which requires collaboration to solve. We commit to exploring opportunities to work together with other organisations to reduce emissions and achieve resilience to climate change impacts.

## FOCUS 2: CLIMATE RESILIENCE

The IPCC scientific reports<sup>1</sup> indicate that changes to water availability (either increases or decreases relative to historical averages), hot and cold temperature extremes, more severe and/or frequent extreme weather events, and a loss of biodiversity as it struggles to adapt to new conditions, are all part of the potential physical impacts of climate change.

Our Climate Change Strategy is focussed on creating environmental, social and economic resilience to the physical impacts of climate change.

- **Environmental resilience** - means that landscapes are still able to support endemic biodiversity despite changes in physical conditions from weather (e.g. water availability).
- **Social resilience** - means that livelihoods and cultural traditions are resilient and retained in spite of climate changes impacting on the region.
- **Economic resilience** - means that natural resources are managed responsibly so they can continue supporting economic activity in the long-term.

To achieve climate resilience, in FY2016 we introduced a new initiative called Intelligent Land Management, or ILM. This is a holistic land management program to transform South32 land holdings, which are otherwise unused, into areas that increase climate resilience and generate shared economic, social and environmental value. For more information on ILM see *'Intelligent Land Management at South32'* at [www.south32.net](http://www.south32.net).

We also recognise that the physical impacts of climate change may impact the productivity and continuity of our operations. For example, in FY2016, we used the World Resources Institute Aqueduct Tool to determine the long-term water security at each of our operations.

Worsley Alumina is currently experiencing a water shortage due to changing precipitation patterns. In response, the business is investigating and identifying solutions to safeguard the operation against both short and long-term water availability risks. This work will continue through FY2017.

At our Hillside operations in South Africa, there is a risk of water shortage due to drought. To counter this risk, we have constructed a desalination plant to ensure our needs do not conflict with the needs of the municipality.

We will continue to model and scenario test our operations for resilience to climate change. We will work towards solutions that achieve resilience to changes in water, temperature and volatility in weather events for our host communities and our own operations.



<sup>1</sup> <http://www.ipcc.ch/report/ar5/index.shtml>

### FOCUS 3: EMISSION REDUCTION

We produced 23.5 million tonnes of carbon dioxide equivalent (CO<sub>2</sub>-e) emissions in FY2016. Compared to FY2015, we reduced our emissions by 4 per cent or 897 kilotonnes (kt) of CO<sub>2</sub>-e. The majority of our Scope 1<sup>2</sup> emissions are a result of mining at Illawarra Metallurgical Coal and refining at Worsley Alumina. Our Scope 2<sup>2</sup> emissions are primarily due to purchasing coal powered electricity at our Hillside Aluminium smelter in South Africa. In FY2016, 34.5 petajoules of energy were generated from renewable sources, which equates to 20 per cent of our total energy use.

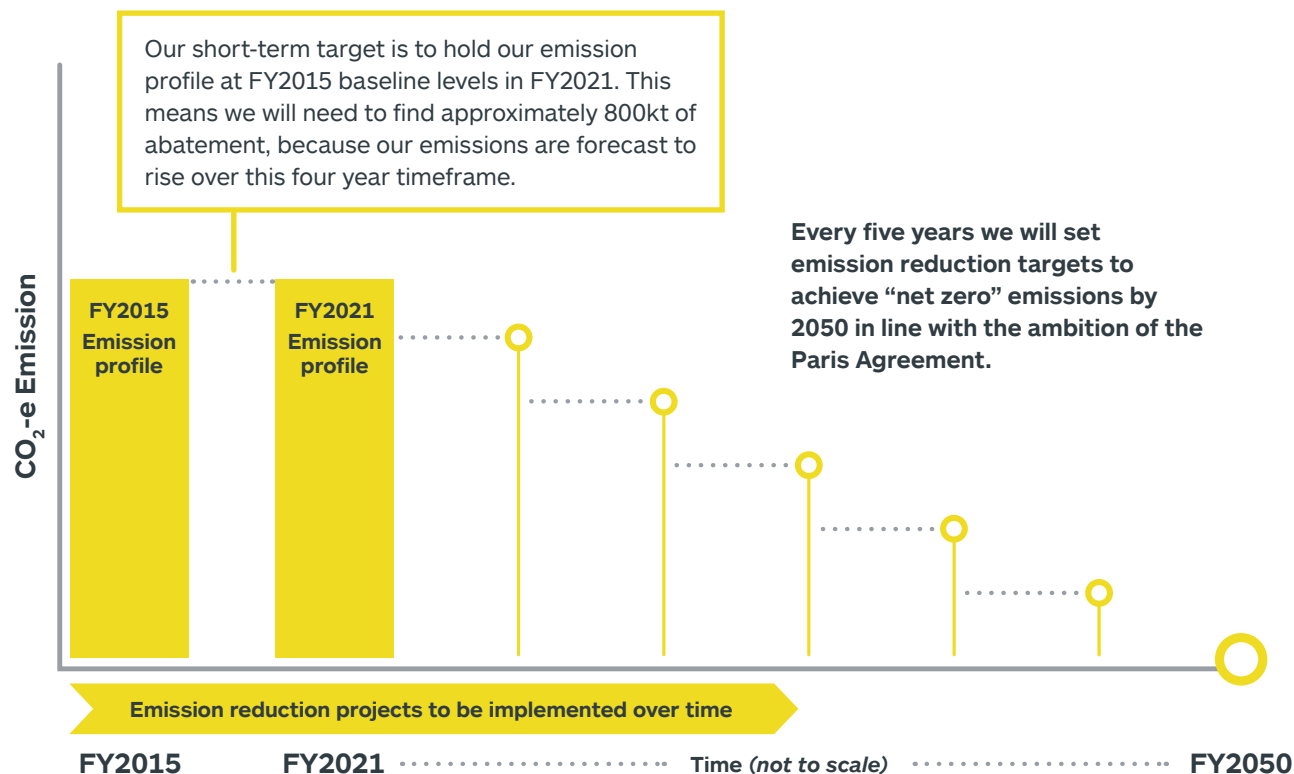
To focus our emission reduction, we have adopted an ambitious target to stay below our FY2015 emission baseline in FY2021. Our FY2015 baseline was 11,212kt CO<sub>2</sub>-e. Against forecast emissions for FY2021 this means we need to implement projects that deliver approximately 800kt CO<sub>2</sub>-e over a four-year period. Our target refers only to Scope 1 emissions and in the event of any mergers, acquisitions or divestments the FY2015 baseline will be re-calculated.

The Paris Agreement provides a clear framework for global emission reduction, whereby nations are required to submit new and increasingly ambitious emission reduction targets every five years. In line with the Paris Agreement, national

policy changes, technological advances and climate science we commit to review our emission reduction approach every five years from 2021, and will work to make a pragmatic and affordable transition toward achieving net-zero emissions by 2050.

The South32 emission reduction targets are linked to all bonus payments and incentives, including at an executive level. Our emission reduction progress will be verified by an independent third party. We also commit to meet any gaps between our actual emissions in FY2021 and our stated targets by purchasing carbon offsets if required. Our long-term emission reduction framework is depicted in Figure 1.

**FIGURE 1. Our Long-Term Emission Reduction Framework**



<sup>2</sup> Total includes Scope 1 and Scope 2 emissions. Measured according to the World Resources Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol (WRI/WBCSD).

Scope 1 emissions = Direct CO<sub>2</sub>-e emissions from sources that are owned or controlled by us.

Scope 2 emissions = Indirect CO<sub>2</sub>-e emissions from consumption of purchased electricity, heat or steam.



Landscape, Richards Bay in South Africa.



During the year, we registered an abatement project at Illawarra Metallurgical Coal under the Australian Federal Government's Emissions Reduction Fund. The project involves the installation of new flaring equipment at our Appin Mine to combust coal mine waste gas, reducing its global warming potential and mitigating climate change. The flaring units will be commissioned in FY2017 and, it is estimated, will abate approximately two million tonnes of CO<sub>2</sub>-e during the seven year Emissions Reduction Fund agreement with the Australian Clean Energy Council.

## OUR CARBON PRINCIPLES

We believe that carbon pricing is an effective mechanism to support global emission reduction. We support carbon pricing that is globally competitive and broad-based, covering all industry sectors and all possible emission sources.

We would like to see the revenue raised from carbon pricing used to support the transition to a low carbon future.

We complete a global carbon price forecast annually and apply a regionally specific price on carbon in our valuations, planning and capital expenditure decisions. This ensures that over time we are prepared for carbon pricing and can make decisions today that lower our emission profile long-term.



## THE GLOBAL GOALS

For Sustainable Development



## 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. Our approach to climate change supports three SDGs:



**SDG 12 - RESPONSIBLE CONSUMPTION AND PRODUCTION** where we promote resource and energy efficiency, sustainable infrastructure, and providing access to basic services, green and decent jobs and a better quality of life for all.



**SDG 13 - TAKING ACTION ON CLIMATE CHANGE** where we are taking urgent and strategic action to combat climate change and its impact.



**SDG 17 - PARTNERSHIPS FOR THE GOALS** where the Sustainable Development Goals (SDGs) can only be realized with a strong commitment to global cooperation.

In FY2017, we will continue to align our activities to the specific SDG targets underpinning each SDG goal, in order to advance the 2030 Agenda for Sustainable Development.



Inspecting our pipes at Illawarra Metallurgical Coal.

# WHO WE ARE



## 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 strategy is to invest in high-quality metals and mining operations where our distinctive capabilities and regional model enable us to stretch performance in a sustainable way. By maintaining financial discipline and continually optimising our portfolio we will deliver sector leading total shareholder returns.



## OUR VALUES

### CARE

We care about people, the communities we are 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, listen and share, knowing that together we are better.

### EXCELLENCE

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

## IMPORTANT NOTICES AND DISCLAIMER

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