GLENCORE

Sustainability Report 2017

Building a sustainable business today, with a focus on tomorrow.

Welcome to our 2017 Sustainability Report

About this report

We publish a full sustainability report and a separate highlights document.

There is also an accompanying databook and a complementary document, *Our Approach to Sustainability*, which provides further details on how we approach the topics material to our business.

These are available online at **www.glencore.com/sustainability**

Sustainability Report 2017

Our eighth annual sustainability report reviews our activities and performance in 2017. It details how we address our most material risks and opportunities; it is aimed at employees, investors, business partners, customers, governments and NGOs.

Sustainability Highlights 2017

Our 2017 sustainability highlights booklet provides a succinct overview of our activities and achievements during the year. It is designed to be read either as a standalone document or to complement the full sustainability report.

Our Approach to Sustainability

This document sets out our approach to working sustainably. It explains our full thinking on sustainability, from the underlying principles and values upon which we base all our activities, to the details of our approach and the issues that affect our operations.

Sustainability online

Further information on our sustainability activities, plus more detailed data on our key sustainability indicators, is available on our website:

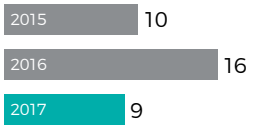
www.glencore.com/sustainability

Find us on **@Glencore** **facebook.com/Glencore** **www.youtube.com/glencorevideos**

2017 performance overview and strategic priorities

Fatalities at managed operations

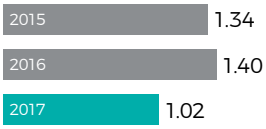
9



Strategic priority
Zero fatalities

Lost time injury frequency rate (LTIFR) (per million hours worked)

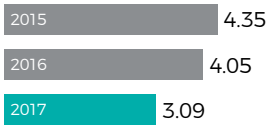
1.02



Strategic priority
50% reduction of Group LTIFR by the end of 2020 against 2015 baseline of 1.34

Total recordable injury frequency rate (TRIFR) (per million hours worked)

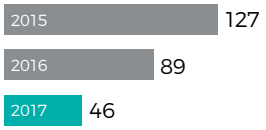
3.09



Strategic priority
50% reduction of Group TRIFR by the end of 2020 against 2014 baseline of 5.02

New occupational disease cases

46



Strategic priority
Year-on-year reduction in number of new cases of occupational disease

Water withdrawn (million m³)

924

Strategic priority
High water risk assets to implement five-year water targets for 2017-21

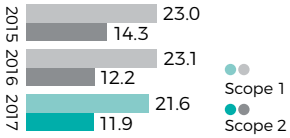
Total energy use (petajoules)

202

Strategic priority
Ongoing focus on improving operational efficiencies to reduce energy usage

Carbon emissions (million tonnes CO_2)

33.5



Strategic priority
5% (minimum) carbon emission intensity reduction on 2016 levels by 2020

Community investment spend (US$ million)

90

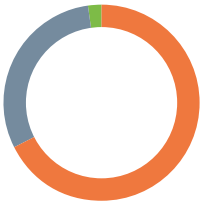
Strategic priority
Continue to invest in community initiatives to deliver sustainable socio-economic benefits

Contents

At a glance

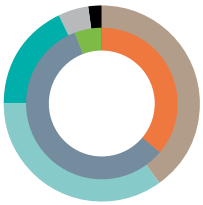
We are one of the world's largest natural resource companies. Active at every stage of the commodity supply chain, we are uniquely diversified by geography, product and activity, maximising the value we can create for our business and our diverse stakeholders.

Adjusted EBITDA 2017 (%)



$14.8bn
(2016: $10.3bn)

Revenue by region and segment 2017 (%)



Metal and minerals
$80.5bn
(2016: $66.3bn)

Energy products
$128.3bn
(2016: $89.0bn)

Agriculture
$12.6bn
(2016: $22.0bn)

Non-current assets by region (%)

By region
$78.2bn
(2016: $74.2bn)

- Metals and minerals
- Energy
- Agriculture
- Americas
- Oceania
- Africa
- Europe
- Asia

Business segments

Metals and minerals

Energy

Agriculture

Active at every stage of the commodity chain

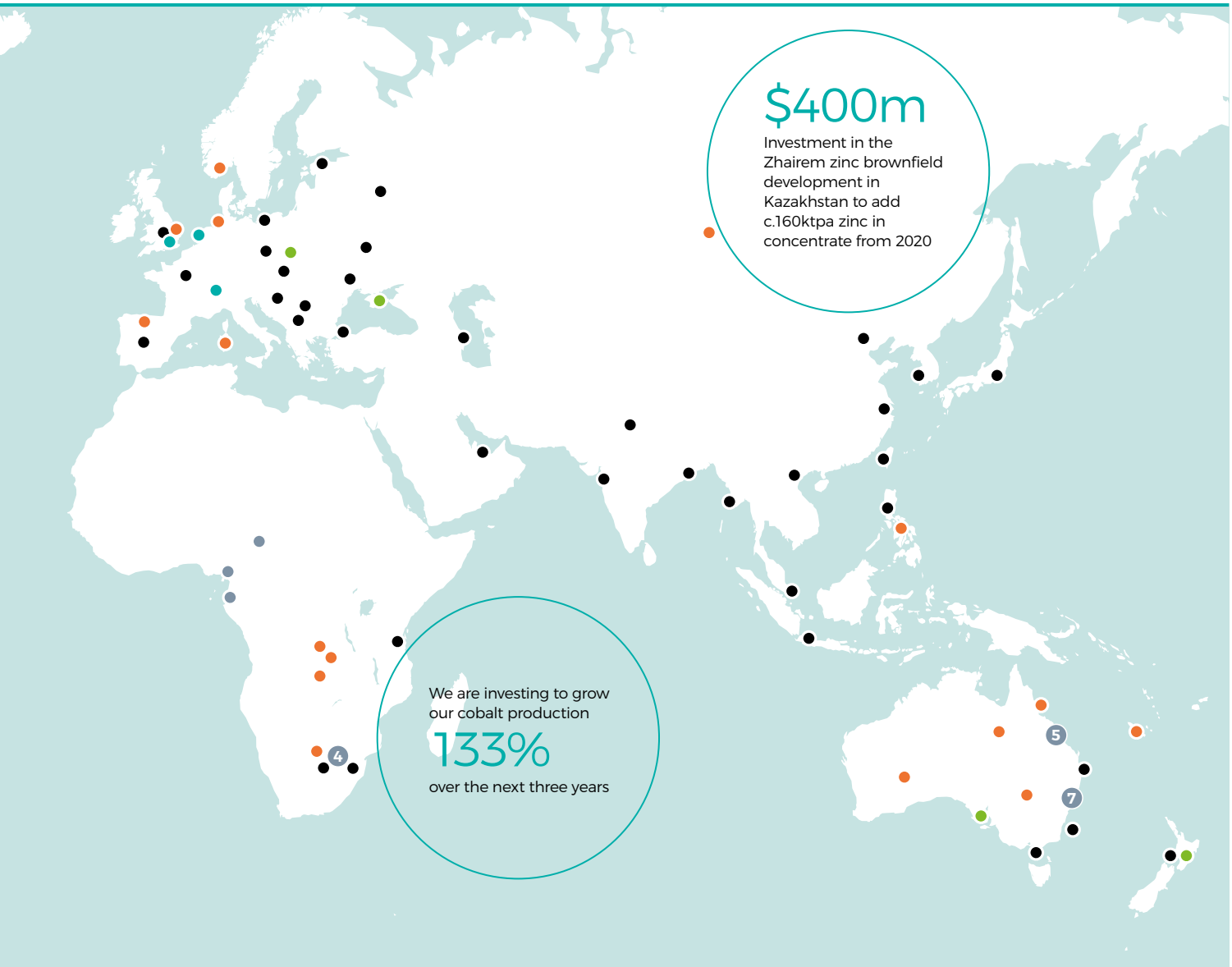
1 Exploration, acquisition and development

2 Extraction and production

3 Processing and refining

4 Blending and optimisation

5 Logistics and delivery



Highly diversified

+90
commodities

3
business segments

Market insight

c.4,000
employees in marketing

40+
years' experience

Global scale

50
countries

150
sites

90
offices

146,000
people

Sustainable focus

27%
reduction in Lost Time Injury Frequency Rate in 2017 compared to 2016

24%
reduction in Total Recordable Injury Frequency Rate in 2017 compared to 2016

What makes us different?

- High-quality, low-cost assets in desirable commodities
- Entrepreneurial culture: employees empowered to make decisions
- Long-term relationships with broad base of suppliers and customers
- Marketing business less correlated to commodity prices
- Maximum flexibility and economies of scale

Chairman's introduction

> Our SafeWork programme is delivering sustainable change at many of our operations, where the effectiveness of our operational controls is improving.

I am pleased to introduce our 2017 Sustainability Report, which details the actions we took during the year to continue to progress the integration of sustainability throughout our business.

The report provides a focus on our performance and progress in the areas that we have identified as being material to Glencore.

Safety

The Board is saddened to report that during the year nine people lost their lives while working for Glencore. Glencore's senior management team believe that our ambition of zero fatalities in the workplace is achievable. We are continuing to support and encourage our operational teams in attaining this ambition.

I am pleased to report that the Group recorded year-on-year reductions in its lost time injury and total recordable injury frequency rates. Our SafeWork programme is delivering sustainable change at many of our operations, where the effectiveness of our operational controls is improving. We are continuing to work with our 'focus assets' to fully embed a culture of safety at these sites.

While our employee safety performance is improving, our contractors are disproportionally involved in safety incidents. The challenge of managing a contractor workforce is universal and we are reviewing and reinforcing our approach to contractor management.

I was very pleased to participate once again in our annual HSEC summit, hosted by our HSEC Committee Chair, Peter Coates. The 2017 summit brought together over 70 of our senior business leaders and focused on sharing learnings on safety and management of catastrophic hazards facing our operations.

We will continue to focus our attention on achieving all of our safety ambitions. We are working with multi-disciplinary experts to review our fatality investigation process and to consider more deeply the impact of organisational factors and the possibilities of technological improvements.

Climate change

Following our shareholders' approval of the *Aiming for A* shareholder resolution at our 2016 AGM, we are continuing to meet its requirements for a comprehensive response to the challenges posed by climate change.

During the year, we published our second publication on the *Climate change considerations facing our business*, which details our assessment of risks and opportunities related to climate change for our operations.

We have established an initial group-wide carbon emission intensity reduction target of at least 5% on 2016 levels by 2020. This target will help to drive additional emission reduction efforts across our business.

I am pleased to report that the Transition Pathways Initiative awarded Glencore Level 4 (the highest) score in its newly established assessment of how companies are preparing for the transition to a low-carbon economy.

In our 2017 Annual Report, we have taken the first steps to meet the recommendations made by the Task Force on Climate-related Financial Disclosure for better climate-related financial disclosures. I welcome our stakeholders' thoughts on the approach that we are taking.

Water

Over the last 12 months, we continued to implement our strategic water management framework across the Group. We also finalised our water management guideline, which is in line with the International Council on Mining and Metal's position statement on water and its water management framework.

At an asset-level, our operations are continuing to build their understanding of their water balances, implement the water management guideline and identify actions to reduce their use of this valuable resource in line with our overall continuous improvement approach.

Local community engagement and social commitment compliance

We are committed to ongoing dialogue with all of our stakeholders to better understand and manage our impacts.

Through engaging transparently and constructively with the communities living around our operations, we are working towards building economic resilience and diversity as well as ensuring a lasting contribution from our presence.

We have continued the rollout of our *Community Leadership Programme* (CLP), a toolkit of materials that supports the building and enhancing of the social performance capabilities of our operational staff and teams. We are supporting the rollout with regional 'train-the-trainer' workshops, which also address specific local requirements from the toolkit. It is helping us to better identify areas that we need to review further.

The CLP toolkit supports our commitment to strong community relationships.

Through our participation in a multi-stakeholder initiative, led by the Swiss government, we are strengthening our management of human rights. The initiative is developing better understanding on trading commodities companies' implementation of the United Nations Guiding Principles.

Governance

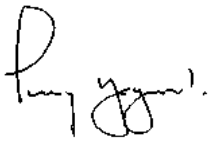
During the year, the Board was pleased to welcome two new members, Gill Marcus the former head of the Reserve Bank of South Africa and Martin Gilbert, one of Europe's leading asset management entrepreneurs and current co-CEO of Standard Life Aberdeen plc.

We were sad to say farewell to Bill Macaulay and Peter Grauer, who have stepped down from the Board. They have been great contributors to Board debate and we thank them for their valuable service.

In 2017, Glencore published its first Modern Slavery Statement. This statement assesses the risks of slavery, servitude, forced and child labour and human trafficking within our operations and supply chains. It identifies the steps we are taking to mitigate and eliminate these risks.

Going forward

We will continue our drive to integrate sustainability into every aspect of our business.



Tony Hayward
Chairman

Chief Executive Officer's review

> Many of the key elements that are essential for the global transition to a low-carbon economy are increasingly utilising the commodities produced by our industrial assets.

Business overview

Our 2017 performance was the strongest on record. Our balance sheet has never been more robust and our investment case, underpinned by our leading marketing and industrial businesses, has never been more solid.

Throughout 2017, strong economic performances in both major developing and developed markets supported the continuation of the positive momentum seen in the commodity cycle that began towards the end of 2016.

During the year, we undertook a number of acquisitions and disposals that contributed towards our strategic objective of creating long-term value for our shareholders. These included:

- Purchasing a majority of voting class shares in Volcan, a Peruvian zinc producer
- Buying the remaining 31% of the Mutanda copper asset in the DRC
- The disposal of 51% of our non-US petroleum products storage and logistics business
- Selling our African zinc assets to Trevali

Safety

It is with great regret that we experienced nine fatalities during the year. We are determined to eliminate fatalities from our business. Through our continued implementation of a culture of safety at all of our assets and effective operational controls, we are working towards delivering this ambition.

Our approach to safety is driving consistent improvements at the majority of our assets, with many operations recording industry-leading performance. Our greatest efforts continue to be at our 'focus assets' and we are committed to a consistent safety performance across the Group.

Transition to a low-carbon economy

Around the world, nations are increasingly coordinating their efforts in the movement towards a low-carbon global economy. We are continuing to play an informed and constructive role in the public policy development process and to work with policy makers on issues related to clean energy, carbon reporting and carbon.

As a major producer and consumer of fossil fuels, we are aware of our responsibility to understand and manage our greenhouse gas emissions. We are supporting a number of projects to help us reduce energy and fuel use at our operations. We believe that fossil fuels are going to continue to play an important role in meeting the global energy needs, and it is important that this is done as cleanly as possible; to help achieve this, we are supporting the development of low-emission coal technology projects, including our continued involvement in the Carbon Transport and Storage Corporation Pty Ltd (CTSCo) project in Australia. Details of these efforts are included in this report.

Many of the key elements that are essential for the global transition to a low-carbon economy are increasingly utilising the copper, cobalt and nickel that come from our operations. This is supporting future demand fundamentals for our diverse portfolio of commodities.

Making a positive contribution to society and delivering long-term value to our stakeholders

Our approach to safety is driving consistent improvements at the majority of our assets

We are committed to strong community relationships and the effective delivery of our operational social strategy

We contribute to local economies through our payments to suppliers, wages and employee benefits and our voluntary support of socio-economic initiatives

We are further developing our due diligence process to specifically address human rights risks within our supply chain

Supply chain management

Our products are vital to today's society and can be found in devices used daily all over the world. We are working with our suppliers and customers to encourage responsible commodity sourcing. We recognise that there is the potential for risks relating to human rights, conflict and corruption that exist within our supply chain.

In addition to our existing Code of Conduct and Group Human Rights Policy, which detail the expectations we place on assets with regards to human rights, we are further developing our due diligence process to specifically address human rights risks within our supply chain. We plan to have implemented a group-wide supply chain due diligence policy and management system by the end of the year.

Payments to governments

We welcome fiscal transparency, as it encourages the responsible management of revenues from extractive activities. In addition to the payments we make to the governments of the countries in which we operate, we contribute to local economies through our payments to suppliers, wages and employee benefits as well as our voluntary support of socio-economic initiatives such as health and education projects and infrastructure development.

During 2017, we published our second report on our payments to governments. This report includes the information required by the EU Accounting Directive and details our payments to governments by country, project and recipient.

Going forward

Looking ahead, we believe that continued global economic growth and the emerging requirements on the low-carbon economy will continue to have a positive impact on commodity fundamentals. Glencore's diverse portfolio should position the Company well to take advantage of these macro opportunities.

We recognise that it is only through working in partnership with all of our stakeholders that we can deliver sustainable value for all stakeholders. Through daily interactions with our employees, governments, investors, community members and other interested parties, we are better able to deliver sustainable socio-economic benefits to our operating countries.

The senior management team thank all of those working at Glencore for their continued efforts to the success of our company.

Ivan Glasenberg
Chief executive officer

Our strategic approach

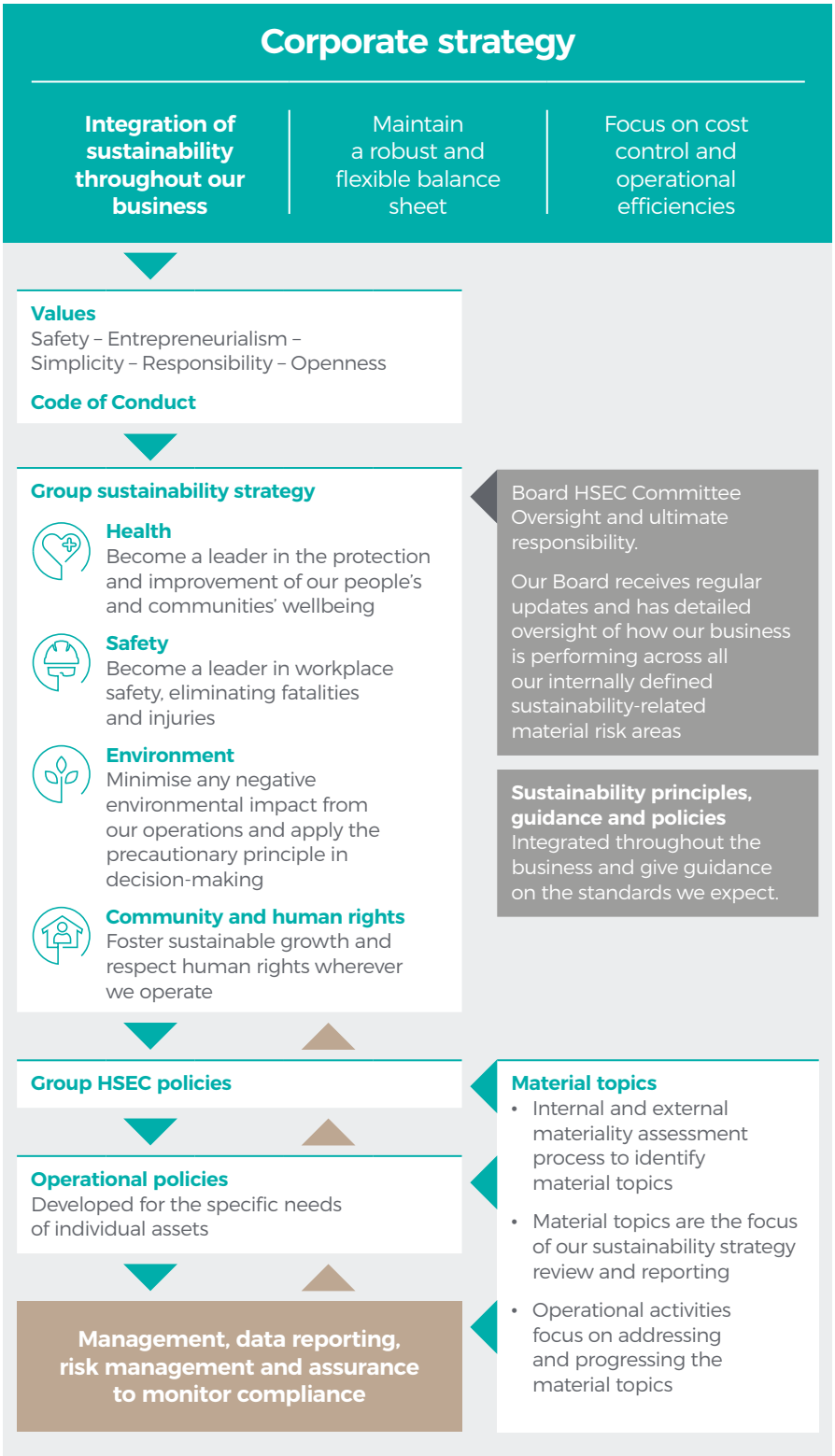
Glencore's main strategic objective is to grow total shareholder returns in a sustainable manner while maintaining a strong investment grade rating and acting as a responsible operator.

We recognise our ongoing responsibility to not only deliver financial performance but also make a positive contribution to society and create lasting benefits for stakeholders in a manner that is responsible, transparent and respectful to the rights of all.

To achieve our strategic objective, we are focusing on three strategic imperatives: to integrate sustainability fully throughout our business; to maintain a robust and flexible balance sheet; and to focus on cost controls and operational efficiencies throughout our entire business.

Our approach to integrating sustainability throughout our business has clearly defined imperatives, objectives, priority areas and targets. It supports meeting legislative requirements, managing the catastrophic hazards associated with our business, and maintaining our societal licence to operate.

Sustainability framework



Board oversight

Our Board HSEC committee has overall responsibility for the strategic direction of our sustainability activities and monitors the development and implementation of strategic HSEC programmes and policies.

In addition, it reviews operational performance and internal and external reports as well as independent audits and reports of performance concerning HSEC matters; and action plans developed by management in response to identified material topics.

> **Our Board has overall responsibility for the strategic direction of our sustainability activities**

During the year, our Board's HSEC committee discussed a broad range of sustainability matters:

- reviewed and approved the Group's HSEC strategy
- continued its monitoring of achieving ongoing reductions in fatalities, especially at the higher risk "focus assets". For this purpose it received a report on, reviewed and made recommendations in respect of, each fatality
- reviewed the Group's progress on catastrophic hazard management, as the most important non-financial risk management issue for the Group
- continued to analyse the implementation of the SafeWork programme focusing on the identification of fatal hazards and an appropriate safety culture
- considered reports from the Group's assurance programme for sustainability matters with an emphasis on catastrophic hazards and approved the assurance plan for 2018
- provided ongoing support for management's engagement on climate change and emissions matters. This included considering the work of the Group's climate change working group, chaired by Dr Hayward
- considered reports on key performance indicators in relation to material issues, including water and energy use and complaints from host communities, process safety management, water and effluents, waste and spills, human rights and grievance mechanisms, community engagement and product stewardship to social commitments
- considered engagement with communities and NGOs on sustainability matters
- reviewed and oversaw the Group's sustainability report
- participated in an investor roadshow to inform and receive feedback on the Company's sustainable development strategy and approach to HSEC management
- considered a variety of other HSEC issues such as resettlement programmes, incident reporting and health strategy

Performance overview

Material topic	2015–20 Strategic priorities	Change	Progress in 2017	
Catastrophic hazard management	No major or catastrophic environmental incidents	✓	Zero major or catastrophic environmental incidents during 2017	**Read more** Page 18
Safety	No fatalities	✕	Nine fatalities occurred at Glencore assets	**Read more** Page 22
	50% reduction of Group LTIFR by the end of 2020, against 2015 baseline of 1.34[1]	>	Our LTIFR improved by 24% compared to our 2015 baseline. In 2017, our LTIFR was 1.02 per million hours worked (2016: 1.40 including Glencore Agriculture)	
	50% reduction in TRIFR by 2020 using 2014 baseline of 5.02[1]	>	Our TRIFR improved by 38% compared to our 2014 baseline. Our 2017 TRIFR was 3.09 per million hours worked (2016: 4.05 including Glencore Agriculture)	
Health	Year-on-year reduction in the number of new cases of occupational diseases	✓	46 new cases of occupational diseases recorded, a 48% decrease on 2016 (2016: 89 cases recorded, including Glencore Agriculture)	**Read more** Page 22
Climate change	5% (minimum) carbon emission intensity reduction on 2016 baseline by 2020	>	Our 2017 carbon emission intensity increased marginally to 4.78tGHG/tCu from 4.75tGHG/tCu in 2016. We are implementing initiatives to deliver our 2020 carbon target	**Read more** Page 28

1 Baseline figures include Glencore Agriculture

Achieved
On track
Not achieved

Material topic	2015–20 Strategic priorities	Change	Progress in 2017	
Water and effluents	High water risk assets to implement five-year water targets for 2017–21	On track	The identified high risk sites are currently carrying out operational changes which are intended to result in overall improvements	Read more Page 36
Waste and emissions	Continue internal and external audit programme for high-risk tailings storage facilities	On track	Our internal and external audit programme for high-risk tailings storage facilities was ongoing throughout the year	Read more Page 42
Human rights and grievance mechanisms	No serious human rights incidents	Achieved	Zero serious human rights incidents	Read more Page 46
Community engagement and social commitment compliance	Implement our social value creation strategy	On track	Identified material assets to report their socio-economic contribution data	Read more Page 52
	Distribute the Community Leadership Programme Toolkit to all assets	On track	The toolkit was distributed to all assets. Training on the toolkit took place in Australia and South Africa. Further training sessions will be held in Canada and South America in 2018	
Product stewardship	Ongoing engagement with organisations and interested stakeholders on responsible sourcing	On track	During the year, we participated in discussions with the OECD on minerals from high-risk areas and with the LBMA on silver	Read more Page 58

About this report

This is our eighth annual sustainability report. The report focuses on the performance of our material topics.

Further information about our general approach and positions on various sustainability issues, are available in *Our Approach to Sustainability* at www.glencore.com/sustainability/reports-and-presentations.

This sustainability report complies with the core level of the Global Reporting Initiative (GRI) Sustainability Reporting Standards, including the metals and mining sector supplement. Our online GRI Index provides further details: www.glencore.com/sustainability/reports-and-presentations. The report's GRI compliance has been independently assured by Deloitte LLP (Assurance statement in the Additional information section).

As signatories to the principles of the United Nations Global Compact (UNGC), this report serves as our advanced level *UNGC Communication on Progress*, outlining our support for its broader development objectives and our work on implementing the principles. It also fulfils our reporting requirements as members of the International Council for Mining and Metals (ICMM).

Boundaries and scope

This report includes information and data from our industrial and marketing activities, including only assets where we have operational control, and excluding investment and holding companies. We exclude environmental data from our warehouses, silos and ports, with the exception of any environmental spills if they occur, as their contribution to these indicators is immaterial. Our marketing offices do not report on environmental data.

The report contains data for the full year 2017.

Acquisitions are only included if they were integrated before 1 July 2017. In November 2017, Glencore acquired an interest in Volcan. Due to the date of the acquisition, Volcan's performance is not included in 2017 data.

Closed sites (or sites in the care and maintenance phase of their lifecycles) report on a limited indicator set, reflecting their reduced activities and workforce.

Data from divestments is included until the month before disposal. Workforce numbers are the exception to this rule, as they are based on the end of year status. As a result, this report does not include workforce data from assets that were disposed of in 2017 earlier than 31 December 2017.

In 2016, Glencore divested a 50% interest in Glencore Agriculture. Glencore Agriculture represents Glencore's entire agricultural products operating segment. From this time, Glencore no longer unilaterally directs the key strategic, operating and capital decisions of Glencore Agriculture and was deemed to have disposed of its controlling interest. As such, 2017 data in this report does not include Glencore Agriculture. 2016 and 2015 is shown including and excluding Glencore Agriculture to enable a full analysis of performance.

Data and information

The data in this report is taken from Glencore's reporting systems. The metrics in this report reflect those used in the commodity markets and sectors in which we operate and are primarily based on GRI indicators, including indicators from the GRI metals and mining sector supplement.

In some instances, figures from previous years have been restated to reflect improvements in our data collection, analysis and validation systems. All figures stated in this report represent the latest available data unless remarked upon in the text. Some of the totals shown may reflect the rounding up or down of sub-totals.

Glencore seeks to report on every incident in the time period when it occurs. Occasionally, our incident reporting may take place at a later date, as a result of an improved understanding of the incident or revisions to its classification. Where this results in a restatement of previously reported data, the restatement and its rationale will be publicly disclosed.

Where data for previous reporting years has been restated, Deloitte LLP has not undertaken additional work to review accuracy and completeness. No assurance is provided over restated data.

We may change our approach to how we report our data in future sustainability reports without prior announcement; we may also change the reporting of specific data and its interpretation.

Related publications

During 2017, we have published the following standalone reports that are connected to our sustainability activities:

- *Glencore Modern Slavery Statement 2017*
- *Climate Change Considerations for our Business 2017*
- *Payments to Governments Report 2017*
- *GRI Databook 2017*
- *Our Approach to Sustainability.*

There is a list of Glencore's publicly available policy documents at www.glencore.com/who-we-are/governance.

There is also a list of our current associations and memberships at www.glencore.com/sustainability/reports-and-presentations.

Material issues

We conduct a materiality assessment every other year to establish the material topics for our sustainability strategy review and sustainability reporting.

Assessments are undertaken at both Group and commodity department levels; they take the views of internal and external stakeholders into account.

At each of its meetings, the Board HSEC committee receives a report on our progress on the management of the identified material issues.

Catastrophic hazard management

Catastrophic events that take place in the natural resource sector can have disastrous physical, environmental, social and financial impacts.

Read more
Page 18

Workplace health and safety

The health and safety of our people is our top priority. Our ambition is for a workplace without fatalities, injuries or occupational diseases.

Read more
Page 22

Human rights and grievance mechanisms

Our operations have the potential to impact the rights of our workforce and local communities. We uphold and respect the human rights of our people and our local communities.

Read more
Page 46

Community engagement and social commitment compliance

We believe our presence can deliver significant, long-term socio-economic benefits to national and local communities of our operating countries.

Read more
Page 52

Climate change

Climate change is a material issue that affects our business and creates both challenges and opportunities.

Read more
Page 28

Water and effluents

Water is essential to our industrial assets. It is a valuable resource and we aim to minimise any potential water-related impacts.

Read more
Page 36

Waste and air emissions

Responsible resource production involves minimising the impact of our waste and air emissions on the environment and local communities.

Read more
Page 42

Product stewardship

We aim to deliver competitively priced commodities in a sustainable manner.

Read more
Page 58

Our people

Our success relies on the ability to attract and retain the best talent at entry level.

Read more
Page 62

Compliance

We seek to maintain a culture of ethical behaviour and regulatory compliance throughout all of our business activities.

Read more
Page 66

Stakeholder engagement

We are committed to creating value for all our stakeholders in a manner that is responsible, transparent and respectful to the rights of all.

The geographies and markets in which we operate are extremely complex and we conduct dialogues on local, national, regional and international levels.

Our activities are heavily regulated. Evolving local and national government legislation and policy, as well as international regulations can significantly affect our operations. We develop constructive relationships with all levels of government in our host countries, as well as fostering public dialogue and contributing to legislation development in sectors that affect our business. We devote significant resources to ensuring compliance with all permit requirements.

We are signatories to the United Nations Global Compact (UNGC), aligning our strategies and operations with its principles. The UNGC encourages participants to support the Sustainable Development Goals (SDGs). We welcome the SDGs and believe that we can play a role in supporting our host governments to meet the SDGs.

In addition, we uphold the International Labour Organization Declaration on Fundamental Principles and Rights at Work and the UN Universal Declaration of Human Rights.

We are members of the Plenary of the Voluntary Principles on Security and Human Rights and the International Council on Mining and Metals.

We are an active participant in the Extractive Industries Transparency Initiative.

Stakeholders to whom it matters most

Catastrophic hazard management

Employees
Government
Communities

We engage with stakeholders who express concerns regarding our catastrophic hazards. We explain the steps we take to review, control and manage these hazards. Stakeholder interest has continued to be focused on the management of our tailings storage facilities.

See page 18

Workplace health and safety

Employees
Labour unions
Host governments
Communities
Peer companies

We recognise our workforce is integral for our delivery of a safe and healthy workplace. We work with our employee and union representatives to meet this ambition on initiatives such as health and safety committees and programmes to empower our workers to stop work in an unsafe situation. We engage with our local communities on public health matters. We collaborate with our peers to progress industry health and safety initiatives.

See page 22

Climate change

Investors
Government
NGOs

We engage extensively with interested stakeholders on issues relating to energy, carbon and climate change. These include an analysis of our portfolio against various policy scenarios, as well as an assessment of the risks and opportunities presented by climate change across our product and operational portfolio. We also participate in public policy discussions with a range of stakeholders.

See page 28

Water and effluents

Employees
Communities
NGOs
Government

In our operating regions, we are conscious of the increasing water-related concerns of local stakeholders. Our assets consult with local water users to understand their priorities and to collaborate on solutions. We engage with regional and national governments on their work to identify material water stewardship risks.
See page 36

Waste and emissions

Communities
NGOs
Government

We work with our local, regional and national stakeholders to address concerns on the waste our assets produce. Through operational improvements and mitigation measures, we aim to minimise our impact on the environment.
See page 42

Human rights and grievance mechanisms

Employees
Communities
NGOs
Government

We recognise that our operations have the potential to affect the human rights of our workforce and surrounding communities. We offer fair and transparent access to remedy for any stakeholders affected by our operations. Our grievance mechanisms have recorded concerns relating to health and safety, labour conditions, the activities of our security forces and the rights of local communities.
See page 46

Our people

Employees
Unions
Government

We recognise that our success relies on our ability to attract and retain the best talent at every level. We operate in over 50 countries and respect the diversity of cultures that we work in. We work with our employees, unions and the governments of our operating countries to uphold the rights of our people to a safe workplace, freedom of association, collective representation, just compensation, job security and development opportunities.
See page 62

Product stewardship

Employees
Customers
Governments

Our products are vital to today's society. We are working with our customers, national and inter-national authorities and other involved stakeholders on developing regulations that affect our commodities. We study the properties of our products to develop guidance on their safe use and supply this information to our customers and employees to help to maintain safe workplaces.
See page 58

Community engagement and social commitment compliance

Communities
NGOs
Government

We interact with many diverse communities around the world. We actively seek broad-based, ongoing support from our local communities as part of our licence to operate. We engage with communities through regular dialogue and work closely with them to maximise the value our business creates for them.
See page 52

Catastrophic hazard management

Why this is material:

Catastrophic events that take place in the natural resource sector can have disastrous impacts on workers, communities, the environment and corporate reputation, as well as having a substantial financial cost.

Our ambition:

We are committed to protecting the safety and wellbeing of our people and the communities and environment around us.

Our approach:

We recognise the exceptional nature of catastrophic events; our catastrophic and fatal hazard management policy details our approach to their management, based on critical control management with rigorous monitoring and reporting. We require catastrophic and fatal hazards controls to be in place and regularly reviewed. Our approach reflects international leading practice and ICMM guidance.

Further information on our management of catastrophic hazards is available in *Our Approach to Sustainability.*

Key highlights

Major or catastrophic environmental incidents during 2017

0

Sustainable development goals

3 GOOD HEALTH AND WELL-BEING

8 DECENT WORK AND ECONOMIC GROWTH

Improving transportation safety in the DRC

Our Mutanda copper operation in the DRC has identified employee transportation as a catastrophic hazard.

Approximately 5,200 employees are transported daily on 120 buses that are operated by four contractor companies.

The buses pass through small villages, and Mutanda has identified a risk of the buses interacting with pedestrians.

During the rainy season, roads can become flooded and deteriorate.

The Mutanda transport team undertakes preventative maintenance on its own buses and monitors the maintenance schedule for contractor buses. 30 days ahead of expiration dates, Mutanda notifies drivers of the need to renew their licences and contracts and undertake medicals.

Through the use of GPS tracking, Mutanda's transport team is able to monitor the bus drivers' driving behaviour, dispatch buses efficiently and coordinate buses to ensure that employees' transportation is conducted in a safe manner.

Catastrophic hazard management

continued

Highlights:

- Zero major or catastrophic environmental incidents
- Looking at technology as a solution to support behavioural change
- Developing a site-specific knowledge base of critical controls
- Building our knowledge of process safety management application opportunities

Performance

Number of major or catastrophic environmental incidents

0

2015	0
2016	0
2017	0

During 2017, we achieved our target of zero major or catastrophic environmental incidents.

We classify the severity of all sustainability-related incidents against a five-point scale from negligible, to minor, moderate, major and catastrophic.

We assess catastrophic events as being those that have the potential to have severe consequences that could devastate the Glencore Group, cause widespread loss of life, significant environmental consequences and/or result in major reputational or financial damage.

In 2015, we developed Catastrophic Hazard and Critical Control Guidelines. These guidelines detail our approach to the management, monitoring and reporting on catastrophic hazards. Over the past two years, we have implemented these guidelines across the Group.

During 2017, we continued to enhance the protocols on a risk-based priority. We also drafted protocols for structure failure, shafts and winders and security failure, which will be finalised and rolled out in 2018.

There are protocols for each of the fatal hazards we have identified at our assets. The protocols provide minimum requirements to manage hazards and we require each of our assets to conduct self-assessments against the appropriate protocols for their sites.

We are now in the early stages of learning from the knowledge gathered during our implementation and reporting process. During 2017, each asset began to develop a site-specific knowledge base as they build and consolidate their understanding of the critical controls appropriate for the catastrophic hazards they face. Each department reports quarterly to the Board HSEC committee on their implementation progress and critical control verification activities.

As our understanding improves, it has become clear that many critical controls are dependent on human behaviour. We are investigating the effectiveness of various engineering solutions and technology applications to assess how best to integrate them into our operational processes and reduce dependency on human behaviour. Our newly appointed Group Manager HSEC Technology and Innovation will take this forward.

In addition to sharing knowledge on catastrophic hazard management internally, we also participate in a number of industry organisations where we contribute to discussions on the subject with our peers.

We were founding members of the Earth Moving Equipment Safety Round Table (EMESRT). This organisation was established in 2006 to present a common industry approach to reducing health and safety risks from operating and maintaining mining equipment through original equipment manufacturers (OEM), contractor and end-user engagement.

We are now leveraging this engagement further through involving ICMM to bring together a larger number of mining companies.

Process safety management (PSM)
PSM is an operational framework for managing the integrity of the systems and processes involved in handling hazardous substances.

Our internal cross-commodity PSM working group is continuing to work on how best to integrate PSM into the mining process and operations. We are building our knowledge of PSM application opportunities across all commodity departments. The study will be peer reviewed by external experts and its findings will contribute to a Group PSM guideline we plan to roll out during 2018.

Next steps

- The development of catastrophic hazard protocols for those not yet developed
- Roll out the collision avoidance technology at other appropriate operations
- Working with industry peers and EMERST to develop our knowledge on catastrophic hazard management
- Further integration of PSM practices into applicable operations

Collision avoidance technology

In recent years, two fatalities at our ferroalloys operations involved collisions between people and vehicles. This has led our ferroalloys business to develop collision avoidance technology in partnership with equipment manufacturers. This critical control automatically stops a vehicle if another vehicle or person enters its 'danger zone' (a five-metre perimeter).

During December 2017, we trialled the technology at one of our mines. In one week, the number of events involving people entering the danger zone was 1,000, a 97% reduction on a similar period in January 2017.

The technological change that enables vehicles to stop automatically has also significantly contributed to behaviour change at all levels.

Pedestrians instinctively avoid vehicle interactions, which has resulted in decreased collision-related risk profiles and an improved workplace safety performance. We are now looking at the application of this technology at other sites.

This technology is a first for diesel-powered mobile equipment in the mining industry.

Workplace health and safety

Why this is material:

The success of our business is dependent on a safe and healthy workforce. Our diversity, in terms of geographical locations, working conditions, organisational cultures and workforces, means that we need to focus on resolving local challenges and transforming behaviour at all our sites and at all levels of our organisation in order to achieve strong safety and health performances at all our assets.

Our ambition:

Our ambition is to become a health and safety leader in our industry and to create a workplace without fatalities, injuries or occupational diseases through establishing a positive safety culture in which all of our employees and contractors are empowered to stop work if they consider a workplace or situation unsafe.

Our approach:

The health and safety of our people is our top priority and we believe that all fatalities, injuries and occupational diseases are preventable. Through strong safety leadership, we can create and maintain safe workplaces for all our people.

Risk management is at the heart of our approach. We let our people know that we expect every individual, both employees and contractors, to take responsibility for their own safety and for that of their colleagues and the communities in which they work.

We have established fatal hazard protocols that address the most common causes of fatalities and serious injuries within the industry. Our life-saving behaviours encourage our workers to focus on those hazards with the most potential to cause serious injuries or fatalities. We are empowering our first-line supervisors to take responsibility for their work areas, manage technical safety aspects and motivate behaviours. All of our workforce receive supporting tools that range from universal risk awareness training, virtual reality training materials on each fatal hazard and other training aids.

Further information
on our management of workplace health and safety is available in *Our Approach to Sustainability.*

Key highlights

Lost time injury frequency rate (LTIFR) 2017 (per million hours worked)	Total recordable injury frequency rate (TRIFR) 2017 (per million hours worked)	High potential risk incidents (HPRIs) 2017	New occupational disease cases 2017
1.02	3.09	368	46

Sustainable development goals

Mopani pioneering virtual reality training

In Zambia, our Mopani copper operation is using virtual reality technology to improve the blasting skills of its employees.

The virtual reality technology develops systematic detonation techniques and allows unlimited learning attempts as well as the practising of numerous geological and blasting scenarios with instant feedback.

In addition to a safer workplace, improving blasting efficiency also results in reduced operating costs through the minimisation of secondary damage from incorrect blasting.

Performance

Highlights

- 27% year-on-year decrease in LTIFR
- 24% year-on-year decrease in TRIFR
- Analysing HPRIs and putting in place measures to prevent similar incidents, as well as finding solutions to situations that contribute to the highest cause of HPRIs.
- 93% of assets recorded zero occupational diseases

Safety

It is with great sadness that we have to report that during the year nine people lost their lives at Glencore's managed assets from nine incidents. 2017 was the first year that Glencore did not record a multiple fatal incident.

Health and safety remains the top priority across our Group and we are continuing to work at creating a strong safety culture at all of our assets.

During 2017, we saw a 27% decrease in our lost time injury frequency rate (LTIFR) to 1.02 (2016: 1.40) and a 24% decrease in total recordable injury frequency rate (TRIFR) to 3.09 (2016: 4.05).

We remain on track to meet our 2020 targets for both indicators (50% reduction against 2015 and 2014 baselines for LTIFR and TRIFR respectively).

We believe that our SafeWork programme is bringing about sustainable change to safety performance across the Group.

Since SafeWork's introduction in 2013 we have achieved:

- A 65% reduction in fatalities compared to 2013 baseline of 26 fatalities
- LTIFR has improved by 46% and TRIFR by 62% against our performance in 2013
- During 2017, our African copper operations recorded one fatality compared to 12 fatalities (from 4 incidents) in 2016; the lowest fatality rate in these 'focus assets' history
- Our oil and warehousing businesses have now been five years fatality free
- Both our coal and nickel departments were fatality-free and achieved TRIFR of 2.74 and 4,57 respectively (2016: coal 3.79, nickel 6.23)
- In the DRC, our copper operations had their second year fatality-free and Katanga's Whole Ore Leach infrastructure improvement project was constructed with an impressive LTIFR of 0.11 per million hours worked

Following two multiple fatality incidents at our African copper assets in 2016, our copper business extensively reviewed its approach to health and safety. The copper assets renewed its focus on tracking of the number of leadership safety interactions with line employees regarding potentially fatal hazards in their work areas. During 2017, there was a continuous increase in the number of these interactions. In addition, colleagues from our more mature Australian copper operations spent time at the African assets to support their development of fatal hazard controls. Our other commodity businesses also contributed to the development of management plans for our African copper assets.

These steps have improved safety performance, with the copper business recording one fatality in 2017 (2016: 13) and year-on-year LTIFR reduction to 2.35 (2016: 2.89).

While our safety performance is improving group-wide, our analysis has shown that contractors were disproportionately involved in fatalities during 2017. Since 2012, contractor fatalities have represented around 30% of our annual fatalities; this increased to 67% in 2017, while contractors contributed to 49% of total workforce hours worked.

We recognise that our contractors need to be fully compliant with SafeWork and that we should manage and train our contractors in equal manner to our direct employees. The challenge of managing contractors is universal and we are continuing to reinforce the work that we are doing in this area.

Our findings from our investigations have also shown that ineffective first-level supervision is a major contributor to incidents where our workforce has neither practised nor chosen life-saving behaviours. This has led to the establishment of an internal, cross-commodity working group to investigate how we can better support our supervisors to become more effective. The working group is looking at our existing tools and resources and identifying revisions to improve our supervisor development programmes.

Supporting training and learnings dissemination

Our HSEC Committee Chairperson, Peter Coates, hosted our annual HSEC Summit that brings together more than 70 of Glencore's senior leaders. The 2017 year summit focused on sharing learnings on safety and management of catastrophic hazards facing our operations. Presentations from the summit are being used for sharing its learnings across Glencore and to support broader outreach.

The summit included a presentation by an external psychologist, who had worked with our ferroalloys business during 2016 to apply behavioural science to improve behavioural consistency, which in turn supports the positive reinforcement of key SafeWork processes. This included a visible leadership approach, regular safety campaigns and a clear and persistent effort to ensure employees understand the consequences of unsafe acts.

Our ferroalloys business has run positive reinforcement coaching programmes to strengthen the safety culture within its operations. The insights from these programmes has been shared with other commodity businesses and led them to look to implement the approach and to further encourage our workforce to practice and choose lifesaving behaviours.

Implementing a safety leadership programme

During 2017, our coal business achieved its objective of zero fatalities. Its LTIFR and TRIFR improved by 20% and 28% respectively on 2016; exceeding its targeted reductions for the year.

To support its target of year-on-year performance improvements, the coal business undertakes regular reviews to identify areas where it can further advance our performance.

During 2016, findings showed an inconsistency among frontline leaders in hazard recognition and risk assessments. In 2017, to address this, the coal business developed and implemented Frontline Safety Leadership Plans. The Plans covers:

1. Leadership-led improvement to risk assessments and hazard identification
2. Compliance with SafeWork
3. Reporting and recording all incidents involving substandard risk and hazard analysis and non-compliances
4. Proactive steps to improve compliance with SafeWork procedures and standards

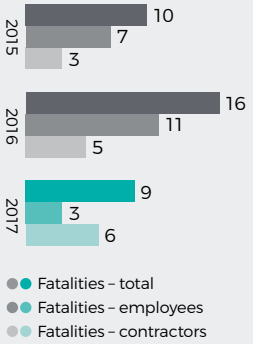
Industry collaboration

During the year, Glencore participated in a number of industry events focusing on advancing health and safety within mining. These included:

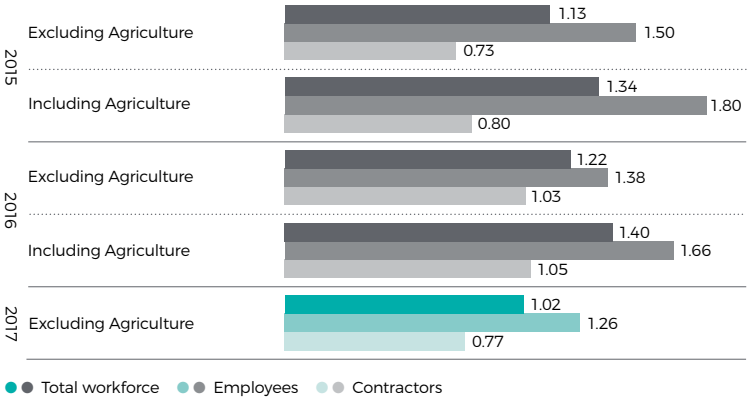
- A collaboration hosted by the International Labor Organization (ILO) that brought together representatives from mining companies, governments of commodity producing countries and unions to discuss health and safety in open cast mines. The symposium resulted in revisions to the ILO's guidance on the topic.
- Bi-annual ICMM health and safety forums as well as participation in the ICMM risk management working group. These forums and working groups are continuing to discuss collaboration efforts with a focus on fatality reduction and critical control management.

Fatalities at managed operations

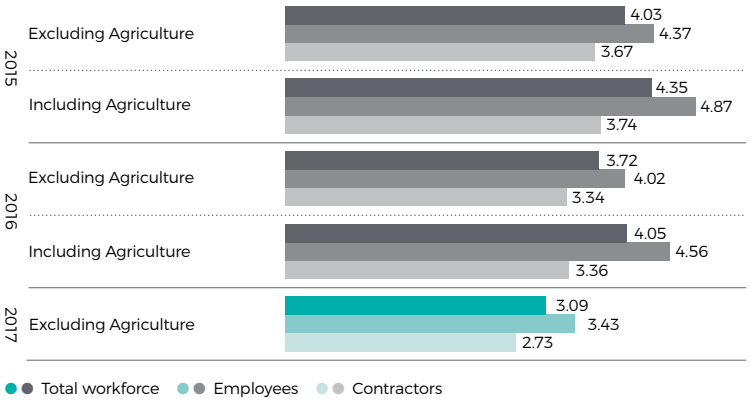
9



Lost time injury frequency rate (LTIFR) (per million hours worked)



Total recordable injury frequency rate (TRIFR) (per million hours worked)



Workplace health and safety

continued

Health

We have continued to reduce the number of new cases of occupational disease from 89 cases in 2016 to 46 cases in 2017, a decrease of 48%, 93% of our assets recorded no new occupational diseases during the year.

During 2017, we continued to undertake health risk assessments at all of our assets. We recognise that one of our greatest challenges is managing our workforce's exposure to hazards in the workplace.

In 2017, we recorded three confirmed cases of Mine Lung Dust Disease. In Australia, there was one case of mixed dust disease (elements of silicosis and coal workers' pneumoconiosis) and one case involving silicosis. Both of these employees are continuing to work in their roles. We have implemented additional controls to minimise further their exposure to dust, including regular monitoring and review. There is one reported silicosis case at Prodeco, Colombia. All our coal operations have introduced reporting for all incidents (inclusive of respirable dust) that requires immediate notification to all senior operational management and an investigation with rectification actions.

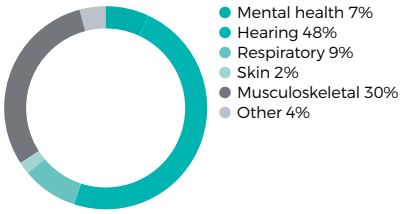
In Queensland, Australia, Glencore, along with other local operators were criticised for failing to meet our personal dust monitoring obligations. Following the raising of these concerns, improvements have been made to operational performance in relation to dust management.

Following the group-wide rollout of our revised health management strategy and its associated tools and resources, we continue to update our health intranet site. The tools and resources hosted by the site support the implementation of the strategy and our commitment to embed a leading health and safety practice at all of our assets.

During the year, we participated with our industry peers in the ICMM's working group on health indicators, occupational exposure limits (OEL) standards and emerging regulations and the health effects of exposure to diesel particulate matter (DPM).

In partnership with the ICMM, we are also collaborating with equipment manufacturers to investigate the impact of mobile equipment on emissions, DPM exposure and collision avoidance. Through engagement with our industry peers, we are continuing to investigate opportunities for further improvements to operational working conditions.

Occupational diseases during 2017

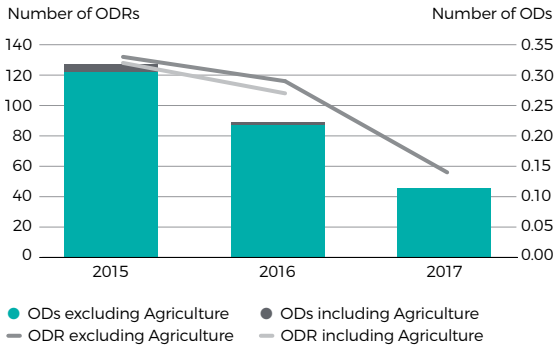


High potential risk incidents

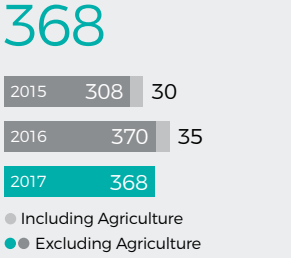
Our assets report and share high potential risk incidents (HPRIs) every week, along with lessons learned, to prevent repeat incidents. HPRIs are an opportunity to learn about the effectiveness of critical controls and underpin our approach of continuous learning. Our Board's HSEC Committee review the findings of the investigations for HPRIs identified as having the potential to result in a catastrophic event. We share these findings across Glencore.

During 2017, we recorded 368 HPRIs (2016: 370 excluding, 405 including Glencore Agriculture). We do not target a reduction in HPRIs, recognising that their reporting and recording is an important contributor to our progress in improving our health, safety and environmental management.

Total number of new cases of occupational diseases and occupational diseases frequency rate



High potential risk incidents (HPRIs)



Planning and executing a safe shutdown

In 2017, our Murrin Murrin site in Western Australia undertook a major statutory maintenance shutdown with zero recordable injuries; the safest shutdown on record for the operation.

Murrin Murrin requires a triennial shutdown. While the primary reason for the shutdown is a statutory inspection of the plant, the scope of the shutdown goes beyond statutory compliance and it is considered an opportunity to undertake maintenance and works that address broader risks to a continuous operation.

The 2017 shutdown involved around 1,200 employees and contractors on site, well in excess of normal operating levels. The 23-day shutdown activities involved working at heights, vehicle interactions, suspended loads, electrical works and other potential safety and environmental hazards.

In early 2017, a dedicated shutdown planning team, led by Rob Nichol, Operations Manager began planning for the shutdown. The shutdown planning team included key operational employees and specialist contractors who worked together to develop the work scope and how to integrate Murrin's safety culture and work practices into the shutdown.

"The planning team was able to optimise site knowledge, define clear objectives and promote teamwork for everyone involved in the shutdown. Most importantly, we communicated expectations on the deliverables in terms of safety and quality," said Rob.

Leadership from all 22 contracting companies visited Murrin Murrin ahead of the shutdown and met personally with senior management who conveyed Murrin Murrin's expectations in the areas of safety, training and the management of their people whilst on site.

"The contracting companies were assured that any person in a Murrin Murrin uniform was there to help contractors do their jobs safely and efficiently. Further, Murrin Murrin team leaders were assigned to clear any roadblocks that might prevent contractors from achieving their goals," added Rob.

Murrin Murrin established a high visibility safety strategy to detail the specific activities relevant to the shutdown and to define clearly the standards and responsibilities for managing the associated health, safety and environment issues. Due to the high number of contractor personnel and their lack of familiarity with the site, pre-mobilisation requirements included mandatory inductions and training.

Murrin Murrin embedded its employees alongside contractors throughout the shutdown. This focus on teamwork received positive feedback from contractors and was considered a major contributing factor to the successful shutdown.

"The success of the shutdown from a safety perspective was largely due to our efforts to make safety productive, and not just protective. Good safety management is more than an absence of incidents or injuries; it's also about learning how things go right and applying those learnings to make sure they do," Nigel Tonkin, Health, Safety & Environment Manager.

Through utilising the knowledge gained from the analysis of HPRIs, we are putting measures in place to prevent similar incidents as well as finding solutions to situations that contribute to the highest cause of HPRIs.

During 2017, we identified mobile equipment as a key contributor to HPRIs. We are working with our industry peers through ICMM and EMERST on collision avoidance as well as reviewing the learnings from mobile equipment-related HPRIs. This work is resulting in the implementation of structural corrective actions to encourage the prevention of repeat HPRIs.

Next steps

- Evolution of fatality investigation process to look more deeply at organisational factors including: use of multi-disciplinary experts to assess organisational factors; competency review of those operating in key risk areas and functions; coaching; shared and applied learning processes; effectiveness of SafeWork
- Continuing to focus on contractor safety
- Development of controls for each identified health risk at asset level
- Reflecting HPRI data, the development of a diagnostic tool to address mobile equipment and pedestrian interactions

Climate change

Why this is material:

Climate change is a material issue that affects our business and creates both challenges and opportunities. As a significant producer and consumer of energy products, energy is a key input and cost to our business as well as being a material source of our carbon emissions. The transition to a low carbon economy, and its associated public policy developments, represents both risks and opportunities for our company.

Our ambition:

We aim to better understand and reduce the impact of our energy and carbon emissions footprint, while integrating climate change related risks and opportunities into all areas of business. We will continue to take a constructive role in relevant discussions and to support low-emission technologies.

Our approach:

We openly and transparently disclose our energy and carbon emissions footprint. Energy is a key input and cost to our business as well as being a material source of carbon emissions. We are continually looking to improve our energy and operational efficiency. We are continuing to revise our carbon scenarios against energy market projections developed by leading organisations. We participate in a wide range of public policy discussions on carbon and energy issues. We are investing in a range of emission reduction projects and initiatives, focusing on both our operations and the use of our products.

Further information
on our management of climate change is available in *Our Approach to Sustainability.*

Key highlights

Total energy use 2017 (petajoules)	Scope 1 Carbon emissions 2017 (million tonnes CO_2e)	Scope 2 Carbon emissions 2017 (million tonnes CO_2)
202	21.6	11.9

Sustainable development goals

High-efficiency low-emission technology

Consistent with other global forecasts, we anticipate that global energy demand will continue to increase, in line with population and GDP growth. As a low-cost, plentiful and secure energy source, we believe that coal will continue to play a major role in the advancement of developing economies.

We support a low emission pathway for coal such as the deployment of high-efficiency, low-emission (HELE) power stations.

A HELE coal-fuelled power plant substantially reduces CO_2 emissions by 25-30% compared to older technology.

Building HELE plants in place of subcritical technology is one of the key near term actions the International Energy Agency has identified to address global emissions.

Technologies such as HELE, are supporting coal as a viable energy source for the future.

Highlights

- Established an initial group-wide carbon emission intensity reduction target of at least 5% on 2016 levels by 2020
- Started to implement the Task Force on Climate-related Financial Disclosures' guidance for consistent climate-related financial risk disclosures
- Awarded a 'Level Four – Strategic Assessment' by the Transition Pathways Initiative

Performance

In 2017, we established an initial group-wide carbon emission intensity reduction target of at least 5% on 2016 levels by 2020. This target reflects the work we have undertaken to date to understand our footprint and will help to drive additional emission reduction efforts across our business.

Our internal cross-function and multi-commodity working group, led by our Chairman, is coordinating the steps we need to put in place to meet this target. It is also continuing to action the commitments we made by endorsing the Task Force on Climate-related Financial Disclosures (TCFD) and in response to the Aiming for A resolution passed at our 2016 AGM. We regularly report our progress to the Board HSEC Committee. We shared the actions we have implemented with our senior management team during this year's HSEC summit.

Through the inclusion of climate change considerations into our annual planning process, our commodity departments have established energy and GHG forecasts for each of their assets.

Additionally, our departments are identifying, monitoring and delivering a portfolio of energy and GHG emission reduction opportunities for their assets. These opportunities include initiatives implemented during the reporting period, proposals for the upcoming annual planning process as well as new initiatives that may require further development ahead of inclusion in future budget-cycles. This process is enabling us to develop a MAC curve to assess more holistically and comprehensively the climate related opportunities.

In 2017, we generated 33.5 million tonnes of Scope 1 and Scope 2 CO_2 emissions (2016: 35.3 million tonnes). The decrease was primarily due to lower coal seam emissions at our coal operations.

GHG emission intensity (t GHG/t production Cu equivalent)

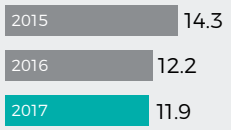
4.78

CO_2e Scope 1 (million tonnes)

21.6

CO_2 Scope 2 (million tonnes)

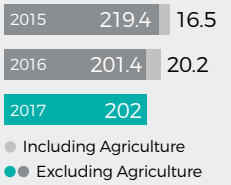
11.9



Scope 2 indicators have been restated to reflect IEA's annual update of grid emission factors

Total energy consumption (petajoules)

202



Our 2017 carbon emission intensity increased marginally compared with 2016, from 4.75tGHG/tCu to 4.78tGHG/tCu[1]. This slight increase reflects energy use relating to pre-stripping activity and construction work for future production improvements and is in line with our expectations.

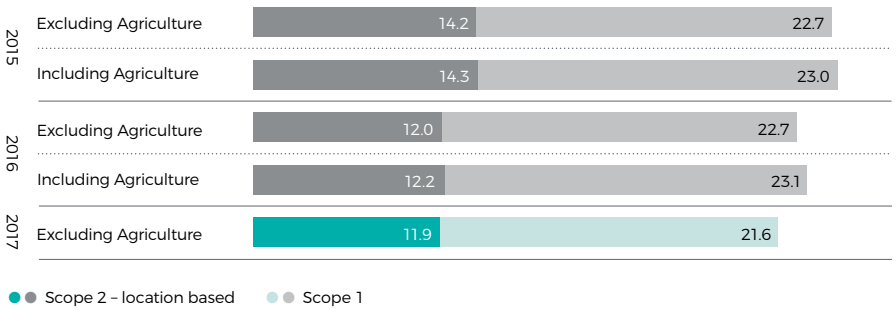
The small increase in 2017 was anticipated when our 2020 target was established. Structural carbon intensity improvements are planned for 2018 to 2020. Our 2018 carbon budget process showed that we are on track to meet our 2020 target as we progress towards higher energy efficiency levels and carbon-efficient operational changes.

During the year, we successfully implemented an energy and carbon reduction project at our South African, ferroalloys Boshoek Smelter. The Boshoek Smelter successfully piloted carbon monoxide (CO) generation technology, which generates electricity from the heat of combusting waste carbon monoxide from its smelters through the production of carbon dioxide. The initial findings from the pilot study suggest that Boshoek could reduce its Scope 2 emissions each year by 8% or 60,000 tonnes of GHG. Going forward, our ferroalloys business is investigating the potential to double CO-generation capacity at Boshoek Smelter and is considering the implementation of the technology at other South African smelters.

During 2017, we also implemented a number of other energy and GHG reducing initiatives:

- In Canada, the second wind turbine at our Raglan Mine is currently in construction. The wind turbine should produce electricity for the first time in September 2018. Raglan Mine's first wind turbine performed very well in 2017 delivering savings of over 2.2 million litres of diesel, which is a reduction of 6,250 tonnes of GHG emissions and equivalent to taking 1,350 vehicles off the road
- Nordenham, our zinc plant in Germany, has reduced the recycling loop of materials in its alloying operations, preventing the processing of the material throughout the whole plant. In addition, it installed advanced compressors that are reducing its energy consumption. Together, these improvements are delivering annual carbon savings of 1,400 tonnes of GHG
- Our oil production assets in Chad have begun to electrify their camps using waste gases as the energy source. The projected annual carbon savings are 5,000 tonnes of GHG

Total greenhouse gas emissions (million tons CO_2)



1 We apply the following approach to the GHG emission intensity calculation:
- Both GHG emissions and production output from Glencore operated industrial assets are in scope; applying the Glencore economic entitlement basis
- In line with the Greenhouse Gas Protocol, we amend our calculations to reflect the acquisition and deconsolidation of assets (such as the deconsolidation of Glencore Agriculture). Out of scope are historical and actual GHG emission and production values of assets deconsolidated by or before the end of the reporting year.
- In scope are historical and actual GHG emissions and production volumes of assets acquired before 1 July of the reporting year.
- Out of scope are GHG emissions from our Marketing business' shipping activities, as these are unrelated to our industrial production.

The production value of our diversified portfolio is normalised by applying the copper equivalent approach. In this approach, we calculate the product specific production value by dividing the average price of a specific product in a baseline year with the average price of copper in the same baseline year.

Our total energy use of 202pj was at a similar level to that reported in 2016.

Beyond Scope 1 and 2 GHG emissions, our activities induce Scope 3 emissions: indirect GHG emissions throughout our supply chain. The total of these Scope 3 emissions reduced from 293 million tonnes CO_2e in 2016 to 281 million tonnes CO_2e in 2017. Out of this total, the most material category of Scope 3 emissions is from clients' usage of the fossil fuels which we have produced during the reporting year, amounting to 273 million tonnes CO_2e (2016: 284 million tonnes CO_2e). This reduction reflects the slightly lower levels of fossil fuel production in 2017. Please refer to the 2017 sustainability databook for a full overview of all Scope 3 categories which are relevant and material to our activities.

Risk management

We have established a risk management framework that has a specific focus on carbon management. This framework enables us to identify, manage and mitigate high-level climate change risk.

During 2017, an independent consultancy reviewed the framework and analysed high-level climate change trends, including regulatory compliance and physical and reputational impacts, for our operating regions. The evaluation utilised the 'Delayed action' and 'Ambitious action' scenarios and the time horizons of 2020 and 2030. A full description of these scenarios is available in *2017 Climate Change Considerations for our Business*.

In general, for both time horizons, asset-level operational climate change risk trends are anticipated to be neutral under the delayed action scenario. The analysis showed a negative outcome under the ambitious action scenario. This reflected the possibility of governments extending existing or adding new climate change programmes, such as increasing carbon taxes and energy prices. Analysis under 2030 delayed action scenario indicated a negative physical impact risk trend, largely driven by water related risks, such as flooding or water scarcity.

Glencore climate scenarios: portfolio resilience

Glencore climate scenarios	Alignment with IEA scenario	Scenario description	Commodities portfolio resilience
Delayed Action (Glencore Central Scenario)	New Policies Scenario but with implementation being uncoordinated and haphazard in nature with outcomes reflective of 5-10 year delays to full and timely implementation	Domestic efforts to reduce emissions are variable, with many countries not meeting their stated targets or objectives. Inconsistent implementation of carbon pricing across mainly developed economies. Fossil fuels continue to be the primary base for electricity generation, especially in Asia with slower introduction of low-carbon technologies and delayed retirement of old plants. Stronger global emphasis on efficiency but slow and poor delivery of climate finance. Carbon prices range from US$5 to US$25 per tonne CO_2e by 2030, rising to a range of US$10 to US$40 by 2040 per tonne CO_2e.	Positive: All commodities, except ferroalloys and oil
Committed Action	New Policies Scenario, including timely and full implementation of Nationally Determined Contributions (NDCs)	Domestic efforts to reduce emissions with focused NDCs implementation achieved by key countries. Carbon pricing implementation led by developed economies in a coordinated and structured manner. Moderate growth of nuclear, renewables and increasing use of high-efficiency, low emission (HELE) technologies for use in fossil fuel based electricity generation. Enhanced energy efficiency and consumption improvements in developed and developing countries supported by climate finance. Carbon prices implemented per the IEA new policy scenario (NPS) and range from US$10 to US$40 per tonne CO_2e by 2030, rising to a range of US$20 to US$50 by 2040 per tonne CO_2e.	Positive: All commodities, except ferroalloys and oil
Ambitious Action	450ppm Scenario (consistent with achieving 2°C climate change goal)	Globally coordinated efforts to reduce emissions accelerated beyond the implementation of existing NDCs. Universal adoption of carbon pricing supported by a structured global carbon pricing regime. Rapid deployment of break-through technologies and non-subsidised investment in renewable energy, battery storage, energy efficiency and carbon capture and storage (CCS). Carbon prices implemented per the IEA 450S and range from US$75 to US$100 per tonne CO_2e by 2030, rising to a range of US$125 to US$140 by 2040 per tonne CO_2e.	Positive: Copper and Marketing Neutral: Zinc, seabourne coal, nickel and oil Negative: Ferroalloys

Positive investment trend · Neutral investment trend · Negative investment trend

Carbon capture and storage (CCS)

The Carbon Transport and Storage Corporation Pty Ltd (CTSCo)'s integrated Surat Basin CCS project is a wholly owned subsidiary of Glencore. CTSCo's project is a scalable demonstration project.

Formed in 2010, CTSCo brings together the deep subsurface skills required to demonstrate the effective deployment of storage technology in Queensland's Surat Basin region. The study is delivering an integrated CCS project that incorporates capture at a coal power station, transportation and sequestration to establish a basis for permitting of long-term CO_2 storage in a suitable location in Queensland.

This study will provide a scalable model to deliver a viable commercial approach to reducing CO_2 emissions in Queensland and elsewhere in Australia, reducing Australia's overall carbon footprint and benefiting all emitters of CO_2 requiring storage.

Going forward, we will continue to assess climate change related risk trends at an asset level for our highest valued assets. We will focus this assessment on regulatory, operational and physical risks from climate change. We will also consider how to manage and mitigate these risks, for example, the availability of renewable energy sources as a counter to carbon taxes or rising energy costs as well as taking steps to minimise impacts from flooding or droughts.

Our climate change working group will drive this risk assessment process, review its outcome and monitor follow up on findings. The climate change working group will give directions for embedding climate change risk into our ongoing governance.

Portfolio resilience

We monitor revisions to energy and carbon scenarios. To date, there has been little material change to these forecasts since we published our analysis of our portfolio's resilience to future energy demand and carbon regulations in our publication 2017 Climate Change Considerations for our Business.

Lower carbon energy investments

We are continuing to invest in a range of emission reduction projects.

The International Energy Agency has identified Carbon Capture and Storage (CCS) as a vital technology if the world is to meet its greenhouse gas reduction targets. The Carbon Transport and Storage Corporation Pty Ltd (CTSCo), a subsidiary of Glencore, is delivering the Integrated Surat Basin CCS project. The purpose of the study is to deliver an integrated CCS project incorporating carbon capture, transport and sequestration to demonstrate the effective deployment of CCS technology in the region.

Cross reference table to Task Force on Climate-related Financial Disclosures

Governance: Disclose the organisation's governance around climate-related risks and opportunities	
(a) Describe the Board's oversight of climate-related risks and opportunities.	Board Committees: *2017 Annual Report* **Page 87** Risk – Board leadership: *2017 Annual Report* **Page 90**
(b) Describe management's role in assessing and managing climate-related risks and opportunities.	Work at Board meetings: *2017 Annual Report* **Page 89** HSEC Committee report: *2017 Annual Report* **Page 100**
Strategy: Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material	
(a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.	Principal risks and uncertainties/climate change: *2017 Annual Report* **Page 50**
(b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.	Principal risks and uncertainties/climate change: *2017 Annual Report* **Page 50**
(c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	*2017 Climate Change Considerations for Our Business* *2017 Annual Report* **Page 30**
Risk management: Disclose how the organisation identifies, assesses, and manages climate-related risks	
(a) Describe the organisation's processes for identifying and assessing climate-related risks.	Principal risks and uncertainties/climate change: *2017 Annual Report* **Page 50** *2017 Climate Change Considerations for Our Business* **Page 14**
(b) Describe the organisation's processes for managing climate-related risks.	Addressing climate change across our business: *2017 Annual Report* **Page 30**
(c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	Principal risks and uncertainties: *2017 Annual Report* **Page 50** Key performance indicators: *2017 Annual Report* **Page 41**
Metrics and targets: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material	
(a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	Reporting on our emissions: *2017 Annual Report* **Pages 30-31** *2017 Databook* **GRI 305-1 to GRI 305-4** *2017 Annual Report* **Page 41,** *2017 Annual Report* **Page 1**
(b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Reporting on our emissions: *2017 Annual Report* **Pages 30-31** *2017 Databook* **GRI 305-1 to GRI 305-4** *2017 Annual Report* **Page 41,** *2017 Annual Report* **Page 1** Scope 3 greenhouse gas (GHG) emissions: *2017 Databook* **GRI 305-3**, *2017 Sustainability Report* **Page 32**
(c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	Addressing climate change across our business: *2017 Annual Report* **Page 30**

In the DRC, we have established a public-private partnership through our interests in Katanga Mining and Mutanda Mining and the government on a $400 million commitment towards the refurbishment of the DRC's power infrastructure. The completion of the work is due in early 2019. The project will align with a World Bank project to expand electricity access in unserved and poorly served areas. Our DRC assets are meeting their energy needs through power supply agreements with the national power corporation, SNEL, which delivers energy produced from hydroelectric sources.

In Canada, Raglan Mine's second wind turbine is currently in construction. The unit will be delivered to Deception Bay in summer 2018 and should produce electricity from September 2018. Raglan Mine's first wind turbine has performed well during 2017, delivering savings of over 2.2 million litres of diesel, which is a reduction of 6,250 tonnes of GHG emissions equivalent of taking 1,350 vehicles off the road.

Reporting on progress

During 2017, the Task Force on Climate-related Financial Disclosures (TCFD) launched its voluntary guidance on consistent climate-related financial risk disclosures for companies to use when providing information to investors, lenders, insurers, and other stakeholders.

We support the TCFD guidance and have started to implement it in our annual reporting. We are engaging with the ICMM, our peers, the TCFD and interested stakeholders in establishing our TCFD-based reporting approach.

Further information on the climate-related risks facing our business are available in our publication 2017 Climate Change Considerations for our Business and in our 2017 Annual Report.

In 2017, the Transition Pathways Initiative (TPI), which aims to define what the transition to a low carbon economy looks like for companies in high-impact sectors such as oil and gas, mining and electricity generation, awarded Glencore a 'Level Four – Strategic Assessment'.

Level Four is the TPI's highest score and recognises the work that we have undertaken to identify and address the risks to our business posed by climate change.

In 2017, we participated in the CDP Climate Change programme, achieving a CDP score of B, consistent with our score in 2016, despite CDP increasing the thresholds in their scoring methodology. Our result reflects our approach of continual improvement in implementing measures to reduce our carbon and energy footprint.

Next steps

- Undertake climate change risk assessments at top value assets
- Continue our work with the ICMM to further develop our industry's response to climate change
- Promote best practice sharing and innovative approaches for carbon reduction opportunities at our carbon intensive operations

Water and effluents

Why this is material:

Water is an essential input for many of our industrial activities, for example, in the metal production process, coal handling and preparation plants (CHPP) and for dust suppression around our open-cast mines. During the life of our mines, their operational changes require regular adaptation of water management to maximise the efficient management of natural resources. We ship products over maritime and inland waterways, which could contaminate the water if spilled. Some of our assets are located in areas with high to extremely high water baseline stress and must share access to water with other local water users. Other assets must manage surplus water that may involve dewatering activities and flood protection measures.

Our ambition:

We aim to prioritise efficient water use, reuse and recycling, responsible waste water disposal and maintaining any equipment that may pose a hazard to water quality to avoid, and where avoidance is not possible, to minimise any potential water-related impacts. We work to provide fair and equitable access for all users.

Our approach:

We seek to understand our effect on the environment, minimise our water-related impacts and ensure that our activities do not compromise any shared use of water. We are committed to ensuring good water management is in place at all our assets, including, where required, appropriate risk assessments, monitoring and implementation of corrective action. We recognise that water management is a complex issue; to understand it fully requires a dialogue between all the multiple stakeholders involved at each site. Our assets consult their host communities and other relevant local water users to find out their priorities and collaborate on solutions.

Further information on our management of water and effluents is available in *Our Approach to Sustainability*.

Key highlights

Water withdrawn 2017 (million m³)

924

Sustainable development goals

Sharing water in Bolivia

Our Sinchi Wayra/Illapa mining operations are located in the high Andes of Bolivia and face ongoing impacts from extreme weather events.

We consistently review our measures to reduce our consumption of fresh water in our mine processing plants. This includes our zinc and lead concentrator plants recirculating around 85% of the water used.

In 2017, Sinchi Wayra/Illapa made a US$700,000 upgrade to its water treatment processes.

The majority of the treated water is for agricultural irrigation and farm animals.

Water treated for human consumption is distributed via the infrastructure for our mine site and the neighbouring communities of the Antequera municipality.

The discharged water benefits around 2,600 local farmers and rural dwellers.

Water and effluents

continued

Highlights

- Continued the implementation of our strategic water management framework
- Finalised our water management guideline
- Established a guide for sharing best practices relating to water
- Developed a briefing pack on the implementation of a catchment-based approach
- Finalised the harmonisation of our water reporting
- Knowledge sharing with our peers through participation in the ICMM working group on water

Performance

In 2017, we withdrew 924 million m^3 of water (2016: 971 million m^3 or 829 million m^3 excluding Glencore Agriculture). The like-for-like increase is mainly due to two assets increasing their dewatering efforts as their operational profiles reached groundwater aquifers and all assets aligning with our revised water reporting requirements.

We have finalised the harmonisation of our water reporting to align with the Water Accounting Framework (WAF) of the Minerals Council of Australia.

Strategic water management framework

During 2017, we continued to implement our strategic water management framework at all of our assets. This included the finalisation of our water management guideline, which is in line with the ICMM's position statement on water and its water management framework. Reflecting our risk-based approach, the guideline covers the minimum requirements for water governance, the identification and evaluation of water-related risk and their mitigation, the management of water in terms of quality and quantity and engagement with relevant stakeholders.

Glencore's overall water balance (million m^3)

Water Input (by source)	**938**
Surface water – withdrawn	178
Sea water – withdrawn	160
Ground water – withdrawn	291
Rain water – withdrawn	197
Potable (drinking) water imported or withdrawn	19
Other (not potable) water imported from a third party	80
Total water withdrawn	**924**
Water entrained in ore that is processed	14

Water used onsite	**1,005**
Water used in a task or process	509
Water recycled at onsite treatment facilities	126
Water reused	370
Share of water recycled/reused	35%
Change in water in storage	-81

Diversions and water transferred to others	**67**
Surface water diversions	37
Aquifer Interception diverted	14
Water supplied to others	16

Total water withdrawn by quality	**938**
Category 1 – Water withdrawn	289
Category 2 – Water withdrawn	360
Category 3 – Water withdrawn	289

Water input · Water use · Water output · Water diversion / transferred to others

During the year, we made further progress against key strategic objectives in our water management framework. These include:

- Establishing a guide for sharing best practices relating to water
- Developing a briefing pack on the implementation of a catchment-based approach
- Completing and distributing a quick guide to our water reporting requirements
- Refining our water balance tool and finalising the harmonisation of our water reporting to align with the Water Accounting Framework (WAF) of the Minerals Council of Australia.

At an asset-level, our operations are continuing to build their understanding of their water balances, implement the water management guideline and identify actions to reduce their use of this valuable resource in line with our overall continuous improvement approach.

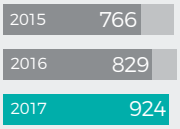
In South Africa, our coal operations developed integrated electronic water and salt balances for each operation. These water balances led to each asset developing water conservation and demand management strategies, which are supporting the meeting of water-use efficiency targets.

In Australia, the coal business upgraded its operational water balance models with predictive tools to improve water management. These predictive tools use the water balance model, current water inventories and local rainfall forecasts to predict site water inventories. The models are updated each month to determine the likely range of operating conditions for the next year, such as floods, normal conditions, conservation and drought. Operating conditions are adjusted to align with the predicted water management requirements.

Risk category	Description	Share of total sites
Category 5	Very high risk	3 (1.3%)
Category 4	High risk	6 (2.6%)
Category 3	Medium risk	25 (10.9%)
Category 2	Low risk	15 (6.6%)
Category 1	Very low risk	180 (78.6%)

Water withdrawn (million m³)

924



Including Agriculture
Excluding Agriculture

2015 data is not directly comparable to later periods due to changes in data reporting methodology disclosed in our 2016 Sustainability Report.

Water output (by source)	1,020
Water discharged to surface water	404
Water discharged to sea water/ocean	171
Water discharged to ground water	25
Water discharge to offsite treatment or disposal locations	11
Water exported to a third party	26
Water lost to evaporation and other losses	331
Water entrained in waste material and final product	51

Total water output by quality	1,020
Category 1 – Water discharged	479
Category 2 – Water discharged	393
Category 3 – Water discharged	147

As part of its regional environmental management strategy and in partnership with other mining companies and the environmental authorities, Prodeco is developing a conceptual regional hydrogeological model. The model evaluates the regional impacts of mining on the groundwater of the Cesar mining region and includes a preliminary design of a regional groundwater monitoring network. Work will continue in 2018 to further develop the model and advance the design of the regional groundwater-monitoring network as well as developing a preliminary design of a regional surface water-monitoring network.

Risk management

We completed our assessment of sites facing high water-related risks. This assessment analysed the quantity of water withdrawn at our operations against the water baseline stress data provided by the World Resources Institute's (WRI) Aqueduct tool.

We have ranked all of our assets in accordance with their identified water-related risks, ranging from category 1, very low risk, through to category 5, very high risk.

Our assessment ranked only 4% of our sites with risk categories 4 and 5, despite 20% of our sites being located in areas with high to extremely high water baseline stress. This was due to a large number of the sites located in areas with high to extremely high water baseline stress consuming a comparatively small amount of water.

We further evaluated all of our sites allocated with risk categories 4 and 5 to understand better their risks. This evaluation looked at the water-related risks generated by the asset as well as the risks they face in respect to overall water availability, water quality, stakeholder engagement and concerns and regulatory requirements.

The analysis, supported by our water-related management systems and controls, has identified areas for improvement and the affected assets are reviewing the recommendations. Two of these assets, the Rhovan vanadium smelter in South Africa and the Zhairem Mining and Concentrating Complex in Kazakhstan, are making operational changes that we hope will address the identified areas of concern.

Water incidents

In 2017, we received 19 water-related complaints at 11 of our assets (2016: 73 complaints at 10 sites).

During the year, we paid four water-related environmental fines exceeding $10,000, which totalled $205,000. One fine was for a non-compliant discharge of waste water into a Kazakhstan river following severe weather conditions during 2016 and 2017. The other three fines related to exceedances of applicable discharge values in Peru in 2003 and 2008 and a minor tailings spill into a river in 2008. Remediation and mitigation measures were put in place where appropriate.

We are disappointed to report that during 2017, we recorded one water-related moderate environmental incident. The incident occurred in a remote part of our mining lease for our Koniambo Nickel asset in New Caledonia. The area impacted was not in active operation. The event was triggered by a period of abnormally high rainfall. Mud generated by the landslide entered a nearby creek and resulted in a temporary discolouration of its water. In consultation with the local government and communities downstream of the area, we developed remediation plans, which are now completed. Following a thorough investigation into the cause of the landslide, Koniambo Nickel has reviewed and revised its water management programme for the area impacted, developed tools to support increased monitoring outside of active operations, increased monitoring activities and taken steps to prevent further erosion.

Industry collaboration

We are active members of the ICMM's water working group. During 2018, we will complete a pilot study to trial the ICMM's catchment-based approach. The pilot study's results will determine how we use this approach at our assets.

We are also participating in collective action projects in Australia and Colombia in collaboration with mining peers and other interested stakeholders to analyse and mitigate shared risks. During 2018, we are considering participating in a similar project in South Africa.

We continue to participate in the annual CDP Water assessment; our score of A- (2016: A-) reflects our approach to managing water-related risk responsibly.

Next steps

- Continued implementation of the water management guideline
- Undertake a pilot study on the implementation of a catchment-based approach (ICMM)
- Establish a platform to share best practice and learnings

Establishing participatory monitoring in Peru

Antapaccay is located in Peru's Espinar province, an area of heavy natural mineralisation. In Espinar, the water is mineralised and naturally unfit for human consumption. The increasing local population and expanding farming activities are creating stress on water availability. In addition, the limited infrastructure in the region is affecting the availability of water.

Antapaccay has put in place measures, such as monitoring and water treatment, to ensure it does not affect water quality or availability.

Antapaccay undertakes environmental monitoring in accordance with national legislation and is subject to both external and internal audits on its environmental performance. The Agency for Assessment and Environmental Control (OEFA), part of the Ministry of Environment, undertakes the external audits. As part of their auditing, OEFA has conducted several monitoring programmes that involve taking hundreds of samples and found no evidence of pollution. OEFA regularly informs local communities of these results.

Antapaccay has also implemented a number of participatory monitoring programmes with local communities. All participatory and company monitoring activities demonstrate that Antapaccay operates in line with Peruvian law. There is no evidence that Antapaccay's activities cause pollution or that the increased level of heavy metals found in the blood of some inhabitants is due to the Antapaccay operation.

Antapaccay has communicated the results of the monitoring activities through a short film, which included a version in Quechua, the local language, to support understanding by all community members.

Waste and air emissions

Why this is material:

Responsible resource production involves minimising the impact of our waste and air emissions on the natural environment and our host communities. In recent years, a small number of sudden catastrophic failures at tailings facilities within the resource sector have also resulted in a heavy focus on tailings facility management.

Our ambition:

We aim to avoid or minimise any adverse impact on the environment or our surrounding communities.

Our approach:

We work to minimise our direct and indirect impacts on the environment, complying with or exceeding relevant regulation and always looking for ways to improve our performance, including reusing of as much waste as possible. Our tailings storage facilities (TSF) undergo regular inspections in line with the stringent regulations relating to their management. We continuously monitor our TSF to support their integrity and structural stability. We work to minimise all types of emissions from our stacks, mining operations and processing facilities. We use abatement systems for our air emissions to meet the applicable threshold values.

Further information on our management of waste and emissions is available in *Our Approach to Sustainability.*

Key highlights

Total amount of hazardous and non-hazardous mineral waste generated 2017 (million tonnes)

2,129

Sulphur dioxide emissions 2017 (thousand tonnes)

358

Sustainable development goals

Anticipating impact of climate change on waste management

The tailings storage facility at our Raglan Mine, located in an Arctic environment at the extreme limit of northern Quebec, Canada is a dry stacking storage facility.

Since 2006, an independent group composed of tailings experts has studied the actual and potential impacts of climate change on the facility. The study made recommendations on the methodology that Raglan Mine was applying to its tailings storage.

These recommendations were presented to the local communities living near Raglan Mine's operations.

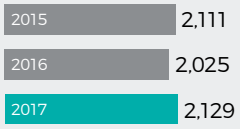
Following these presentations, Raglan Mine created a multi-stakeholder group to further engage these local communities in the closure plan for the operation. The closure of the operation is expected to take place in more than 20 years.

Highlights:

- Rollout and implementation of our tailings management protocol

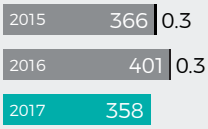
Total amount of hazardous and non-hazardous mineral waste generated (million tonnes)

2,129



Total sulphur dioxide emissions (thousand tonnes)

358



● Including Agriculture
●● Excluding Agriculture

Performance

Waste

While our operations continuously look for ways to minimise waste, the reopening of an Australian coal operation and an increase in stripping ratios (the ratio of the volume of waste material required to be moved in order to extract the commodity) at a number of assets, increased the total waste we produced in 2017 to 2.129 million tonnes. (2016: 2.025 million tonnes).

During 2017, we rolled out a group-wide Tailings Management Protocol. The Protocol improves our identification and minimisation or elimination of potential health, safety, environmental, social or business risks associated with Tailings Storage Facilities (TSF). It expands on our requirements for maintenance procedures and annual inspections as well as detailing assurance processes.

We require the design, construction, operation, and closure of our TSF and associated dams to comply with internationally-recognised engineering standards.

Risk assessments are conducted on TSF to evaluate the risks associated with a TSF failure so that the associated preventing and mitigating controls can be identified. Annual TSF safety inspections are carried out to assess the compliance of the TSF with regulations and engineering standards.

Air emissions

Our operations emit sulphur dioxide (SO_2), dust and nitrogen oxide (NOx); we monitor all material emissions.

During 2017, our SO_2 emissions of 357.6 thousand tonnes, was a decrease on 2016, when we recorded 401.3 thousand tonnes (2016: 401.6 including Glencore Agriculture).

This decrease was due to reduced concentrate availability at one of our larger operations, Mount Isa Mines, as the sulphur content in the concentrate directly influences the SO_2 emissions.

During the year, a small number of our assets received community complaints relating to emissions:

- In Argentina, operations at our copper-gold mine, Alumbrera, were suspended following a complaint relating to pollution. We immediately undertook on-site environmental studies related to the complaint. Shortly after the decision was made to suspend activities, a federal judge found no evidence of pollution, reversed the order and operations resumed
- In the Philippines, our PASAR copper smelter received complaints relating to SO_2 emissions. PASAR investigated these concerns and found no evidence of the asset exceeding the Time Weighted Average level – the Philippines emissions monitoring system. PASAR has a continuous emissions monitoring system in place that records real time SO_2 emissions to ensure compliance

In South Africa, the government introduced amended industry-specific SO_2 emissions limits that will come into force in 2020. All of our ferroalloys smelters meet the updated regulations. Rhovan, our vanadium smelter, has implemented improved measures and we are tracking the impact of these changes ahead of the regulatory deadline.

In Australia, our McArthur River Mine (MRM) has lodged a draft environmental impact assessment (EIS) with the Northern Territory government for the long-term management of its waste rock. The EIS highlighted a requirement to change the method MRM uses to store mining waste due to a change in waste characterisation. The proposed strategy for waste storage and management includes examples of industry best practice in the construction and closure stages. The EIS process commenced in 2014 and involved a large amount of field work in aspects of geology, geochemistry, hydrogeology and ecology. Throughout the process, MRM has extensively engaged with local stakeholders.

Next steps

- Ongoing review of operational waste management procedures to identify opportunities for improvement, to minimise the impact of the waste we produce

Managing emissions in Zambia

Following the completion of its $500 million smelter upgrade, our Zambian copper operation, Mopani, is continuing to improve its capture of SO_2 emissions.

Today, Mopani captures around 95% of its emissions and has real-time SO_2 monitoring stations spread across the community.

Mopani's emissions capture is generally within international limits. There are very few instances when these limits are exceeded for very short periods. This might be the case when the furnaces are restarted following scheduled maintenance or a local power surge.

Mopani has established a system to inform the community about possible increases in emissions each time the smelter needs to restart.

Human rights and grievance mechanisms

Why this is material:

We recognise that our operations may have an impact on the rights of our workforce and the surrounding communities. We are also aware of the need to ensure unencumbered, fair and transparent access to remedy for any stakeholders affected by our operations. We are continuing to look for ways to strengthen the mechanisms we have in place to address this.

Our ambition:

To uphold respect for human rights within the Group and throughout our value chain.

Our approach:

It is essential that we uphold and respect the human rights of our people and our local communities. Where we may cause adverse impacts on our stakeholders, we seek to apply relevant international standards to understand, control and mitigate the impact. Our commitment to respect human rights in accordance with the Universal Declaration of Human Rights, the UN's Guiding Principles, the UN Global Compact and ILO core conventions is articulated in our Code of Conduct and Group Human Rights Policy. We also seek to apply the Voluntary Principles on Security and Human Rights, IFC's Standard 5 and ICMM's position statement on Free and Prior Informed Consent.

We have established mechanisms that allow our local stakeholders to express their concerns.

Further information
on our management of human rights and grievance mechanisms is available in *Our Approach to Sustainability*.

Key highlights

Community complaints

1,063

Sustainable development goals

Addressing artisanal mining

Our Katanga and Mutanda copper operations in the DRC are supporting holiday camps for school children and agricultural initiatives to deter the participation of children and women in artisanal mining.

Katanga and Mutanda work with local NGOs and churches to deliver the holiday camps. During June to August 2017, over 7,200 children participated in a wide range of activities, such as theatre, drawing, music, scouts as well as discussions on the risks of artisanal mining and the importance of education. Attendees receive a meal each day. At the end of the camps, we organise a ceremony, attended by representatives from the local authorities and community leaders, to demonstrate the activities undertaken by the children and to award each child with a school uniform.

To encourage greater attendance at the holiday camp, we inter-link them with economic diversification projects delivered by local cooperatives. The projects include those focused on agriculture (livestock, bee-keeping, dairy and the production of jam, juices and flour), welding, carpentry and catering.

Highlights:

- Asset-level self-assessments undertaken on our Group Human Rights Policy and grievance mechanisms guidance
- External validation of our South African coal's human rights risk assessment process
- Training on the Voluntary Principles in Chad, Colombia, the DRC and Peru
- Publication of our first Modern Slavery Statement

Performance

Risk assessment

Our South African coal business engaged an external party to conduct a validation of their human rights risk self-assessment. This involved identifying a list of operational human rights issues and risks through document reviews, stakeholder engagements and over 400 household surveys. The identified issues were analysed to find areas of alignment and divergence. The coal team are implementing an action plan to address the gaps.

Addressing artisanal mining

During 2017, we noticed an increasing interest in responsible cobalt supply and ASM in the DRC, with a specific focus on Lualaba province. In the DRC, some of this mineral is produced by artisanal miners, using women and child labour. As a major producer and marketer of cobalt, we support efforts to establish greater transparency in the value chain, and address the endemic poverty in this region that is the underlying cause of artisanal mining (ASM). We do not support ASM, nor process or purchase any material derived from ASM in the DRC. We have developed robust due diligence processes to ensure this material does not enter our supply chain.

Modern slavery

During the year, we published our first Modern Slavery Statement.

Modern slavery (which includes slavery, servitude, forced labour and human trafficking) is a global concern with long-lasting impacts on affected individuals and communities. We reject any form of slavery within our organisation and supply chain. Our annual statement sets out our approach and the steps taken for the prevention of slavery in our organisation and supply chain.

We are in the process of reviewing our approach to due diligence in our supply chain, which will include modern slavery.

The Australian government is developing similar reporting requirements that will come into force in 2018. Our Australian assets are monitoring its development.

Indigenous people

The Raglan Agreement, the first impact and benefit agreement signed in Canada between a mining company and an Aboriginal population, was signed in 1995. It contains our commitments to communicate mine updates and share benefits, to identify concerns and opportunities raised by the community, and to respect cultural heritage.

In early 2017, in northern Canada, our Raglan Mine and its Inuit community partners agreed on additional measures to the Raglan Agreement that will support the extension of the life of Raglan Mine for an additional 20 years. Based on the environmental and social impact assessment's results and conclusions for Raglan Mine's future, the Sivumut committee (meaning 'moving forward' in Inuktitut) reviewed the impacts of the project and its recommendations, which formed the basis of the additional measures to the Raglan Agreement. Further details are available in the nickel chapter on page 93.

In Australia's Northern Territory, our McArthur River Mine (MRM), provides on-the-job training for local trainees. During 2018, MRM will launch a training programme for a Certificate in Parks and Wildlife Management. This is being jointly run with the local Borroloola school. Practical sessions will occur on site with the support of MRM's environment team. Once established, MRM are looking to expand the range of study to include other certificates, including motor mechanics.

Peace in Colombia

We continue to support efforts for peace in post-conflict areas.

In Colombia, our coal operation, Prodeco, continued to participate in the development of Colombia's National Plan on Business and Human Rights, led by the Presidential Advisory Office on Human Rights.

In 2018, the group is initiating an evaluation of early warning mechanisms, which include defining criteria and priority cases such as threats to personal integrity and environmental and child abuses risks.

Following a stakeholder consultation process, the next steps will be to reach common agreement and then to develop a roadmap for further opportunities.

The Colombian government will integrate the findings into state protocols with enhancement recommendations.

Prodeco is also participating in the Energy Mining Committee (CME). The CME is a Colombian initiative involving private companies, established to foster dialogue on the VPs as well as their operational implementation. CME is currently preparing guidance on the respectful management of those exercising their right to protest and the actions to prevent escalation into violence.

Meeting between the Colombian government's chief negotiator for the peace process with the FARC, and members of the Prodeco's senior management team.

Resettlement

In 2017, our coal business conducted work on four resettlements, two in Colombia and two in South Africa. These resettlements are conducted in accordance with national and international standards, including the IFC Performance Standard 5: Land acquisition and involuntary resettlement. Further information on these resettlements is available in the coal chapter on page 76.

In Argentina, our Aguilar zinc asset is in the process of resettling one household and the process is expected to be completed in 2018.

Working with security providers

Our assets that are located in countries that we have identified as having a high potential risk of security-related human rights impacts have established procedures to support the implementation of the Voluntary Principles on Security and Human Rights.

These include providing training sessions to both directly employed and contracted security officers. We are also working to raise awareness among public security forces present at our operations.

In Chad, our oil exploration and production team undertakes annual reviews of security. The review involves the Ministries Department. During 2017, the review focused on: the prevention of vandalism acts on facilities and equipment, theft, avoidance of unnecessary night walks around facilities after the 6pm curfew and engagement with the night patrol military team.

During the year, our security superintendent in Chad became aware of a human rights incident in a local community involving an individual from the public security forces assigned to our operation. Our security superintendent spoke to the local head of the public security forces and the individual involved was redeployed out of the region.

In Colombia, eight critical contractors received training specifically on the rights of children and all of Prodeco's security employees attended a human rights workshop organised by the Universidad del Norte.

Prodeco also completed an action plan to reduce and eliminate the gaps identified by a human rights risk assessment undertaken in 2016. This included further engagement with stakeholders.

In the Democratic Republic of Congo, our Katanga and Mutanda operations provided training for 1,530 contractors and 148 employees, a further 30 mine police participated in an information session. Mutanda also provides regular training to the regional police force.

In Peru, our Antapaccay copper operation held two training programmes that involved three sessions in May and three sessions in December. These programmes trained the 150 private security contractors.

Grievance mechanisms

Following the group-wide rollout of our grievance mechanism guidance during 2016, our departments undertook self-assessments against our Group Human Rights Policy and grievance mechanisms guidance.

These assessments identified a need to improve our understanding of actual and potential human rights incidents affecting local stakeholders. We are looking to develop stronger internal reporting procedures that will help us to identify issues early on and to take steps to prevent their escalation.

We seek to make our grievance mechanisms available to the community members impacted by our operations. We also promote these mechanisms, for instance via local radio stations or in posters and notice boards. Community members are able to submit complaints directly, through the regular interactions with the operations' community teams, or anonymously. Complaints are reviewed and assessed by the operation, and actions necessary to address the issue are communicated to the individual who lodged the complaint.

During the year, we received 1,063 complaints from the communities living around our operations. These mainly related to odour, access to property and noise with communities in Chad, Australia and the Philippines reporting most of the complaints.

In Chad, our oil exploration and production (E&P) operation recorded the majority of the complaints reported during 2017. Most of these complaints related to flooding on neighbouring properties during construction works and heavy rainstorms. Chad E&P fully addressed and remedied the issues raised and put in place measures to avoid similar occurrences in the future.

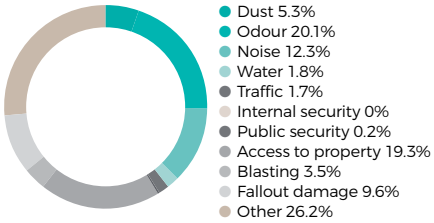
Mount Isa Mines, our copper and zinc operation in Australia, received the majority of complaints relating to odour emissions (57 complaints, 5% of total complaints received group-wide). Mount Isa Mines has implemented an extensive air quality control system and alert process in order to better control and mitigate emissions.

PASAR, our copper smelter in the Philippines, received complaints relating to SO_2 emissions (52 complaints, 5% of total complaints received group-wide). PASAR investigated these concerns and found no evidence of the asset exceeding the Time Weighted Average level – the Philippines emissions monitoring system. PASAR has in place continuous emissions monitoring system that records real time SO_2 emissions.

At our Mangoola coal operation in Australia, the majority of complaints received related to noise. It is an operation with a community living nearby. The number of complaints received from this community have significantly decreased year-on-year, with 52 complaints received in 2017 compared to over 500 in 2013. This is a result of improvements to operational performance in relation to air and noise management, which make up the majority of the complaints.

We take all of our complaints seriously and continuously look for new ways to minimise our impacts.

Complaints by type (%)



Proactively responding to community concerns

Over the past five years, our coal business has achieved a 72% reduction in community complaints since 2013 and a 33% reduction during 2017.

The majority of our coal business' historical complaints relate to air and noise and the reduction reflects the continued focus on improving operational performance. Steps taken include:

- Identifying effective noise management controls during the mine planning, assessment and operational phases. These include implementing activity specific noise controls, minimising haul distances as far as practical and minimising the clearing of trees, bush and grass during construction work
- Using automated systems to identify adverse meteorological conditions likely to result in noise impacts
- Avoiding placing operations on raised and exposed areas to minimise noise and dust generation
- Planning for progressive and temporary rehabilitation
- Setting aside sufficient water for dust suppression
- Undertaking noise and air quality awareness training for employees

Next steps

- Ongoing participation in advisory group for a multi-stakeholder initiative (government, NGOs, companies) to develop guidance for commodity companies to implement UN Guiding Principles, led by the Swiss government. Once finalised, the guidance will be promoted globally and implemented by Glencore
- Continued engagement with the OECD

Community engagement and social commitment compliance

Why this is material:

We recognise that our business activities make a significant contribution to the national and local economies in which we operate. We seek to understand and manage our impacts, generate sustainable benefits for our host communities, while also promoting diversified and resilient local economies.

Our ambition:

We aim to foster sustainable growth wherever we operate and to contribute to society throughout our value chain, via employment, procurement, enterprise development, infrastructure and social investment programmes.

Our approach:

Our operations have a significant effect on the communities in which we work, and on society as a whole. It is our responsibility to minimise any negative impact and to support sustainable development and growth. Through a proactive, strategic stakeholder and community engagement, we can support the advancement of the interests of both our host communities and our assets. We take a cross-functional approach to understanding and managing our socio-economic contributions and to deliver shared value while managing our impact on society.

Further information
on community engagement and social commitment compliance is available in *Our Approach to Sustainability.*

Key highlights

Tax and royalty payments 2017

$4bn

Community initiatives 2017

$90m

Sustainable development goals

Developing local procurement in the DRC

Our Katanga copper operation in the DRC is working with local authorities to support and promote local employment and procurement through funding infrastructure improvement projects.

In the Kolwezi region, the local authorities are keen to develop small and medium-sized enterprises and see Katanga as a key player in the delivery of this ambition.

Katanga has undertaken consultation sessions with local communities that included representatives from civil society, including churches, NGOs, schools and youth movements, women's associations and agriculture cooperatives, to identify projects to develop local procurement and skills.

Following the consultation process, Katanga identified a number of projects including repairing schools, a community centre and hospital wards, building a health centre and drilling community wells. Katanga is employing local contractors and suppliers on all of the projects.

Community engagement and social commitment compliance

continued

Highlights

- Continued to rollout the Community Leadership Programme
- Ongoing engagement with a broad range of NGOs

Performance

Community engagement

During the year, we continued the rollout of our Community Leadership Programme (CLP). This is a toolkit of materials for our community relations teams, as well as for our human resources, environment and procurement colleagues, covering all aspects of interactions with local communities, including engagement, investment and performance monitoring. Its purpose is to build and enhance the social performance capabilities of our operational staff and teams.

We supported the rollout with regional 'train-the-trainer' workshops, which also addressed specific local requirements from the toolkit. A number of our assets' General Managers attended the training sessions, demonstrating the importance that our sites award community relations.

The CLP toolkit is supporting our commitment to strong community relationships and the effective delivery of operational social strategy. It is helping us to better identify areas that we need to review further. We will continue to use the CLP as a broad training framework that will continue to evolve as part of the review and development of our approach.

In addition to our interactions with the communities living around our assets, we continued our dialogue with broader civil society groups. In Switzerland, we are participating in a government-led initiative to develop guidance on the implementation of the UN's Guiding Principles in the commodity-trading sector.

We have ongoing engagement with a broad range of NGOs. In particular, our discussions during 2017 involved organisations active in Colombia. These groups take a strong interest in the ongoing resettlement activities close to our Prodeco coal operation – further information is available in the Coal chapter.

For the past eight years, our nickel business in Canada has supported the work of two local NGOs. Cape Fund is a social investment fund aimed at supporting aboriginal entrepreneurs launch and develop their business ideas. Over 20 of Canada's largest organisations are investors in the Cape Fund. The second NGO is Learning for Sustainable Future, whose mission is to promote, through education, the knowledge, skills, values, perspectives, and practices essential for a sustainable future primarily through professional development for teachers to deliver inspiring and engaging sustainability lessons.

In South Africa, our coal business continued its collaboration with three local organisations, Re-Action! Consulting, Life Careways and Life Occupational Health, to advance its Employee Wellness Programme. In 2017, our coal business formally extended the wellness programme to include a detailed financial wellness element to address the indebtedness challenge faced by employees. The focus of our ferroalloys and coal businesses was to increase the number of HIV positive employees on care and treatment programmes; 73% of HIV-positive employees participate in the programme.

Community engagement on a shared resource

In 2010, in coordination with the NSW Minerals Council, the region's miners established the Upper Hunter Mining Dialogue in Australia, to address community concerns on the pressure created by mining on local infrastructure and services, land rehabilitation, water and air quality.

The Dialogue, which Glencore chairs, brings together six coal producers from the region and community and business leaders, environmental groups, residents, regulators and other industries. It is a collaborative effort, determining the biggest priorities for the local community, understanding their concerns and working together to develop and implement solutions to their top priorities.

The mining industry and the community work together to identify projects to assist with understanding and managing of the local impacts of mining. Some of these projects have included air quality management, water management, rehabilitation and mine closure.

The community and local government work with the mining companies to shape the strategic direction of the initiative. Working together is improving communication between industry and the community and fostering a better understanding for all involved on how the mining industry works.

Glencore is an active participant in a dialogue process established between members of the mining industry and faith groups. In 2016, this initiative was formalised as the Mining and Faith Reflections Initiative and an independent secretariat was established. During 2017, we were pleased to host the faith group at Prodeco and to support the work to strengthen the ties between the mining industry and local churches. We also participated in the faith groups' dialogue in South Africa. Going forward, we are looking at opportunities to strengthen dialogue in specific countries facing challenges related to resource extraction.

Social commitment compliance

Our socio-economic contribution scorecard measures and communicates our social impact. During the year, we progressed the work that we are undertaking to better align the scorecard to our broader social management strategy. This included:

- In Zambia, our Mopani operation invested over $20 million to establish a training centre, which runs programmes for mining and engineering artisans
- In northern Canada, our Raglan Mine is running the Tamatumani Program, a recruitment and skills development initiative for local Inuit people, which supports their career advancement at the mine
- In Peru, our Antapaccay copper operation is collaborating with local farmers and other organisations to improve local agricultural practices and continued its support for the local dairy and wool sectors
- In Colombia, our Prodeco coal operations support a number of programmes to enhance the educational opportunities of community members. These include improving the quality of public schools, providing access opportunities for higher education, technical education and employability training for adults.
- Prodeco also provides training with an educational institute. These programmes support local community members becoming qualified as a truck operator, mine technician as well as other non-mining skills such as oral and writing skills
- In South Africa, our coal business offers training linked to needs identified within the mining industry and other non-mining portable skills in order to reduce dependency. During 2017, 106 community engineering learners received theoretical and practical training, 84 received driver education licence training, 49 attended training colleges to obtain a trade qualification, 31 received training in early childhood development and nine received training to work with children and adults with special needs
- In Australia, our McArthur River Mine in the Northern Territories, provides on-the-job training for employees. It is also developing a programme with the local Borroloola school to deliver training for a Certificate in Parks and Wildlife Management. The practical sessions will take place on site with the environment team. Once established, MRM will look to develop other practical courses for other certificates such as small motor mechanics
- In Chad, our socio-economic analysis for our Badila oil block identified the need to construct a new school to serve the surrounding villages. The children attending the Bardira School took their lessons sitting on the dirt under a tree. As there was no shelter, lessons had to stop during the rainy season and, as a result, many children failed to complete their school programme. Working with the regional education board, we identified a site for the new school that was mid-way between four villages. The new primary school can accommodate over 200 pupils. A local contractor was engaged to build the school at a cost of around $76,000

Community engagement and social commitment compliance
continued

Socio-economic contribution

In 2015, we launched the Glencore socio-economic contribution scorecard to collect information on our performance.

The scorecard supports our efforts to meet objectives for maintaining and strengthening our societal licence to operate, while supporting our local communities' own objectives.

Operational objectives	Community objectives
Maintain and protect societal licence to operate, as measured by: • Levels of community support and community perceptions • Anticipation and mitigation of risks associated with benefit generation, such as additional migration to these areas, or confusion over which entity will provide public services • Incidents of societal unrest	Achieve resilience, as measured by: • Measurable benefits • Reduced dependency on the asset • Diversified economy

The scorecard examines the key value flows that our assets create for four principal stakeholder groups.

Stakeholder group	Value flows	2017 results
Employees	• Wages and benefits	• 96% of our workforce is local to the countries where we operate
Suppliers and contractors	• Procuring goods and services • Skills and enterprise development	• 76% of our global procurement bill is with suppliers and contractors local to the countries where we operate
Local communities	• Community development • Use of shared public-use infrastructure • Skills and enterprise development	• We spent $90 million on programmes supporting local community development, including $12 million for enterprise development and economic diversification of local entrepreneurs • In general, over 2.5 million people living near to our assets have benefited from our community investment activities, including healthcare facilities, education programmes and enterprise development • Approximately $14.6 million spent on infrastructure for water processing and distribution • $2.6 million spent building or maintaining over 128 kilometres of roads
Local and national government	• Taxes and royalties • Shared public-use infrastructure	• $4 billion paid to host governments in taxes and royalties • Nearly $25 million spent on public infrastructure such as water, power and sewage networks and roads

Economic value added in 2017[1]

$ million	Group	Africa	Australia	North America	South America	Rest of the world
Revenues[2]	243,740	5,508	11,668	33,893	6,542	186,129
Payments to suppliers (operating costs)[3]	229,028	3,808	8,093	32,084	4,808	180,235
Economic value added	**14,712**	**1,700**	**3,575**	**1,810**	**1,734**	**5,894**
Royalties and taxes[4,5]	4,113	807	1,653	287	519	848
Employee wages and benefits[6]	4,719	682	1,536	741	515	1,243
Sum of payments to providers of capital[7]	3,223	582	105	-91	60	2,567
Community investments	90	32	5	2	13	37
Sum of capital expenditure	3,411	944	864	434	575	594
Economic value retained/contributed	**-844**	**-1,349**	**-588**	**436**	**52**	**605**

1 For presentation purposes, all figures in this table have been rounded to the nearest unit.
2 Revenues include sales, intercompany sales and other income.
3 Operating costs include all costs of goods sold excluding salaries, employee benefits, taxes, community investments, depreciation, impairment and M2M.
4 Does not include total net refunds from governments on VAT, GST and sales tax amounting to $1,553 million. Taxes and royalty payments for Equatorial Guinea amounting to $27 million are not included.
5 Does not include income taxes paid in Colombia, Peru and Chile, relating to Glencore's ownership interest in joint ventures (Cerrejón, Antamina and Collahuasi) amounting to a total of $415 million.
6 Excludes all costs relating to contractors; these are shown in operating costs.
7 Consists of dividend payments and interest expenses to third parties and inter-Group entities. Payments to providers do not include any repayments of loans principals.

We are active participants in the ICMM working groups on closure and its socio-economic impacts on communities. As the work has developed, the two ICMM working groups have recognised the need to integrate socio-economic aspects into closure management and, as a result, are now working closely together.

We pay all relevant taxes, royalties and levies required by local and national regulation in our host countries. The payments we make to the governments of the countries in which we operate include local, national, sales and employment taxes, government royalties and licence and permitting fees. In addition, we contribute to local economies through our payments to suppliers, wages and employee benefits, voluntary support of socio-economic initiatives such as health and education projects and infrastructure development.

We welcome fiscal transparency, as it encourages the responsible management of revenues from extractive activities. We are a supporter of the Extractive Industries Transparency Initiative (EITI) and its principles of transparency and accountability. We participate in in-country forums supporting the EITI.

Our annual payments to governments report includes the information required by the EU Accounting Directive, and details payments by country, project and recipient.

In 2017, the tax and royalty payments made by our industrial and marketing activities was $4.11 billion (excluding Glencore Agriculture), an increase on 2016. The increase is mainly due to improved profitability and production volumes.

Our highest payments made to governments in 2017 were:

Payments (excluding VAT) ($ million)

Country	2017
Australia	1,627
Kazakhstan	494
Democratic Republic of Congo	407
South Africa	300
Colombia	225
Canada	212
Peru	150
United Kingdom	90
Argentina	76
United States	74
Switzerland	72
Zambia	55

Does not include total net refunds from governments on VAT, GST and sales tax amounting to $1,553 million. Taxes and royalty payments for Equatorial Guinea amounting to $27 million are not included.

Does not include income taxes paid in Colombia, Peru and Chile, relating to Glencore's proportionate ownership interest in joint ventures (Cerrejon, Antamina and Collahuasi) amounting to a total of $415 million.

Next steps

- Review approach to social development
- Development of supporting guidance and implementation tools

Product stewardship

Why this is material:

Our products are vital to today's society, creating devices used daily, all over the world. Supplying these products in a timely fashion with consistency in quality and safety is essential to our business and to our customers. There is increasing focus by consumers on the supply chain of the products they consume. In turn, our customers are seeking increasing reassurance on sustainability in the production of the raw materials they buy. Our product stewardship programme continues to evolve to meet the needs of our commodities' markets.

Our ambition:

We aim to deliver competitively priced commodities that meet our stakeholders' needs and contribute to global society in a sustainable manner. In addition to being a sustainable producer, we seek to be a responsible marketer of commodities incorporating health, safety, environment and human rights considerations throughout our supply chain.

Our approach:

We work with experts, industry consortia and our peers to study the properties and impacts of our products throughout their lifecycles, to spread understanding of our products. Through building a thorough understanding of our products' properties, we are best able to produce, transport and store them safely and mitigate potential adverse impacts on our workers' health and environment. We engage with a broad range of stakeholders, including civil society, governments, industrial partners and our customers, to promote responsible commodity sourcing.

Further information
on product stewardship is available in *Our Approach to Sustainability.*

Sustainable development goals

End-of-life electronics recycling

In Canada, our Horne Smelter is one of the few plants in the world that responsibly recycles end-of-life electronics and other copper bearing materials into copper cathodes.

It recovers, among other things, copper, gold, silver, platinum and palladium from computers and other information technology and communications equipment such as mobile phones.

The recycling system recovers almost all of the precious metals and copper contained in the approximately 130,000 metric tonnes of recyclable material received annually.

Performance

Highlights

- Ongoing engagement with organisations regarding responsible sourcing
- Established a working group to support our understanding of the proposed LBMA silver guidance and to provide detailed feedback during the consultation process
- We continued our active participation on the Technical Advisory Committee of Better Coal

We work with all our stakeholders to encourage responsible commodity sourcing. We recognise that there is the potential for risks relating to human rights, conflict and corruption that exist within our supply chain. Direct or indirect links to human rights violations in our supply chain can lead to substantial reputational damage. In addition, human rights supply chain due diligence is receiving increasing legislative measures such as the UK and the proposed Australia's Modern Day Slavery Act.

Our customers are increasingly seeking assurance that their own supply chains do not have any links to human rights abuses. Both the London Metal Exchange (LME) and the London Bullion Market Association (LBMA) are incorporating supply chain due diligence requirements into their codes of conduct.

Our Code of Conduct and Group Human Rights Policy detail our approach and the expectations we place on our assets concerning human rights. We are further developing our due diligence process to specifically address human rights risks within our supply chain.

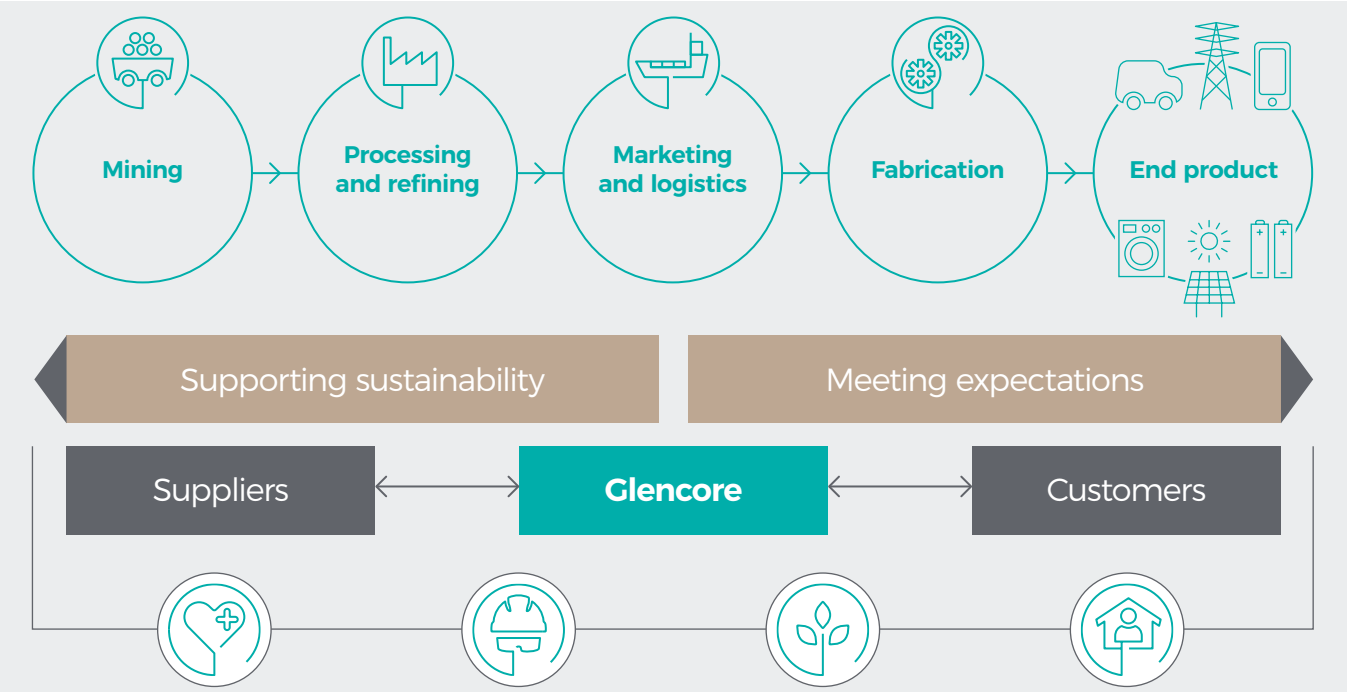
The approach we are taking is risk-based, focusing on the regions with the highest risk of human rights abuse. It reflects our existing commitments to initiatives such as the United Nations (UN) Principles on Business and Human Rights and the UN Global Compact. We will align our due diligence with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict Affected and High-Risk Areas.

We have already taken steps to rank the commodities that we source reflecting the role they play in our supply chain, their country of origin, related-existing and emerging regulation and the focus of our customers. We are now undertaking detailed risk assessment and mitigation planning for the commodities that we have identified as having high and medium-risk associated with their production.

We are continuing our ongoing engagement with organisations regarding responsible sourcing. In particular, we have participated in discussions with the OECD on minerals from high-risk areas and the LBMA on silver.

During the year, the LBMA began to draft responsible silver guidance that would become mandatory within a

Responsibility through the value chain



Value chain for the marketing business

Emerging regulation

Our Group monitoring system tracks emerging regulations and determines the degree of risk or impact they are likely to have on our business. We have consolidated this analysis into our product stewardship scorecard that covers new regulations and/or product guidance.

We are working with industry associations to identify further ways in which we can contribute to the aims of the circular economy regarding commodities.

For example, we are investigating the potential of leasing vanadium in battery storage solutions, extracting and reusing the vanadium at the end of the lease term. There is potential application of this approach in other catalyst processes.

EU Critical resources legislation – the transition to a low-carbon economy involves many commodities that the EU has restricted/banned on health reasons. Nickel is looking at this from the battery market perspective.

couple of years for all smelters and refiners that sold through the LBMA. Recognising that this guidance would affect a number of our operations, we established a working group to support internal understanding of the new rules and to provide detailed feedback to the LBMA during the consultation process. Following the finalisation of the LBMA guidance, our affected assets are implementing these new market requirements in order to meet the new recommendations.

We are continuing to engage with our customers on our responsible practices and supply chain oversight. We hosted a number of visits by customers to our assets.

Product stewardship initiatives

As part of our approach to managing and mitigating occupational health risks, we are updating our database on the potentially hazardous substances that are present at our operations. The database prioritises substances, based on their properties, regulatory developments and inputs from external stakeholders. We are then better able to put in place appropriate mitigation measures.

We inform our workers, transporters and customers of the possible hazards of our products and which safety precautions they need to follow when handling, storing and transporting our product to prevent physical, personal and environmental harm. This information is provided within safety data sheets, which are updated regularly and sent to our customer.

In addition to the important work around health risk management, Glencore is taking a leading role in the development of a supply chain initiative by the Cobalt Institute. The initiative will establish guidance for risk management within the supply chain, focusing on the upstream producers of cobalt. It will support the responsible production of cobalt through the delivery of enhanced due diligence aligned with industry good practice and those global frameworks that are focused on the responsible sourcing of minerals.

Glencore is an active participant on the Technical Advisory Committee (TAC) of BetterCoal. The TAC is a multi-stakeholder group with participants from unions, coal customers, companies and civil society. In Colombia, the TAC visited our coal operation, Prodeco. Prodeco will also participate in Bettercoal's assurance programme.

Compliance

During 2017, the European Union's (EU) Conflict Minerals Regulation was finalised. It will come into force on 1 January 2021 and all affected companies will need to have in place appropriate measures by the end of 2020.

The new regulation requires that all EU importers of 3TG (tin, tungsten, tantalum and gold) meet international responsible sourcing standards, set by the Organisation for Economic Co-operation and Development (OECD). We are well placed to meet the requirement of the upcoming legislation.

In 2017, Glencore did not produce, process or market any 'conflict minerals' originating from the conflict areas as defined under the Dodd-Frank Act (tin, tungsten, tantalum and gold from the DRC and adjoining countries).

In Europe, the REACH registration process is ending. In other regions of the world, the adaptation of similar chemical management legislation to REACH is gaining momentum. Turkey and Korea are currently implementing their own versions. We have prepared our business to meet the new requirements and we will continue to supply commodities into these regions.

Next steps

- Continue to follow responsible sourcing initiatives
- Engage with stakeholders and customers to build recognition of our responsible practices
- Participate in the development of initiatives and policies to avoid overly cumbersome supply chain requirements
- In response to the clarification of market requirements on responsible sourcing, develop a business implementation strategy in partnership with the internal stakeholders
- Engage with internal stakeholders on benchmark exposure limits for priority hazardous substances reflecting the regulatory developments for OELs as well as the requirements of Glencore's occupational health strategy
- Implement, where necessary, the recently finalised guidance produced by the LBMA for silver refiners

Our people

Why this is material:

Our success relies on our ability to attract, develop and retain the best talent, at every level. We must maintain a capable and engaged workforce that brings a diverse range of experience and perspectives to the organisation, in order to continue meeting our business objectives.

Our ambition:

Our aim is recognition as a top employer in all of our operating regions.

Our approach:

We believe that diversity is essential to our business and prohibit discrimination on any basis. We do not tolerate any form of racial, sexual or workplace harassment. We protect and uphold fundamental human rights around the Group, with fairness, dignity and respect. We uphold the International Labour Organization Declaration on Fundamental Principles and Rights at Work. We recognise and uphold our people's rights to a safe workplace, freedom of association, collective representation, just compensation, job security and development opportunities.

Further information
on Our people is available in
Our Approach to Sustainability.

Sustainable development goals

Highlights

- External recognition for our training programmes
- Our Australian zinc assets rolled out a programme to develop employee safety skills
- Our South African ferroalloys assets hosted a first aid competition, supporting skills development and teamwork
- Ongoing efforts group-wide to attract a diverse workforce

Performance

Training and skills development

Where possible, we employ locally and our training and skills development programmes support this ambition. Training and skills development is fundamental to our business. Reflecting the diversity of our business and workforce, we tailor our training programmes to meet the skills needed in the communities that support our assets.

We prioritise the safety and wellbeing of our people across the Group. Our approach reflects local needs. In 2017, these efforts included:

- A first aid competition involving teams from our South African ferroalloys assets. The event supported skills development in teamwork; emergency response; preservation of life; prevention of further injury; and promotion of recovery
- In Australia, our zinc assets rolled out a programme to develop the safety skills of its employees. Following a base-line survey, employees and contractors participated in both classroom-based learning and in-field coaching. We furthered this approach with toolkits distributed to supervisors and a new safety campaign. Following the programme, we have noted a significant increase in the reporting of hazards. A follow-up survey showed a markedly improved safety culture.
- Our South African coal business provides employees with on-the-job practical training, external courses or bursaries to obtain higher education degrees or diplomas. During 2017, 36 engineering learners received theoretical and practical learner development, 18 bursaries were awarded to attend university, 18 graduates completed their practical training at our coal operations, 10 learners followed a one year practical exposure programme towards the completion of their tertiary qualification, as required by their respective higher learning institutions, six female candidates received supervisory training exposing them to the opencast environment and seven community candidates received blasting assistant training.

Across Glencore, external organisations have recognised our skills development programmes. In Australia, our copper assets received two prestigious industry awards recognising its outstanding achievements for vocational education and training. In Canada, the Prix Créateurs d'emplois du Québec was attributed to Raglan Mine, part of our Integrated Nickel Operations for its contribution to innovation and job retention in the northern region of the province.

During the year, we continued our graduate and internship programmes. In Australia, senior high school girls local to the Mount Isa Mines operation participated in the Glencore Girls for Mining Mentoring Programme. On the programme, experienced female mining professionals mentor the students. The students gain an insight into professional life in the mining industry.

Diversity

Reflecting the wide geographic footprint of our workplaces, diversity is at the core of Glencore's approach to its people. We are continuing our efforts to attract a diverse workforce that reflects the communities living around our operations.

Our Group Diversity Policy promotes a diverse and inclusive workforce. We have established guiding principles to improve gender balance, encourage and support diversity and to prevent discrimination of gender or any other diverse attribute. Our principles support increased diversity awareness throughout our business.

Group-wide, we employ 12,037 women, which is 14% of our employees.

Zambia's Mining Woman of the Year

During 2017, Mopani's Mirriam Mapyapya received the Zambia Chamber of Mines' *Mining Woman of the Year* award.

Mirriam Mapyapya, a rock mechanics engineer at Mopani copper operations, received the Zambian *Mining Woman of the Year* award from the then Minister of Finance, Felix Mutati. At the event, Mopani was also recognised as Zambia's *Mining Company of the Year* for the third year running and won three awards from eight categories.

To win the award, the judges assessed Mirriam, alongside nominees from eight mining companies, on criteria relating to leadership, professional integrity and mentoring. The nominees' also had to demonstrate the benefits they brought to their area of work as well as their ability to motivate others and influence a significant positive change for Zambia's geology, mining or mineral processing industry.

Mirriam has worked for four years at Mopani, in a predominantly male environment that is typical of the Zambian mining sector. During that time, Mirriam has been an active team player and challenged the gender myth through competence, ability and a passion for success in the workplace, both underground and on surface. Mirriam is committed to a safe workplace and often leads the safety meetings for her section.

Mirriam is furthering her skills as a rock mechanics engineer through working towards the South African Chamber of Mines certificate for Rock Engineering.

Industrial relations

At CEZinc, a zinc refinery in Canada, owned by the Noranda Income Fund (NIF) and in which Glencore has a 25% stake and operates, members of the United Steelworkers Union (USW) went on strike in February. The labour dispute resulted from the NIF's cost reduction initiatives to adjust to market terms after the conclusion of a 15-year term where the NIF enjoyed the advantage of fixed processing fees. In November, the 371 members of the USW voted in favour of a new six-year collective agreement. The agreement was a compromise between the NIF's need to restructure its cost base and the USW's goal of keeping its members' pension benefits unchanged.

During 2017, in Australia, we negotiated new enterprise agreements (EAs) with local Construction, Forestry, Mining and Energy Union (CFMEU) lodges at 13 of our coal operations. The exception was at our Oaky North mine where we had been negotiating with the CFMEU on a new agreement for nearly three years.

In March 2018, following an extended labour dispute, Oaky North's employees voted in favour of the proposed new EA and we began a formal process of re-integrating these employees back into the workforce. We believe the new agreed EA positions the mine for a successful future.

Turnover

During 2017, our global turnover was 9% a slight reduction on 2016 (10%).

Next steps

- Implement the Group Diversity Policy at all industrial and marketing assets
- Continue to promote Glencore as an employer of choice
- Build awareness of employment opportunities among university students

Compliance

Why this is material:

Glencore's success is founded on its reputation, built over many years as being an honest and reliable business partner. By upholding our commitment to ethical business practices that fully adhere to regulatory requirements, we seek to maintain this reputation and meet our long-term objectives by being a business partner of choice.

Our ambition:

We seek to maintain a culture of ethical behaviour and regulatory compliance throughout all of our business activities.

Our approach:

We have implemented a Group compliance programme that includes policies, procedures, guidelines, training and awareness, and monitoring. Our permanent and temporary employees, directors and officers (as well as contractors, where they are under a relevant contractual obligation) must comply with our compliance policies, procedures and guidelines that apply to their work, in addition to complying with applicable laws and regulations. When we enter into joint ventures where we are not the operator, we seek to influence our partners to adopt similar policies to ours.

Further information on our Group compliance programme is available on our website and in our *2017 Annual Report*.

Sustainable development goals

Highlights

- 31,737 employees and contractors (2016: 29,569) completed e-Learning training on our Code of Conduct
- 22,872 employees completed training on anti-corruption
- Active members of the Partnering Against Corruption Initiative and the Maritime Anti-Corruption Network

Performance

Training and awareness

Training and awareness on our policies, procedures and guidelines, as well as strong leadership and tone from the top, are critical components of our compliance programme. Together, they support our employees' understanding of the behaviour expected from them and provide guidance on how to identify and practically approach legal and ethical dilemmas in their daily working lives.

The target audience of our Code of Conduct e-Learning training is employees with regular access to a work computer. Our Code of Conduct e-Learning training includes guidance on raising concerns. In 2017, 31,737 employees and contractors (2016: 29,569) completed this training.

Our anti-corruption e-Learning training targets those who interact with third parties and includes guidance on giving and receiving gifts and entertainment. During the year, 22,872 employees (2016: 20,119) completed this training.

Our compliance teams also conduct engaging face-to-face training for relevant employees to raise awareness about compliance risks related to their functions and to train them on Glencore's compliance policies and procedures.

Our employees who do not have regular access to a work computer receive training on compliance topics through other platforms appropriate to their function and location. These approaches include induction sessions, pre-shift general training and toolbox talks.

Monitoring

Our compliance monitoring function (CMF) seeks to ensure the effectiveness of Glencore's compliance programme through monitoring and testing the implementation and execution of our compliance policies, procedures, guidelines and relevant controls. The CMF works alongside our Group internal audit function (GIA), which evaluates and improves the effectiveness of our risk management, control and business governance processes.

The CMF performs specific testing, continuous monitoring and onsite reviews and discusses the results with the relevant marketing office or industrial operation to determine the most appropriate course of action, including any required corrective action. The CMF also reviews and analyses reports received by our Raising Concerns programme, as well as compliance specific observations and findings noted by GIA. The CMF uses the findings from these various inputs to identify areas of improvement. The CMF also

2017 Compliance Summit

Our 2017 Compliance Summit included a session with our CEO, Ivan Glasenberg, who took questions from attendees from across the Group.

In November, we hosted a Compliance Summit at our offices in Switzerland for around 60 of our compliance officers and coordinators.

Over two days, participants engaged in training and interactive workshops, providing them the opportunity to share knowledge and learn from best practice. Attendees enhanced their skills and gained tools to support the advancement of the compliance function at a local level.

The Summit also gave participants an opportunity to hear directly from their peers on how they are implementing Glencore's compliance programme at their local operations.

Ivan Glasenberg, Glencore's CEO, addressed the Summit with a clear and resounding message: Compliance is vital to Glencore's success and always has a priority seat at the table.

provides input on compliance related matters into our GIA process and programme.

In 2017, CMF visited multiple sites across six countries. The CMF also collaborated with the Group information technology and accounting team to integrate monitoring and testing into both our accounting and payment systems.

Reporting Misconduct

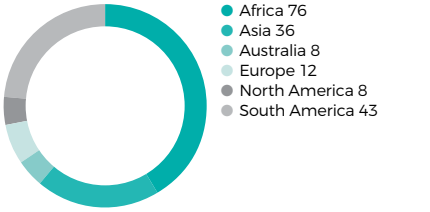
If an employee, contractor or third party encounters a situation that appears to breach our Code of Conduct, policies or procedures, that individual must raise this promptly with his or her immediate supervisor or manager or through our Raising Concerns programme. In 2017, the Raising Concerns programme received 183 (2016: 153) reports on potential situations where Group policies may have been breached.

All queries raised via the Raising Concerns programme are reviewed and assessed promptly in accordance with our internal guidelines. Glencore has a zero tolerance approach for retaliation against any employee, contractor or third party who reports a concern in good faith. This is critical to ensuring individuals feel comfortable raising concerns and we communicate this message to employees.

In the event that an investigation into a Raising Concerns report finds a breach of the Code of Conduct has taken place, action is taken. This action may include termination, suspension, a formal warning, the implementation of a retraining and coaching plan or participation in a workplace conduct workshop.

Raising concerns – reports by category (2017)

Raising concerns – reports by region (2017)



Participation in external anti-corruption organisations

We are a member of the Partnering Against Corruption Initiative (PACI). Members collaborate on collective action and share leading practice in organisational compliance. The initiative has a commitment of zero tolerance on bribery and the requirement to implement practical and effective anti-corruption programmes. We are also an associate member of the Maritime Anti-Corruption Network (MACN).

We actively participate in PACI and MACN's annual events. We have incorporated guidelines from both organisations into our procedures.

Commodities report

Our activities generate significant benefits for our host governments and communities. We support the responsible management of revenues from extractive activities.

Energy products

Coal

We are a leading producer and exporter of bituminous thermal coal and a significant producer of both premium hard and premium semi-soft coking coal.

Read more
Page 72

Metals and minerals

Copper

We mine and process copper ore and we have a sizeable smelting and refining capacity. We are also one of the largest producers of cobalt, a by-product created by our copper assets in the DRC.

Read more
Page 80

Metals and minerals

Ferroalloys

We deal in bulk and noble ferroalloys. We are one of the largest integrated producers of both ferrochrome and primary vanadium, and a producer of manganese ferroalloys.

Read more
Page 88

Metals and minerals

Nickel

We are a leading global nickel producer and trader. We deal in metal, concentrates, intermediates and ferronickel, and produce by-products such as precious metals and platinum.

Read more
Page 92

Energy products

Oil

We trade in crude oil, refined products and natural gas. We source crude oil and oil products and have additional interests in oil and gas production sharing contracts.

Read more
Page 100

Metals and minerals

Zinc

We are one of the world's largest miners and producers of zinc, with a combination of mines and smelters that is unique for a single business.

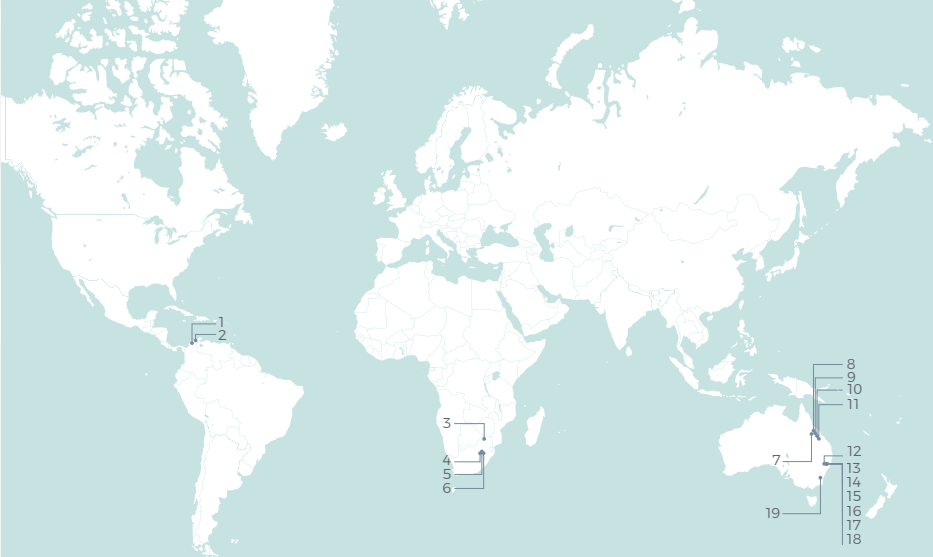
Read more
Page 104

Coal

We are a leading producer and exporter of bituminous thermal coal and a significant producer of both premium hard and premium semi-soft coking coal. We supply thermal coal to customers from a wide range of industries and locations, including major utilities across three continents. We have interests in more than 26 operating coal mines in Australia, South Africa and Colombia.

Energy products

Coal at a glance



- 1. Prodeco
- 2. Cerrejón*
- 3. Izimbiwa
- 4. Goedgevonden
- 5. Tweefontein
- 6. iMpunzi
- 7. Clermont
- 8. Collinsville
- 9. Newlands
- 10. Oaky Creek
- 11. Rolleston
- 12. Ulan
- 13. Bulga
- 14. Ravensworth
- 15. Liddell
- 16. Mangoola
- 17. Integra
- 18. Mount Owen
- 19. Tahmoor

* Independent jv

120.6
million tonnes of coal produced at our assets in 2017

106.3 Mt
of thermal coal sold via our marketing business in 2017

26
coal mines across Australia, South Africa and Colombia at 20 assets

23,000
employees and contractors across the coal business

KPIs

	2017	2016	2015
Fatalities at managed operations	**0**	1	0
Lost time injury frequency rate (LTIFR) (per million hours worked)	**1.21**	1.50	1.35
Total recordable injury frequency rate (TRIFR) (per million hours worked)	**2.74**	3.79	3.32
New occupational disease cases	**11**	11	5
CO_2e Scope 1 (million tonnes)	**9.9**	11.1	11.2
CO_2 Scope 2 – location based (million tonnes)	**1.3**	1.3	1.7
Total energy use (petajoules)	**38**	37	39
Water withdrawn (million m^3)	**114**	73	98
Community investment spend ($ million)	**5.0**	6.1	4.9
Number of employees and contractors	**23,258**	21,564	23,442
Proportion of female employees (%)	**15%**	14%	14%

Safety

Implementing Frontline Safety Leadership Plans

During 2017, our coal business achieved its objective of zero fatalities. Its LTIFR and TRIFR improved by 20% and 28% respectively on 2016; exceeding its targeted reductions for the year.

To support the coal business' target of year-on-year performance improvement, it undertakes regular reviews to identify areas where it can further advance our performance. During 2016, findings showed an inconsistency among its frontline leaders in hazard recognition and risk assessments. To address this, in 2017 the business developed and implemented Frontline Safety Leadership Plans.

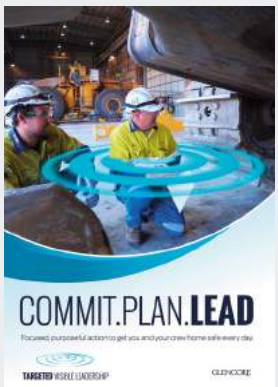
These Plans cover:

1. Leadership-led improvement to risk assessments and hazard identification
2. Compliance with safe work procedures and standards
3. Reporting and recording all incidents involving substandard risk and hazard analysis and non-compliances
4. Proactive steps to improve compliance with safe work procedures and standards

Reflecting local needs, each of our coal business' three operating countries adopted Plans for their frontline leaders:

- In Australia, the coal business is implementing a revised Targeted Visible Leadership Model. This places focus on planning interactions as part of the planning process in line with the risk profile, with more in-depth interactions for higher risk activities
- In Colombia, the Prodeco team are focusing on leadership development as well as visible safety leadership in the field, which includes mandatory safety interventions such as PPE inspections, area inspections and safety days
- The South African coal assets established a weekly high-risk verification process, which allowed managers to establish steps for the identification, recording and verification of high-risk work or activities within their area of responsibility. This approach has significantly improved safety performance and our South African business has seen no loss of life since 2012. We are now implementing a similar approach at our Australian assets

In Colombia, a number of awards have recognised our commitment to safety. Prodeco has received, for the third consecutive year, the Cruz Esmeralda Medal of Merit for Excellence. The Medal is the highest distinction that the Colombian Safety Council awards to companies for their health and safety standards at work, which our operations have.



Health

Mine Lung Dust Disease

In 2017, we recorded three confirmed cases of Mine Lung Dust Disease (MLDD).

In Australia, there were two confirmed MLDD cases. One case was mixed dust disease, which has elements of silicosis and coal workers' pneumoconiosis, and the second case was silicosis. Both affected employees are continuing to work in their roles with additional controls in place to minimise further their exposure to dust. Prodeco, in Colombia, reported a silicosis case.

During the year, we participated in both public and private sessions of the Queensland Parliamentary Select Committee Inquiry into Coal Workers' Pneumoconiosis. Our contribution provided information on the scope of the issue and potential opportunities for improvement.

All our operations have introduced single exceedance reporting (inclusive of respirable dust), which requires immediate notification to senior operational management and an investigation with rectification actions.

We are monitoring and, where appropriate, implementing engineering improvements that address dust mitigation strategies. These include increasing sprays on the cutting machine and improving the sealing of crushers as well as continuing our efforts towards achieving automation.

Environment

Implementing a proactive approach to rehabilitation and mine closure planning

Our coal business has the largest land footprint across Glencore (39% of Glencore's land disturbance in 2017). The coal business currently owns or leases around 570,000 hectares, of which 55,000 hectares (around 10%) have been disturbed and around 17,000 hectares rehabilitated.

Rehabilitation

Our Australian coal business links operational management's KPIs to rehabilitation targets.

During 2017, our Liddell operation in New South Wales has been conducting cattle trials on both rehabilitated and non-rehabilitated land. These trials are demonstrating the long-term viability of grazing on rehabilitation pastures. The results are consistently showing that cattle grazed on rehabilitation pastures gain significantly higher weight to those grazing on non-rehabilitated land.

In Colombia, Prodeco completed studies and trials that assessed rehabilitation alternatives to improve its approach towards disturbed areas. Prodeco will implement the revised rehabilitation techniques at its Calenturitas and La Jagua mines. The new approach includes:

- Stabilising topsoil with grass before tree planting and only planting trees when the soil can support them
- Improved topsoil water management ahead of seeding
- Using a biologic cover such as mulch to protect the topsoil from erosion

Mine closure

Our coal business currently has 12 operations in care and maintenance and five moving to closure. Our approach focuses on land management and life of mine planning in order to deliver mine closure options that provide for sustainable post-mining land use and relinquishment of mining tenements. Part of this planning process includes the treatment of final pits and we are taking steps to minimise the size or environmental impact of a final void.

During the year, Glencore Australia hosted the ICMM mine closure working group. We hosted eight peers at a workshop that included a visit to our operations and an opportunity to share practices and shape industry approach. This was followed up with a workshop in South America, where Glencore also participated, which looked to combine considerations of environmental impacts of closure with social ones.

We are also playing an active role through the Australian Coal Industry's research programme and industry associations to improve understanding and guidance on final voids and post-mining land use.

Supporting research into low emission technology

The International Energy Agency has identified carbon capture and storage (CCS) as a vital technology if the world is to meet its greenhouse gas reduction targets.

Despite this, out of a total of $2 trillion invested in "clean" energy over the last ten years – like solar, wind and biofuels – only 1% has been directed to CCS. Glencore has participated in a number of low emission technology projects in Australia.

One of these is the Carbon Transport and Storage Corporation Pty Ltd (CTSCo)'s integrated Surat Basin CCS project in Queensland.

Established as a wholly owned subsidiary of Glencore, CTSCo, in addition to Glencore, receives grant funding from the black coal industry, via ACALET (the Australian Coal Association Low Emissions Technologies) and the Commonwealth Government.

The initial test storage of 180,000t CO_2, pending permitting approval by the Queensland Government is located and contained within the boundaries of Glencore's Glenhaven property, located 15km outside of the township of Wandoan.

Formed in 2010 as a project-specific entity, CTSCo brings together the deep subsurface skills required to demonstrate the effective deployment of CCS technology in Queensland's Surat Basin region.

The project is intended to deliver an integrated CCS project that incorporates CO_2 capture at a Queensland coal power station, transport and sequestration to establish a basis for permitting of long-term CO_2 storage in the Surat Basin in Queensland.

CTSCo is committed to working closely with local communities and fully investigating the economic, environmental, social and cultural implications of the proposed project. In 2015, an independent community baseline research captured the issues and attitudes of the local Wandoan community. The results are shaping the local engagement programme and ongoing interaction with the community.

This project, if successful, will deliver a viable commercial approach to reducing CO_2 emissions in Queensland and elsewhere in Australia, reducing Australia's overall carbon footprint and benefiting all emitters of CO_2 requiring storage. Through the retro-fit of post-combustion capture modules at an existing coal-fired power station located in the Surat Basin, between 120,000 tonnes to more than 1,000,000 tonnes per annum could be captured.

For more information about CTSCo, visit www.ctsco.com.au.

Climate change

Recognising the importance of high-efficiency low-emission technology

Courtesy of J-Power.

In line with other global forecasts, we anticipate that global energy demand will continue to increase in line with population and GDP growth. We expect the rising demand in both developed and developing economies to require all forms and sources of energy, as well as a suite of low-emission technologies.

While the specific energy mix required to meet this expected demand will vary from country to country, we anticipate that absolute demand for coal is set to rise in the developing Asia Pacific region as these economies focus on lowest-cost electricity for their economic growth and urbanisation. Coal is, and will continue to be, the lowest cost fuel source for large-scale power generation in Asia.

Many emerging and developing countries (China, India, Bangladesh, Vietnam, Philippines, Nigeria, Ghana and others) have included lower emission coal technologies in their COP21 Nationally Determined Contributions (NDC). We expect growth in the deployment of high-efficiency, low-emission (HELE) power stations, underpinning coal as a viable fuel for the future.

A coal plant that receives its final investment decision today will probably not begin operating for a further five to ten years. The usual life of a coal plant is around 40 years. That means a coal plant approved for construction today will likely be operating at least into the 2050s and possibly beyond.

We support a low emission pathway for coal. A HELE coal-fuelled power plant reduces CO_2 emissions by 25-30% compared to older subcritical technology. HELE technologies are now becoming the default technology for new power plants across Asia. China and Japan have taken the lead in deploying these technologies and they are being built in India and Southeast Asia as well. Building HELE plants in place of subcritical technology is one of the key near term actions the International Energy Agency has identified to address global emissions. To date, 24 countries, including China, have included HELE technology in their Nationally Determined Contributions pledged under the Paris Agreement.

Another technology that is supporting the delivery of global climate targets is carbon capture, utilisation and storage (CCUS). If we are to achieve global climate targets, gas power plants and industrial facilities will need CCUS technology to support the use of coal.

If the world is to meet its global climate targets, the Global CCS Institute estimates over 2,000 CCUS facilities are required by 2040. Today, there are only 17 large-scale CCS facilities operating globally, two on coal-fuelled power generation, with a further 20 in development.

Lack of political support, policy parity with other low-emission technologies and limited funding opportunities is hindering CCUS deployment. However, this is beginning to change. Recently, progress on a new tax credits regime in the US to encourage CO_2 storage could be a game changer for American CCUS deployment. In addition, the Chinese government has been clear on the importance it places on CCUS technology that has led to some important developments such as the Yanchang CCS project and CCS projects by China Energy.

Community and Human Rights

Respecting human rights in Colombia

In Colombia, our coal business is partnering with local organisations to further develop its management of human rights.

In 2017, Prodeco engaged *Fundación Ideas para la Paz* (FIP) to undertake a human rights due diligence exercise for its suppliers. The exercise reviewed Prodeco's ten most critical contractors. The results were shared with the contractors and Prodeco will work with them to close the identified gaps.

Prodeco continue to participate in the development of Colombia's National Plan on Business and Human Rights, led by the Presidential Advisory Office on Human Rights. The group is working with the Colombian government to draft state protocols that develop and support processes for the early identification of community grievances. Early stage identification enable concerns to be addressed in a timely and appropriate manner as well as mitigating escalation.

Creating shared value in South Africa

Our South African coal business is continuing its support for local schools and communities

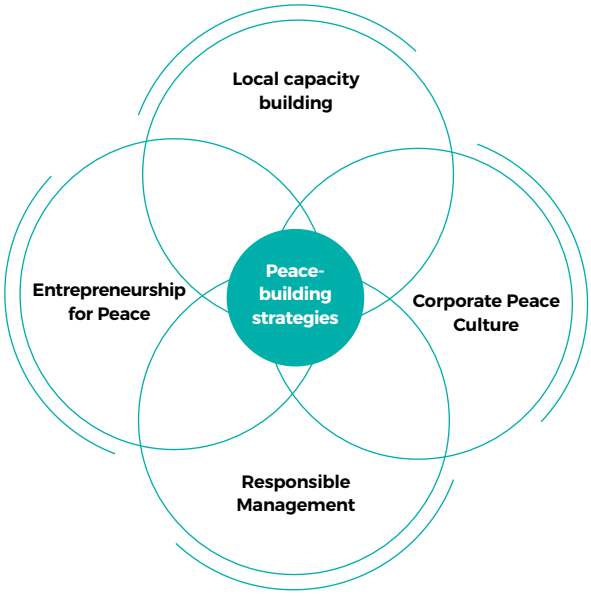
The business is supporting an e-learning project that connects under-performing and disadvantaged schools through video conferencing and desktop sharing. The aim is to increase the pass rates particularly for maths and science. The use of technology has increased the quality of learning and teaching.

Recognising that vision and learning are inter-related, our South African coal business launched an eye screening initiative at our local schools. During 2017, the programme screened 5,502 learners from eighteen schools and 374 children received spectacles. A further 2,234 students received treatment for minor ailments and there were 15 referrals to the state ophthalmologist for further examinations.

During 2017, a new enterprise development initiative was introduced to assist the development of sustainable emerging enterprises from local communities and provide opportunities for job creation. The programme provides an online system for local businesses to register their company and the services they provide. Local businesses also have the ability to see the opportunities available and to apply to the procurement process.

Community and Human Rights

Supporting territorial peace in Colombia



Local capacity building
- Diploma in Territorial Peace and Capacity Building of Civil Society and Official Entities (in partnership with the Cesar Development and Peace Programme)
- Territorial and institutional strengthening project
- Strategic social dialogues
- Together for Peace youth group

Corporate Peace Culture
- Training in human rights and peace related topics to our employees and contractors

Responsible Management
- Human rights-focused risk analysis
- Background of impacts
- UN Guiding Principles on Business and Human Rights
- UN Voluntary Principles on Security and Human Rights

Entrepreneurship for Peace
- Agricultural projects in lands not used for mining
- Environmental offset programmes

We recognise the significant progress made towards achieving sustainable peace in Colombia. Prodeco is supportive of the steps taken by the government and is an active participant.

Prodeco is working to implement its commitment to the peace process. In line with the concept of "Paz Territorial" (peace throughout the regions), Prodeco is developing ways to build the capacities of local institutions and to promote sustainable communities, while encouraging a corporate culture of peace and responsible operation within the company.

Prodeco is supporting the peace process through:

- **Entrepreneurialism for peace**: a programme that supports the development of a sustainable agricultural business that aligns with the peace agreement goals. Prodeco is working with a range of institutions, including the UNDP and Corporación Colombia Internacional (CCI), an organisation supporting agro-enterprise business projects, to create sustainable livelihood projects and forest offsetting programmes that will encourage the community to participate in rural development projects, especially in rural areas historically affected by the internal conflict
- **Leadership for Peace**: is a training programme to prepare local communities and civil institutions for taking part in the peace progress. Prodeco created the training in partnership with the Cesar Development and Peace programme. During 2017, Prodeco launched a pilot dialogue initiative with the La Victoria de San Isidro community. The pilot aims to establish organisational networks and an economic development model that integrate with the peace process, while maintaining opportunities for dialogue with local communities, allowing us to support our local communities in preparing for the post-conflict phase that the country is entering
- **Alliance for peace**: Prodeco is working with the Cesar Development and Peace programme to develop projects that support a sustainable peace for communities that have suffered violence, conflict, poverty, exclusion and marginalisation. Through the alliance, a group of 120 leaders, with 60 based in Prodeco's local communities, are participating in community projects, running for public office, and expressing their opinions constructively
- **Responsible management**: Through including human rights focus in impact assessments and risk management mechanisms, Prodeco is working to prevent social and environmental impacts in local communities; if not correctly managed, these may contribute to new conflicts in the future

Undertaking resettlement in accordance with international standards

Our coal business is undertaking four resettlements, two in Colombia and two in South Africa. The resettlements are conducted in accordance with national and international standards, including the IFC Performance Standard 5: Land acquisition and involuntary resettlement.

In Colombia, during 2017, Prodeco met a number of its key resettlement milestones:

- At the Plan Bonito community, work continued on the livelihood restoration plan, benefiting 96 families and 473 people and developing 73 businesses.
- Prodeco and the other involved mining companies finalised the negotiation of the El Hatillo resettlement action plan (RAP) in compliance with the relevant national and international standards. This community consists of 320 families, of whom 130 are non-residents. During 2017, the consultation process on the RAP included multiple meetings with community, national and local entities, the resettlement operator and technical team as well as more than 72 workshops. The RAP implementation is scheduled to begin during 2018.

In 2017, we conducted one resettlement in South Africa (Wonderfontein) and commenced consultation with 13 families at Zonnebloem.

In 2015, our Goedgevonden coal operation undertook a full resettlement of the 37 households of the Tree Plantation community to Phola, a town in the local municipality. The homes are new build and connected to the municipal water infrastructure. We are continuing to work with the remaining six families.

Increasing transparency in the supply chain

There is increasing pressure for transparency in the supply chain in relation to the ethical sourcing of our products and services.

In 2017, we stepped up our engagement with our European customers, government and NGOs and held a number of meetings to provide an overview of the coal business, our sustainability performance and key challenges.

During the year, European utility companies conducted third party human rights reviews of their Colombian suppliers including Prodeco.

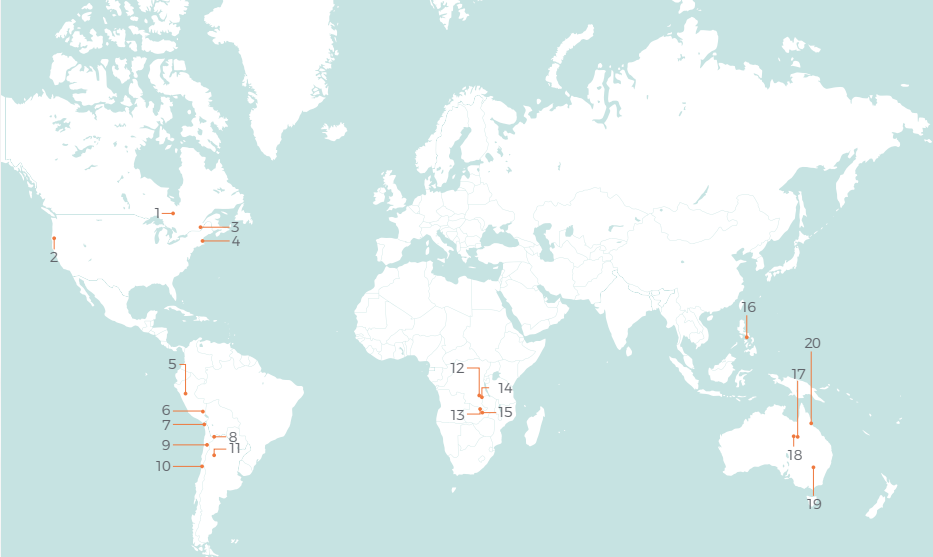
Prodeco has committed to the initiative Bettercoal and in 2018 will participate in its assurance programme.

Copper

We are one of the world's largest copper suppliers and its third largest producer of mined copper. Our industrial assets and marketing activities are fully integrated, and we have a sizeable custom smelting and refining capacity. We have assets in all the major copper-producing regions. We are also one of the world's largest producers of cobalt due to the by-products created by our copper assets in the DRC.

Metals and minerals

Copper at a glance



- 1. Horne smelter
- 2. San José Recycling
- 3. CCR refinery
- 4. Rhode Island Recycling
- 5. Antamina
- 6. Antapaccay
- 7. Collahuasi
- 8. Lomas Bayas
- 9. Altonorte
- 10. Punitaqui
- 11. Alumbrera
- 12. Katanga
- 13. Mopani
- 14. Mutanda
- 15. Sable
- 16. Pasar
- 17. Ernest Henry Mining
- 18. Mount Isa Mines
- 19. CSA Mine
- 20. Townsville Copper refinery

4 Mt
of copper metal and concentrates sold via our marketing business in 2017

1,310 kt
of own-sourced copper produced in 2017

20 years
average reserve life for our copper assets

KPIs

	2017	2016	2015
Fatalities at managed operations	**1**	13	6
Lost time injury frequency rate (LTIFR) (per million hours worked)	**0.38**	0.71	0.51
Total recordable injury frequency rate (TRIFR) (per million hours worked)	**2.35**	2.89	3.20
New occupational disease cases	**20**	53	34
CO_2e Scope 1 (million tonnes)	**1.7**	1.6	1.6
CO_2 Scope 2 – location based (million tonnes)	**1.7**	1.7	1.5
Total energy use (petajoules)	**43**	42	45
Water withdrawn (million m^3)	**372**	350	291
Community investment spend ($ million)	**37.5**	32.2	41.3
Number of employees and contractors	**55,760**	44,473	43,782
Proportion of female employees (%)	**8%**	8%	8%

Safety

Improving safety measures at Katanga

As Katanga in the DRC ramps up to full production, the operation has introduced a number of measures to enhance safety measures.

Following the completion of its whole ore leach project and ahead of re-starting operations, Katanga implemented several measures to improve safety that focus on plant access and addressing the identified risks related to onsite alcohol consumption.

During 2017, Katanga installed 16 new turnstiles to improve access and introduced additional biometric controls. These controls include automatic alcohol testing and fingerprint and badge scanning.

Through information sessions, Katanga has increased awareness of the dangers relating to alcohol consumption in the workplace as well as informed workers and their families about the new approach to alcohol testing.

The new system automates Katanga's requirement of 100% employee participation in alcohol testing, which in turn has allowed the redeployment of onsite security team to other posts, providing the security department with greater functional flexibility.

We share our access points for transport with our contract workforce and with employees of neighbouring operations. Katanga also tests for alcohol all those passing through these entrance points to ensure that they do not expose our employees or equipment related risks.

The new system was started in November and is already delivering some positive results:

- Improved employee punctuality
- Additional turnstiles have mitigated previous issues with congestion – previously 900 employees took 30 minutes to pass through the turnstiles, now 2,000 can pass through in 25 minutes
- Enhanced understanding of employees attendance and absenteeism
- The alcohol testing automatically denies access to 'positive' employees and there has been a significant decrease in positive alcohol testing rates
- Katanga can track access more reliably

Addressing local road safety in the DRC

Our Katanga operation has held workshops to address road safety in the local community.

Driving on Kolwezi's public roads around the Katanga concession, can be hazardous and a number of the mine's vehicles have been involved in accidents.

In November 2017, recognising the risk to employee and community safety, Katanga organised a road safety workshop at a local technical institute for community members.

Following an overview of Kolwezi statistics for road incidents (injuries, deaths and damages to property), the participants discussed how to improve pedestrians' safety as well as their own driving habits.

The workshop also highlighted to attendees the dangers of drinking and driving and discussed the risks of using overcrowded public transport due to its lack of seatbelts and the poor maintenance of vehicles.

Going forward, Katanga will continue to engage with the community on safety topics. Quarterly initiatives are planned with other local technical schools.

Increasing road safety awareness could lead to a reduction in the number of vehicle-related accidents in the Kolwezi area, which in turn would lead to a reduction in injuries, deaths and property damage.

The Provincial Ministry of Infrastructure has recognised and praised Katanga's efforts to encourage a safer community.

Health

Implementing the World Health Organization's (WHO) *Test and Start* programme in Zambia

In Zambia, Mopani is supporting the rollout of the WHO's Test and Start programme that aims to deliver universal HIV/AIDS counselling and treatment.

Mopani has collaborated with the American Centre for Disease Control (CDC) and launched a new HIV/AIDS strategy called *Test and Start/Stable on Care* to reduce congestion in health clinics. Test and Start contributes to universal HIV testing through early case identification and linkage to care and treatment.

The Test and Start programme is free of charge and available to all community members.

The programme supports the UNAIDS Fast Track goals for achieving the 90–90–90, ie 90% of people living with HIV know their HIV status, 90% of people who know their status are receiving treatment and 90% of people on HIV treatment have a suppressed viral load to enable their immune system to remain strong and that they are no longer infectious.

The Test and Start element of the programme re-trains volunteers in basic counselling and testing as well as providing them with the tools such as electronic tablets for data capture, blood pressure machines, thermometers, scales and bicycles. The equipping of the volunteers enables them to carry out home visits and reduces the need for referrals to medical facilities. This in turn, means community members can focus on other activities, as they do not have to make trips to medical facilities

The programme's 'stable on care' element supports the transfer of stable clients (HIV clients with suppressed viral loads) to the community. These are both Mopani employee and community members.

The community volunteers provide high-level care as well as distribute medicines to the clients' homes. The Stable on Care model reduces congestion at clinics and medical facilities, allowing the clinicians to concentrate on cases that are more serious.

To date, we have supported the transfer of around 1,600 stable clients to the community and the management of their treatment in their homes.

Community

Supporting local socio-economic development in Peru

Antapaccay is supporting community projects that deliver long-lasting socio-economic benefits.

Antapaccay is located in the Espinar province, one of Peru's poorest regions, where 12% of children under five are malnourished and almost a third of homes lack running water.

Antapaccay is supporting a number of projects to encourage a resilient and diverse local economy.

Health

Around ten years ago, Antapaccay built and equipped a $3 million hospital in partnership with local and regional government and the Health Ministry. Today, the hospital is fully integrated into the public health network and Antapaccay continues to support and fund health positions and campaigns.

Education

Antapaccay is also involved in a number of programmes designed to improve the skills of the community members living close to our operations. It is developing the technical and industrial capabilities of young people to improve their employment options and to promote entrepreneurship and self-employment. In 2017, 1,040 young people received technical training in cooking, textiles, heavy equipment mechanics, agriculture, business entrepreneurship, design and artisanal skills.

The operation also supports the *Education for a New Life* programme, which targets a reduction in illiteracy and builds communication and basic maths skills through topics involving food, healthcare, production, work, family and citizenship. Around 7% of the local population cannot read, 75% of which are women.

To date, this programme has encouraged over 1,000 people to read and write, 90% of which are women. In addition to improving literacy skills, the programme supports the participants to develop income-generation projects such as animal husbandry, food preparation using local supplies, textile production and vegetable growing.

The *Espinar Specialised Educational Resource Central* (CREE) is an educational programme that gives children and teenagers supplementary education to develop specific skills and abilities. The initiative helps to address the limited available resources of the local educational institutions. CREE directly benefits more than 1,800 students and 500 teachers per year from local schools.

The programme also supports students in obtaining places at the high performance school (COAR) and Espinar now has more students in the COAR than any other province in Cusco with the number of students increasing each year. Between 2015 and 2017, 55 of the 58 Espinar students admitted to COAR received teaching on the CREE programme.

The *CREE Mobile School*, a school on wheels, allows the CREE programme to reach rural areas. In 2017, it benefited around 1,000 students and nearly 100 parents at 15 rural schools. The mobile school is helping to close the academic gap between urban and rural schools.

Agriculture

Antapaccay is collaborating with local farmers and other organisations to improve local agricultural practices. It is supporting alpaca and sheep breeders through the *Fiber and Wool Plant* (FILASAC). FILASAC offers local breeders fair market prices, as well as product collections with the option of free mechanical shearing, training programmes and technical advice. This plant is also articulating with the local artisans.

Antapaccay also runs the *PLACME* dairy project to support local milk producers. The dairy plant, established as a social and productive project, offers Espinar dairy producers a fair market for milk from cows. It collects around 17,000 litres of milk each day, via six collection routes, from dairy farming communities across Espinar. PLACME also runs technical training programmes, which include courses on improving breeding and productivity practices, including Good Milking Practices (BPO); milk hygiene and quality; correct use of milking machines; antibiotic management; and the optimum use of cattle feed.

PLACME is one of just eight dairy plants with HCAP certification in Peru. This certification guarantees that the products produced are safe and meet national standards. PLACME produces and sells cheese, yogurt, butter and other dairy products in eight Peruvian cities. To celebrate Espinar's 100-year anniversary, PLACME made a 370kg cheese, the largest ever made in the region.

Since 2013, Antapaccay has spent around $30 million to develop the local livestock sector, which directly benefits over 3,200 people annually. The projects support livestock and agricultural development; we give veterinary assistance to more than 53,300 animals per year, genetic improvement programmes for cattle and sheep, water canals, agricultural campaigns, infrastructure, care for veterinary emergencies and more.

Community

Building capacity within the local community in Zambia

In Zambia, Mopani is strengthening the capacity of local contractors and young people around its mining towns through the training it offers at its state-of-the art training centre.

Mopani has invested in excess of $21 million to set up the ultra-modern Mopani Central Training Centre (MCTC), which runs programmes for mining and engineering artisans. Mopani fully sponsors the school leavers enrolling for the technical education, vocational and entrepreneurship training authority-accredited craft certificates. This sponsorship covers costs for accommodation, meals and learning materials. Students also receive a monthly allowance and are likely to get jobs within Mopani on completion of their training.

In 2016, as part of the MCTC, Mopani constructed an academy for contractors, the Sustainability Development Academy (SDA) at a cost of over $600,000. The academy enhances the capacities of local contractors and facilitates the transfer of skills and knowledge. The SDA aligns its different programmes with Zambia's mining regulations as well as with international standards, with a goal of promoting sustainable mining and enhanced safety standards.

As a further step to build the capacity of local suppliers and contractors, Mopani has adopted an 'equal business opportunities for all' policy. This approach reserves certain businesses for vulnerable groups of society such as the aged and physically challenged. Mopani is using these businesses for the provision of sand, bamboo and silica. As an example, the silica orders are valued at more than $10,000 per order and Mopani makes an average of six orders per month. Mopani rotates the orders it places to support equal business opportunity and distribution.

Mopani has also established a local enterprise development designation to further its collaboration with the Zambia Development Agency, Citizens' Economic Empowerment Commission, other government agencies and donor agencies to build on available opportunities for capacity building within local businesses.

Developing local procurement in the DRC

In the DRC, Katanga is working with local authorities to support and promote local employment and procurement through funding infrastructure improvement projects.

In the DRC, as is common in many other commodity-producing countries, the role of mining sector in supporting and advancing local procurement and economic diversification is a dominant topic in the resource management discussion.

Katanga is located in the Kolwezi region, where local authorities are keen to develop small and medium-sized enterprises and see Katanga, as being a key player in the delivery of this ambition. Katanga is working with the local authorities to support and promote local facilities, procurement and job opportunities.

During 2017, Katanga undertook a number of consultation sessions in its local communities with representatives from civil society, including churches, NGOs, schools and youth movements, women's associations and agriculture cooperatives, to identify projects to develop local procurement and skills.

Following the consultation process, Katanga identified a number of projects including:

- Repairing and equipping of four schools, including the provision of 600 desks and computer equipment, and a community centre that benefits 1.800 people

- Repairing of three wards, with a capacity of 108 beds, and a pharmacy at the local Mwangeji Hospital
- Building and equipping a health centre and repairing and providing medical equipment for another two
- Drilling four community wells.

Katanga is employing local contractors and suppliers on all of the projects.

We are working these local businesses to help them to deliver the projects while adhering to international safety procedures and construction standards as well as to Glencore's SafeWork.

Katanga's safety team are delivering safety inductions and providing PPE (personal protection equipment) to the contractors' employees. We are also giving regular talks on SafeWork.

Our engineering department have carried out a number of inspections at the projects' sites and are working with the contracting companies to address any gaps in construction standards.

Providing alternatives to artisanal mining in the DRC

Our Katanga and Mutanda copper operations in the DRC are supporting holiday camps for school children and agricultural initiatives to deter the participation of women and children in artisanal mining activities.

In the region where our Katanga and Mutanda copper operations operate, there are limited employment opportunities outside of mining. This has led to local communities members seeing artisanal and small-scale mining (ASM) as an income opportunity.

ASM is informal and those undertaking the activities are not employed by a mining company. Instead, they work independently using their own resources or are members of artisanal cooperatives. Many prefer ASM to agriculture, as it is more profitable with higher profits gained over a shorter period. Generally, artisanal mining is most likely to involve women and children.

In recent years, Katanga and Mutanda have noted an increased number of children engaging in ASM activities during school holidays. The operations have established holiday camps as an alternative to ASM.

Katanga and Mutanda work with local NGOs and churches to deliver the holiday camps. During June to August 2017, over 7,200 children participated in a wide range of activities, such as theatre, drawing, music, scouts as well as discussions on the risks of ASM and the importance of education. Attendees receive a meal each day. At the end of the camps, a ceremony, attended by representatives from the local authorities and community leaders, demonstrates the activities undertaken by the children and each child receives a school uniform.

During the holiday camps, we noted an increased number of children not accessing artisanal mines and once school resumed, pupil attendance increased.

To encourage greater attendance at the holiday camp, we inter-link them with economic diversification projects delivered by local cooperatives. The projects include those focused on agriculture (livestock, bee-keeping, dairy and the production of, jam, juices and flour), welding, carpentry and catering.

In 2017, these projects supported over 4,000 people and provided training and business development and support. Local dependency on artisanal mining is reducing through creating and sustaining sustainable alternative livelihoods. In addition, increased household revenue is available for the payment of school fees.

Community

Addressing malaria in the DRC

In the DRC, the public health and community departments of our Katanga and Mutanda operations have a comprehensive control programme to reduce the impact of malaria on their workforce and within their local communities.

Katanga and Mutanda are located in the Lualaba province, one of the DRC's most urbanised and with a rapidly growing population. In the region, malaria is the number one reason for out-patient hospital attendance and admissions, accounting for up to 40% of admissions.

Malaria has devastating impacts on communities and incomes due to the burden of caring for those affected by the disease and an increased mortality rate. We have seen that investment in malaria reduces poverty in local communities.

In Kolwezi, the town closest to Katanga, the malaria incidence rate had been increasing annually. In 2012, there were 417.25 cases per 1,000 people increasing in 2015 to 449.26 cases per 1,000 people. Our workforce experienced increasing absences from work due to malaria and local spending to combat malaria was rising year-on-year.

In 2016, in light of these alarming trends, Katanga made the decision to revamp its malaria control programme. The programme had a number of key initiatives, including indoor residual spraying (IRS), education and research.

The IRS programme arranges training for spray operators on the safe handling, application, storage and disposal of insecticides in the field, as well as the importance of wearing full personal protective equipment at all times.

During 2016, Katanga sprayed over 12,000 houses, 91% of the households targeted, providing protection against malaria to over 80,000 people.

In 2017, Mutanda joined the IRS programme, enabling the targeted area to be expanded. Together, Katanga and Mutanda sprayed around 20,000 houses, 90% of the households targeted, and provided protection to over 115,000 people.

In 2017, larvae control measures focussed on stagnant water within the operational site and its surrounding communities. This was in addition to the existing control programme.

Insecticide treated nets are available for at-risk groups, which include pregnant women and children under five years. The programme drew on experiences and learnings from a similar programme at our Mopani operation in Zambia.

During 2017, local community malaria awareness sessions were held. All of Katanga's employees also participate in malaria transmission and control awareness sessions. Katanga is funding an intermittent presumptive treatment, which supports the prevention of malaria during pregnancy through proper diagnosis and effective treatment.

Entomological studies are being supported as part of the IRS programme. This research provides a better understanding of chemicals most effective against the anopheles mosquito. The studies also investigate mosquito volumes in the targeted areas. The chemicals used align with World Health Organization Guidelines.

The activities undertaken are significantly reducing the number of malaria cases. By the end of 2016, the incidence rate dropped to 246.47 cases per 1,000 people and in 2017, it fell further to 54.62 cases per 1,000 people. The improvement has also reduced the burden that malaria places on our employees and local communities as well as reducing sick days for employees and school children.

Katanga and Mutanda recognise that a collaborative, multi-sectoral approach is key in the fight against malaria. Their programmes are being delivered in partnership with the Ministry of Health, local authorities and a local radio station as well as with support from local community leaders.

Going forward, Katanga and Mutanda are continuing the programmes and are on track to meet their ambition of reducing the local malaria incidence rate by 50% on a 2015 baseline (449.26/1000 population) by 2020 and to achieve a 100% reduction on mortality due to malaria.

Rebuilding the DRC's power infrastructure

We are supporting a national effort to improve the DRC's power infrastructure through our support for a public-private partnership that will deliver power to under-served communities.

When we arrived in the DRC in 2008, the country was emerging from many years of civil conflict, which had resulted in its power infrastructure being under-funded.

We recognised that we needed to take a strategic approach to the energy needs of our assets and that we had a role to play in the rebuilding of the DRC's national grid. Our approach led to the development of a public-private partnership between Glencore, through our interests in the Katanga and Mutanda copper assets, and the government on a $400 million commitment towards the refurbishment of the DRC's power infrastructure. We engaged an engineering firm and initiated a technical and engineering programme as well as overseeing the associated procurement.

The work is due to be completed in early 2019, aligning with a World Bank project to upgrade the high-voltage distribution network allowing the national power corporation, SNEL, to expand electricity access in unserved and poorly-served areas.

Our partnership with the government and SNEL is building the infrastructure needed to support the government's ambition of universal electricity access through a stable countrywide power supply. All of the generated power will feed into the national grid, from which our assets draw their power requirements.

We meet the energy needs of our assets in the DRC through power supply agreements with SNEL, which delivers energy produced from hydroelectric sources.

Operating as part of the community at Mount Isa Mines

At Mount Isa Mines, we work with our local community to manage our operational footprint.

Mount Isa Mines (MIM) is one of Australia's largest and most complex industrial assets with a nearby local community of over 22,000 residents.

We take a continuous improvement approach to managing MIM, implementing technical and engineering advancements to improve operating procedures and utilising monitoring to minimise the impact of our activities on the community.

Since 2003, we have invested in excess of $500 million in environmental expenditure and significantly improved our environmental performance. Today, MIM's 32,000 hectare lease is governed by more than 80 separate permits, and we maintain a stringent and transparent reporting programme with key stakeholders.

We are committed to ensuring our community benefits from the success of our operations, and working in partnership with local community groups to build a strong and sustainable region.

MIM invests around AUD2 million every year in events, projects and initiatives to create opportunities and improve health, education and employment outcomes for its local communities, with a focus on supporting vulnerable populations and building capacity within disadvantaged groups.

Similarly, as the primary local employer, MIM's employees are also members of the Mount Isa community. We prioritise their safety, champion a positive workplace culture that recognises the critical role our employees play in our success, and make smart business decisions to build and maintain employment stability and security.

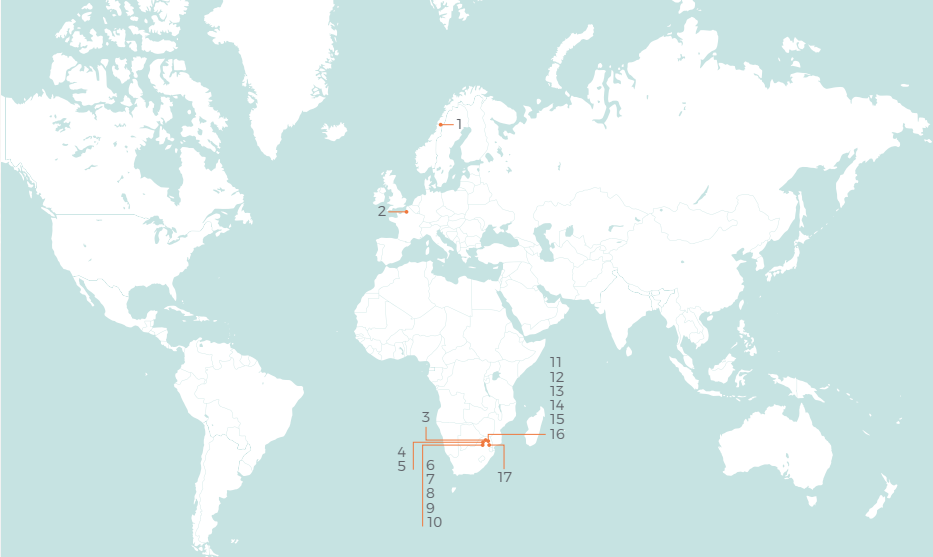
Mount Isa Mines has almost a century of successful coexistence alongside the city of Mount Isa.

Ferroalloys

We deal in bulk and noble ferroalloys. Bulk ferroalloys include ferrochrome and chrome ore, ferromanganese, silicon manganese, manganese ore, and ferrosilicon. Noble ferroalloys include vanadium and molybdenum products. We are one of the world's largest and lowest cost integrated ferrochrome producers and one of the largest producers of primary vanadium.

Metals and minerals

Ferroalloys at a glance



- 1. Glencore Manganese Norway*
- 2. Glencore Manganese France*
- 3. Rhovan
- 4. Boshoek smelter
- 5. Boshoek mine
- 6. Rietvlei mine
- 7. Rustenburg smelter
- 8. Waterval mine
- 9. Kroondal mine
- 10. Wonderkop mine
- 11. Mototolo mine
- 12. Lion smelter
- 13. Thorncliffe mine
- 14. Lydenburg smelter
- 15. Helena mine
- 16. Magareng mine
- 17. Chartec

* Divested in February 2018

1,531 kt
ferrochrome mined

20.9 mlb
of vanadium produced from our own sources in 2017

32 koz
of platinum produced from our own sources in 2017

45 koz
of palladium produced from our own sources in 2017

KPIs

	2017	2016	2015
Fatalities at managed operations	**2**	1	1
Lost time injury frequency rate (LTIFR) (per million hours worked)	**1.05**	1.14	1.24
Total recordable injury frequency rate (TRIFR) (per million hours worked)	**3.51**	3.89	4.13
New occupational disease cases	**4**	6	1
CO_2e Scope 1 (million tonnes)	**4.5**	4.4	4.5
CO_2 Scope 2 – location based (million tonnes)	**6.7**	6.7	6.6
Total energy use (petajoules)	**34**	31	31
Water withdrawn (million m^3)	**19**	19	21
Community investment spend ($ million)	**4.0**	3.3	3.5
Number of employees and contractors	**13,533**	18,867	17,401
Proportion of female employees (%)	**17%**	16%	15%

Safety

Trialling collision avoidance technology

Our ferroalloys business has worked with equipment manufacturers to develop technology that automatically stops vehicles if pedestrians enter the 'danger zone'.

In recent years, our ferroalloys business experienced two fatalities that resulted from incidents involving vehicles. The business took the decision to investigate technology that would automatically stop vehicles if a pedestrian enters the 'danger zone', that is within a five metre zone around the vehicle.

As a first step, the ferroalloys team wanted to improve traffic management and associated procedures to reduce the amount of unplanned interactions between pedestrians and vehicles.

Following intensive trials and testing at our Waterval East Chrome Mine in South Africa, we selected a service provider to equip the entire fleet at Waterval with monitoring equipment. This allowed us to record actual interactions between vehicles and pedestrians. Our initial findings showed that our traffic management and related initiatives were inefficient; the trial also identified opportunities for improvement.

Following the implementation of a revised enforcement and management programme that focused on employees' interactions, we saw a 67% reduction in critical proximity events during 2017.

We have equipped our primary movers (high-risk vehicles) with collision avoidance technology and are in the process of installing this technology to our secondary movers (low-risk vehicles). Following recommendations from the equipment manufacturers, we are also making additional improvements to enhance maintenance efficiencies.

The steps that we have taken included a non-negotiable implementation strategy. This strategy requires:

- Every vehicle to stop when its danger zone is breached by a pedestrian
- Managers engage with employees that record excessive interactions

Following the implementation of these measures, we have seen a clear change in employee behaviour, which has resulted in decreased collision-related risk incidents and an improved workplace safety performance.

Encouraging safety in the workplace

Mototolo mine's latest safety initiative is based on the belief that keeping your family foremost in your thoughts, drives safe behaviour at work.

This campaign started when we decided to include our families in our safety efforts," says Daniel Mohapi, Mototolo's Mine Manager. "We called this campaign the Lunch Box campaign whereby our employees' family members submitted entries on how important we are to them and why we should work safely. We awarded prizes to those who entered."

Some of the entries included: "We need you", "We love you more than rainbows" and "You help me to ride my bicycle".

"We wanted to remind our employees that we all have loved ones at home," says Daniel, "and they are waiting for us to return to them safely at the end of every day."

Mototolo's Lebowa shaft rolled out this campaign as part of a wider safety programme our ferroalloys business is implementing at its operations.

Susan Visser, Director of Sustainable Development said, "safety should be such an integrated part of the way that we live and respond at work and at home, that we automatically take the safe decision or action. We should all live according to the "I own safety" motto".

Ferroalloys issued all employees with a bandanna emblazoned with the motto "I own safety" to further drive this message home.

Safety

Improving safety at Lydenburg Smelter

Our Lydenburg Smelter has introduced an inclusive multi-pronged approach towards improving safety performance.

From 2009 to 2016, Lydenburg Smelter recorded an annual disabling injury severity rate (DISR) that ranged between 42 and 200 and an average total recordable injury frequency rate (TRIFR) of 4.5 – this compared to Glencore's 2016 DISR of 94 and TRIFR of 3.72.

During its annual strategy session, the management team decided to take drastic action to turnaround these safety performance rates.

The team introduced a number of initiatives to improve communication and increase the sharing of ideas. The safety initiatives included the implementation of the SafeWork programme, safety drives and frequent innovative safety campaigns, which have captured the attention of employees and their families. Working safe has become part of the operating culture at Lydenburg Smelter.

Lydenburg introduced a participative management approach, which involves management representatives being present in operational areas and involved in procedural decisions. The management team also lead weekly safety walkabouts that address minimum standards and learnings from HPRIs. This approach has resulted in greater cooperation across all levels.

The steps taken have led to improved cooperation on safety matters, increased knowledge sharing and employees feeling responsible and empowered to create and maintain a safe workplace.

This comprehensive, inclusive and multi-pronged approach is resulting in a steady increase in safety and environmental awareness while productivity and workplace morale has also significantly improved. In 2017, the DISR and TRIFR rates were 100% and 77% improvements respectively on 2009 rates (falling to zero and 1.36 respectively) and Lydenburg Smelter has not recorded a lost time injury for over one year.

Community

Building the Bethanie Clinic

Our South African Rhovan vanadium mine is located in an impoverished region, where the unemployment rate is at 25% and over 12% of people are aged over 60 years. Many rely on government grants for survival.

Rhovan sources around 80% of its labour from five communities with a combined population of over 17,000 people. Rhovan is the main employer and local economic driver in the region.

Prior to 2016, one, run-down medical facility, staffed by three nurses serviced the five local communities. There were no maternity services and mothers-to-be had to travel 30-50 kilometres to the nearest regional hospitals.

During scheduled community meetings, the local Traditional Council approached Rhovan and requested its assistance to build a bigger, better-equipped clinic. Rhovan initiated a consultation process that involved the Department of Health and local government representatives. Several meetings were also held with Bakwena Ba Mogopa Traditional Council. The Council represent the community. The area were the clinic was built was provided by the traditional leadership.

The engagement process concluded with Rhovan adopting the refurbishment of the Bethanie Clinic.

Rhovan employed a local construction company to build the clinic. During the construction process, the Department of Health made frequent inspections to confirm the building of the clinic was in accordance with its specific requirement. During 2017, Rhovan handed over the ZAR24 million clinic to the Department of Health for its operations. Today, the clinic employs 20 permanent staff.

This newly built, state-of-the-art community clinic accommodates up to 3,500 people per month. Its services include maternity, casualty and general wards as well as facilities for HIV/Aids and TB testing and treatment.

Environment

Supporting community development

Our Lydenburg Smelter's community development initiatives focus on education and training, healthcare, infrastructure development and arts and culture and include:

In 2012, Lydenburg Smelter donated ZAR8 million towards the construction of a multi-purpose community centre to serve the nearby Mashishing community. The South African government developed the concept of multi-purpose community centres to simplify access to essential government services in outlying communities.

Prior to the construction of the centre, Mashishing residents had to commute 100 kilometres to the town of Nelspruit to access similar services.

At the centre, the local community can make applications for birth certificates and identity documents as well as apply for social grants. The community centre also hosts a library and an early childhood development centre. It offers services to about 120,000 people.

A community project hosted by the centre and supported by the Lydenburg Smelter is the 2enable programme, available in the centre's digital and music hub.

The 2enable programme is a digital educational platform with content and lessons aligned to the schools' syllabus. It provides learning support for subjects such as mathematics, science, English, accounting and music theory. The digital hub also provides a much-needed facility for local children to do their homework and access wifi under supervision.

The learners are also able to develop and pursue their musical interest in the digital and music hub through a music academy established in conjunction with Casterbridge Music Development Academy. Participation in music can contribute to learning ability and the music academy students have shown progress in their school work as well as positive behavioural changes.

Reducing emissions and energy costs

We are using waste carbon monoxide gas to generate electricity, reducing emission and delivering costs savings.

In South Africa, our ferroalloys smelters are large consumers of power and large emitters of emissions. Domestic energy costs are rising and the South African government is considering a carbon tax scheme. Our ferroalloys business has explored options to mitigate the impact electricity prices and the potential carbon tax have on operating costs.

The team have investigated utilising the chemical energy contained in the carbon monoxide (CO) excess gas generated during ferrochrome production in the closed furnaces at the Boshoek Smelter.

The ideas explored included using the gas as a carbon source to aid the growth of oil rich algae that can become biofuel, converting the gas to a liquid fuel as well as generating electricity through the combustion.

Following various trials, the ferroalloys team identified the combustion of gas in an internal combustion engine to drive a generator as the most effective use of the waste gas. This led to the Tshomarelo (To save) project, a CO-generation initiative.

During the normal operational process, CO gas is flared turning it into carbon dioxide (CO_2), which is vented into the atmosphere. A portion of the CO gas now becomes a fuel source through its combustion in the internal combustion engines, which in turn generates power.

The Boshoek Smelter's CO-generation plant has 13 gas engines with an installed generation capacity of 9.1 MWe. Gas is transported from the furnaces via a pipeline to the CO-generation plant. In the plant, the gas is conditioned before its combustion in the engines.

During 2017, the plant commissioned and all engines completed testing on efficiency for gas quality.

This project has established a process to utilise excess CO gas that generates electrical power. The generated electricity is consumed onsite and further prevents the emission of additional greenhouse gases.

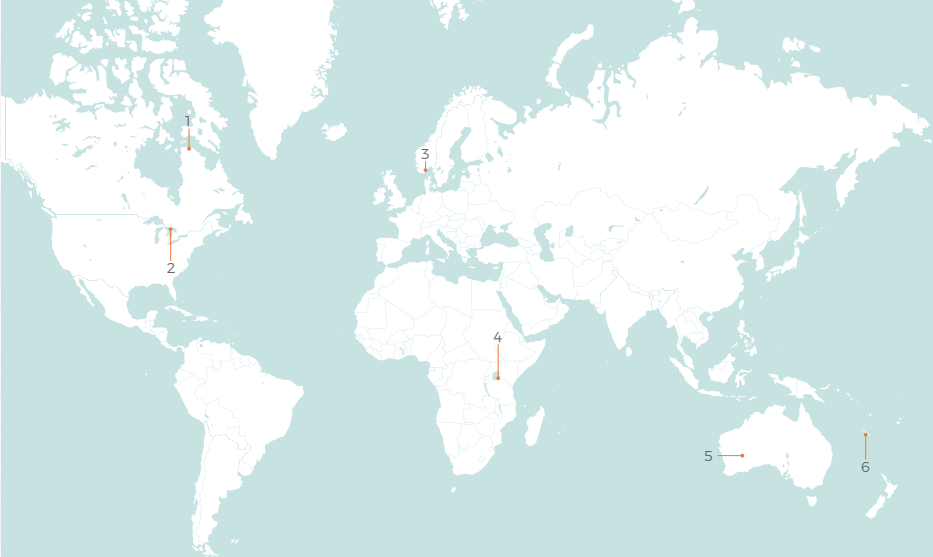
Boshoek is now looking to streamline the process, to enable it to double generation capacity and help to adapt the technology for installation at the Lion and Lydenburg Smelters.
The completion of the optimisation of the CO-generation plant and its full operating capacity is targeted for the end of 2018.

Nickel

We are a leading global nickel producer and trader. We deal in metal, concentrates, intermediates and ferronickel, as well as producing associated by-products such as copper, precious metals and platinum metals.

Metals and minerals

Nickel at a glance



- 1. Raglan Mine
- 2. Sudbury Integrated Nickel Operations
  - Sudbury smelter
  - Nickel Rim South mine
  - Fraser mine
  - Onaping Depth (project)
  - Nickel Rim Depth (project)
- 3. Nikkelverk
- 4. Kabanga (project)
- 5. Murrin Murrin
- 6. Koniambo Nickel

204 kt
of nickel sold via our marketing business in 2017

109.1 kt
of nickel produced at our own assets in 2017

18 years
average reserve life for our nickel assets

KPIs

	2017	2016	2015
Fatalities at managed operations	**0**	0	1
Lost time injury frequency rate (LTIFR) (per million hours worked)	**1.34**	1.11	1.15
Total recordable injury frequency rate (TRIFR) (per million hours worked)	**4.57**	6.23	6.59
New occupational disease cases	**0**	0	1
CO_2e Scope 1 (million tonnes)	**2.4**	2.3	1.8
CO_2 Scope 2 – location based (million tonnes)	**0.04**	0.04	0.05
Total energy use (petajoules)	**28**	31	25
Water withdrawn (million m^3)	**117**	107	69
Community investment spend ($ million)	**1.6**	1.0	3.5
Number of employees and contractors	**6,657**	6,402	6,515
Proportion of female employees (%)	**15%**	15%	16%

Safety

Encouraging a culture of prevention to improve safety performance

Through establishing a proactive approach to reporting and identifying hazards as well as implementing a robust process for workplace risk management, our Raglan Mine has developed a strong culture of prevention that is improving its safety performance.

Charles Levac, Manager, Risk, Prevention and Environment, says, "A prevention culture goes hand-in-hand with the level of reporting, risk identification and analysis, and recognition. We continuously encourage our employees and contractors to report incidents and hazardous conditions and take actions, so we can learn and improve the safety of our working environment. We expect employees and contractors to be more than involved; we expect them to be engaged every day to foster a sustainable safety culture for themselves, their colleagues and their families."

Recognising that all employees have a role in driving safety performance, Raglan Mine has identified key performance indicators to assess and strengthen their prevention culture:

- Identification and assessment of hazards – as Raglan Mine is a fly-in, fly-out site, its workforce not only works, but also lives on site and hazard identification goes beyond those on a typical mining environment
- Risk assessments – the assessments rank hazards according to their level of risk as well as identifying effective controls to eliminate or reduce the risk
- Reporting – by establishing a reporting culture employees have the confidence to report safety incidents with the knowledge that submitted information will be acted upon
- Good prevention practices utilise the findings of risk assessments to put in place measures to eliminate or mitigate risks and improve work practices

In 2017, Raglan Mine launched the Positive Safety Deviant – a monthly employee recognition initiative designed to foster and maintain a strong safety culture.

A positive safety deviant is a leader within his or her team who integrates prevention into everyday behaviours and who motivates colleagues to do the same. He or she questions the "usual way of doing things" by challenging the status quo and seizing new opportunities to improve prevention processes.

As part of its Tamatumani programme, which supports and promotes Inuit employment, Raglan Mine launched the Golden Glove Award in 2017. The award recognises Inuit apprentices who demonstrate exemplary behaviour towards the prevention of hand and finger injuries – the most common recordable injury that takes place at the operation.

Together, these initiatives have contributed to a significant improvement in Raglan Mine's safety performance. In 2017, Total Recordable Injury Frequency Rate (TRIFR) of 1.92 was a 44% reduction versus their 2016 performance of 3.42 and 18% better than their target of 2.35.

Safety

Recognition for outstanding safety performance

In Canada, our Fraser Mine was recognised during 2017 for its outstanding safety performance with an industry award.

During 2017, Fraser Mine, part of our Sudbury Integrated Nickel Operations, received the 2016 John T. Ryan Regional Safety Award in the Metal Mine category for the province of Ontario – the first time Fraser Mine has received this trophy.

The Canadian Institute of Mining, Metallurgy and Petroleum (CIM) is a technical society of professionals with over 14,600 members from industry, academia and government. CIM makes several awards annually to individuals for their outstanding achievements and contributions to their respective fields and to the mining and minerals industries in general.

CIM's John T. Ryan Safety Trophy is an award of excellence that recognises the Canadian mine that records the lowest accident frequency during the previous year.

Gary Potts, Director, Fraser Mine, said, "it is with great pleasure and pride that I say, 'congratulations!' Safety is something we all need to work on relentlessly to continuously improve. While we all acknowledge that there is more work to be done to achieve zero harm, this award serves as a great testament to the efforts of employees to minimise risk in the workplace.

"Enterprise Risk Management tools such as the pre-task assessments, adherence to defined standards and procedures and improvements to the workplace have all been instrumental in driving Fraser Mine's safety performance. I have no doubt we will continue to see improvements in our safety culture and statistics."

Improving safety performance through visible management, setting safety standards and training

In Norway, the Nikkelverk refinery recorded a Total Recordable Injury Frequency Rate (TRIFR) of 7.66 in 2017, beating a target of 10.00 and delivering a 50% year-over-year decrease on 15.34 in 2016.

Nikkelverk delivered this significant safety improvement through focusing on three key areas: visible management, setting safety standards and training.

Visible management requires operational leaders to visibly demonstrate a commitment to safety, act as role models and clearly communicate their expectations for safety. It requires leaders to engage with the workforce to encourage safe work practices and the sharing of learnings as well as using positive reinforcement with employees and contractors.

Hand injuries at Nikkelverk comprised more than half of all recordable injuries at the site and the site addressed this risk with a renewed focus.

Several training sessions, delivered by experienced professionals, were held to increase workforce competency. The training sessions focused on basic and practical skills, such as working on ladders and scaffolding and how to work in confined spaces, and emphasised the hazards associated with certain tasks and when using particular tools or equipment.

Going forward, Nikkelverk's safety initiatives will include:

- A continued focus on strengthening the safety culture through visible management, positive reinforcement, layered audits and coaching
- The ongoing implementation of Glencore's fatal hazard protocols
- The construction of a safety training centre
- The further digitalisation of safety systems, including further development of an existing app used to register and track hazardous conditions, high-potential risk incidents and accidents
- Carrying out a comprehensive risk assessment related to health and occupational hygiene

Environment

Transitioning to a more cost and energy efficient process

The Nikkelverk refinery recently completed the decades-long transition of wire anodes used in the electrowinning process to refine nickel to box anodes, reducing energy costs and increasing production efficiency.

Nikkelverk refines nickel using the electrowinning process. In electrowinning, a current passes from the anode through a liquid leach solution, extracting and depositing the metal onto a cathode.

Nikkelverk has been transitioning its electrowinning process from wire to box anodes since 1998. The advantage of box anodes over the wire anodes is that they use around 15% less energy and distribute the flow of current more evenly through the solution. Energy efficiency helps to reduce costs while the more even current flow provides for a better quality cathode as it causes a smoother surface – a feature customers have identified as important. In addition, the equipment used in the process experience less wear and tear, minimising production stops and making the process less labour intensive for operators.

The electrowinning tanks contain thousands of anodes. The first 4,000 box anodes started production in 1998, with an additional 1,000 box anodes installed annually until 2014, when installation increased to 3,000 box anodes per year. In mid-2017, the replacement process completed, enhancing Nikkelverk's position as the most technologically advanced refinery in the world and one of the lowest cost refineries in the western world.

The Norwegian National Energy Agency recognised Nikkelverk's energy stewardship. Nikkelverk has also received ISO 50001 – Energy Management certification for their energy management systems and efficiency activities, which included the box anodes.

Future proofing our mines by going electric

At our Sudbury Integrated Nickel Operations (INO) in Canada, we are developing deposits that once operational will be wholly operated with battery electric-powered vehicles (EVs).

At 2,600m deep, a major portion of the operating costs for the mine infrastructure at our Onaping Depth project is the ventilation and refrigeration that is required to eliminate exhaust contaminants and heat and to maintain reasonable temperatures. We anticipate that the new mine will start producing in 2022–23 and is designed for EVs.

Currently, Sudbury INO anticipates that the introduction of EVs will require no significant changes to the mine access and design although significant changes in the mine logistics and operating philosophy will be required to deliver charging sites and equipment duty cycles. Onaping Depth will significantly reduce the scope for its ventilation systems compared to those for an equivalent diesel-fuelled operation.

Previously, diesel was the preferred fuel in the mining sector due to its availability, efficiency and energy density. In addition to the known costs associated with mitigating emissions and heat emitted by diesel-fuelled vehicles, recent studies have confirmed the carcinogenic properties of diesel exhaust emissions. In the wake of these studies, regulatory bodies are reviewing exposure limits with a view to introduce a significant reduction.

EVs have no emissions, resulting in less pollutants, they are quieter to operate and experience less wear and tear and have lower maintenance needs due to their simpler machinery. Using EVs, Sudbury INO's new mines will reduce air (SO_2, NOx and diesel particulate matter) and greenhouse gas emissions and deliver considerable cost savings through reduced fuel and energy usage.

Sudbury INO will also make substantial cost savings during construction and operations. At Onaping Depth, the reduced size and number of ventilation openings will save CAD$24 million as well as an estimated operating savings of CAD$8 million per annum from reduced energy usage.

Glencore is currently working with the Canadian Mining Innovation Council and Global Mining Standards Group to develop guidelines and standards for the use of EVs underground. We are also working with our peers through the International Council on Metals and Minerals to support innovation forums that are targeting the reduction and removal of diesel emissions from mining.

Community

Sudbury INO celebrates the opening of the Indigenous Sharing and Learning Centre

Enhancing Indigenous education through creating a venue that brings people together to promote a better understanding of Indigenous peoples, history, cultures and traditions.

In 2017, Laurentian University's Indigenous Sharing and Learning Centre (ISLC) officially opened, bringing together students, faculty, staff and the community to enhance indigenous education.

Our Sudbury Integrated Nickel Operations (INO) was a major donor for the ISLC and its contribution reflects its support for the Truth and Reconciliation process for indigenous persons in Canada.

The ISLC builds awareness for non-Indigenous people as well as capacity in the Indigenous communities that can lead to a much greater role in the Sudbury extractives industry.

"This is a significant day for many of us," stated Peter Xavier, Vice President, Sudbury INO, during the official opening ceremony of the ISLC. "When we were made aware of this project back in 2010, it was an easy decision for us to support this vision of creating a centre of knowledge sharing within the university as it focuses on several key areas such as education, capacity building and Indigenous cultures. This vision has now become a reality. I'm looking forward to hearing how this Centre benefits the youth in the years to come."

Shelly Moore-Frappier, the director of the ISLC said. "I want it to be a place where they can call it their own; a place where they're able to gather and celebrate; a place where they can grieve, if they have to."

The ISLC features 7,500 square feet of space and was designed with input from the Indigenous community including the Laurentian University Native Education Council, which was instrumental in advocating and supporting its development. The spectacular round-room, inspired by the wigwam, has four entry points that face each of the compass points and is equipped with a state-of-the-art multi-media system.

Supporting women in our workforce

Koniambo Nickel SAS, a joint venture between Société Minière du Sud Pacific (SMSP) and Glencore Nickel, is located in the North Province of New Caledonia, an Australasian island.

Koniambo Nickel actively supports and encourages its employees to be personally involved in a number of community initiatives. The first partnership that Glencore New Caledonia, as a core shareholder of Koniambo Nickel, entered into was a three-year partnership agreement with the Kanak Culture Development Agency to support cultural initiatives.

Koniambo Nickel also works to address social problems that affect its workforce. It has a significant ratio of women on staff compared to other industrial operations. In 2017, 30% of the site's staff were women, occupying 40% of operational roles. Koniambo Nickel is proud of this characteristic, but recognise the context surrounding women in New Caledonia. According to one study, acts of physical or sexual violence occur four to five times more frequently in New Caledonia than in France, and 9% of women there have suffered rape or attempted rape in their lifetime.

Since 2012, Koniambo Nickel has been supporting the Domestic Violence and Women's Association. The Association organises events to highlight spousal abuse and domestic violence. Koniambo Nickel supports its female employees who require the assistance provided by women's organisations.

Koniambo Nickel participates in global events that promote women's awareness, such as 'Orange the World' and the United Nation's World Women's Day. The site promotes awareness raising messages and in 2017 invited the North Province's Women's Condition Service to run workshops onsite.

Onsite security measures are important for all employees and particularly women to feel at ease while working for Koniambo Nickel.

Developing our workforce

Our Norwegian refinery, Nikkelverk, has been recognised for its commitment to vocational education.

In 2017, Nikkelverk received the 2016 Agdering Competence Award for its efforts in vocational education through focusing on building competence capacity, business management, learning, sharing experiences and networking across industries and sectors.

Agdering recognised Nikkelverk's commitment to develop strategic competence capacity in their workforce, noting "Nikkelverk has gradually gone from being viewed as a traditional industrial workplace to being perceived as an active education business today. The company is one of the largest contributors to vocational education and training in the region."

Nikkelverk's Business System is a systematic and structured work methodology that covers all work functions. It places expectations on employees to do their jobs, improve the job and talk about those improvements. This provides opportunities to share knowledge and learning at individual, team and organisational levels. It also creates a strong sense of ownership and commitment among the employees of the enterprise, providing a meaningful job every day.

This approach to knowledge sharing has resulted in some major achievements. Recently Nikkelverk developed a process for copper electrolysis that sets a new standard for energy consumption, and will contribute to CO_2 reduction.

"This award recognises the 550 employees who produce probably the purest nickel in the world," said Øivind Stenstad, Managing Director, Nikkelverk. "Increasingly, we are being recognised for the way we do business; this most recent award speaks to our commitment to vocational education to develop strategic competencies in our people."

Community

Raising the profile of the Northern Goldfields region

In the Northern Goldfields region of Western Australia, our Murrin Murrin operation established the Minara Community Foundation (MCF) in 2007 to contribute to the long-term benefit of the people in the region.

The MCF creates long-term benefits for the people in the northern Goldfields region of Western Australia, particularly those communities near our Murrin Murrin operation. The MCF focuses on economic, social, cultural and heritage development, through providing financial assistance in the form of community grants to local groups.

This support has included a series of grants linked to regional tourism strategies in the northern Goldfields:

- The Goldfields Tourism Network Association to develop the Golden Quest Discovery Trail, a 965km regional trail of diverse landscapes, rich in history and heritage
- The preservation of heritage collections of aboriginal artefacts at the Great Beyond Visitor Centre, a regional museum
- The development of Heritage and Geotrails, trails that incorporate 30 heritage and geological significance sites
- Grants for the Gwalia Museum for its exhibitions on the people and places of historic Gwalia

Elaine Labuschagne, Manager of Economics and Heritage Services for local government, said: "We are trying to develop different tourism products so there is more than one aspect available for people to see in town. There is so much to see and do in Leonora and our whole aim with this project is to try to offer visitors more and encourage them to stay longer."

The MCF has also supported major regional community events such as the Leonora Golden Gift, a nationally recognised athletic carnival and the Goldfields Cyclassic, a historic cycle race dating back to 1928.

Jim Epis, CEO, Shire of Leonora said, "The continued support offered by the MCF is not only appreciated by the Shire of Leonora, but the whole community and ensures the success of the Leonora Golden Gift. MCF has contributed to many successful projects developed over a number of years."

Participating in multi-stakeholder engagement

We hosted an independent multi-stakeholder group at our Raglan Mine to promote a better understanding of the challenges that arise from operating in a remote location.

During 2017, our Raglan Mine in northern Quebec, hosted a Community of Interest (COI) Advisory Panel. The COI Advisory Panel is an independent, multi-stakeholder group organised by the Mining Association of Canada (MAC) and made up of representatives from aboriginal groups, local community members from mining regions, environmental and social NGOs and labour and financial organisations.

Working alongside its members, MAC promotes the industry nationally and internationally, engages with governments on policies affecting the sector and educates the public on the value mining brings to Canadians.

In 2000, MAC introduced Toward Sustainable Mining (TSM) to demonstrate its commitment to responsible mining. TSM is a set of tools and indicators to drive performance and the responsible management of mining risks.

MAC established the COI Advisory Panel in 2004 to advise on the design and implementation of TSM and to provide a platform for two-way dialogue between MAC and civil society.

During the COI Advisory Panel's visit, it examined Raglan Mine's practices and gained a greater perspective on the numerous challenges the mine faces from operating in a remote region of the country. The COI Advisory Panel provided insightful feedback on Raglan Mine's daily operations.

Each year, MAC acknowledges member companies with the TSM Leadership Award, a recognition for facilities that meet or surpass a Level A ranking for all indicators under its tailings management, energy use and greenhouse gas emissions management, aboriginal and community outreach, biodiversity conservation management, and safety and health protocols.

Raglan Mine was one of nine winners of the 2017 TSM Leadership Award. The award recognised the progress made by Raglan Mine since its last external audit in 2014. Improvements included reaching an AAA level of Excellence and Leadership for tailings management, biodiversity conservation management and safety and health. Raglan Mine also proved its robust crisis management and communications planning and maintained its AAA level for aboriginal and community outreach.

Extending Raglan Mine in community partnership

Our Raglan Mine in northern Quebec, has worked with local Inuit communities to secure its long-term future.

In 1995, Raglan Mine and five Inuit partners signed the Raglan Agreement. The Raglan Agreement was the first Impact and Benefit Agreement signed in Canada between a mining company and an Aboriginal population. The Raglan Agreement includes a number of considerations on the protection of the environment, financial provisions, local businesses, local training and employment and conflict resolution.

In early 2017, Raglan Mine and its Inuit community partners agreed on additional measures to the Raglan Agreement that will support the extension of the life of Raglan Mine for an additional 20 years.

Raglan Mine's current operations were due to wind down in 2020. The Sivumut project (meaning "moving forward" in Inuktitut) outlines the projects to extend the life of Raglan Mine beyond 2020.

The environmental and social impact assessment (EISA) for the development project included extensive public consultations sessions with Raglan Mine's Inuit communities. This stakeholder engagement led to the formation of the Sivumut committee, a team of representatives from the local communities of Salluit and Kangiqsujuaq, the Makivik Corporation as well as Raglan Mine. During the year, the Sivumut committee reviewed the impacts of the Sivumut project as identified through the ESIA process and its recommendations formed the basis of the additional measures to the Raglan Agreement.

The signing of the additional measures has strengthened Raglan Mine's relationship with its host communities. By securing Raglan Mine's future, the region of Nunavik will continue to benefit from maintained economic stability through existing jobs, contracts and profit sharing.

Oil

We trade in crude oil, refined products and natural gas. We source crude oil and oil products from a range of suppliers, with additional interests in oil and gas production sharing contracts. We also have a substantial shipping portfolio and access to a range of logistics, storage and investment capabilities.

Energy products

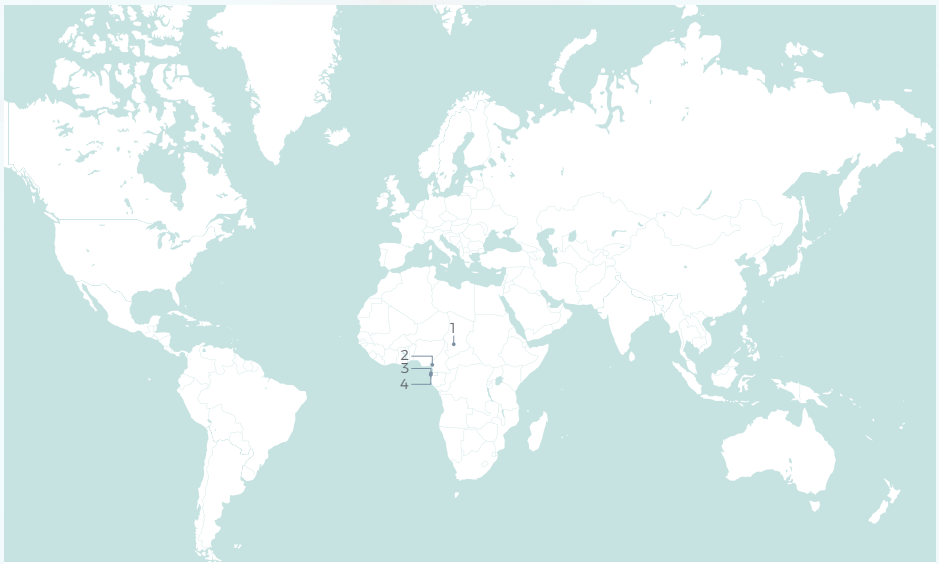
Oil at a glance

6 million

barrels of oil marketed by our business every single day

22%

YoY increase in Brent crude price



- 1. Chad Oil Assets
- 2. Cameroon Oil Assets
- 3. Block O. Equatorial Guinea*
- 4. Block I, Equatorial Guinea*

* Partner operated

KPIs

	2017	2016	2015
Fatalities at managed operations	**0**	0	0
Lost time injury frequency rate (LTIFR) (per million hours worked)	**0.48**	0.26	0.46
Total recordable injury frequency rate (TRIFR) (per million hours worked)	**1.21**	0.65	2.21
New occupational disease cases	**0**	0	0
CO_2e Scope 1 (million tonnes)	**1.0**	1.1	1.0
CO_2 Scope 2 – location based (million tonnes)	**0.0**	0.0	0.0
Total energy use (petajoules)	**10**	10	9
Water withdrawn (million m^3)	**0.3**	0.1	0.4
Community investment spend ($ million)	**0.1**	0.1	0.4
Number of employees and contractors	**875**	1,109	2,405
Proportion of female employees (%)	**14%**	17%	24%

Environment

Reusing waste water

In Chad, our oil business' exploration and production (E&P) are reusing the waste water our operation generates to irrigate a small nursery on our land.

Members of the local community run the nursery. The oil E&P team is using the native trees grown by the nursery to rehabilitate areas that were cleared for exploration and drilling activities.

During Chad's 2017 National Day of the Tree, oil E&P planted 250 trees at five local schools. These trees are acting as fences around the schools.

At our Badilla operation, local community members are utilising the grey water from the oil E&P operations in their vegetable gardens. The waste water is a key component in the compost making operation. The use of compost has improved the productivity of the vegetable garden and our camp restaurant buys and cooks with the vegetables.

Investing in technology to deliver efficiency gains

In 2011, the shipping arm of Glencore Oil ordered two product tankers, the specifications of which we insisted needed to deliver a fuel-efficient performance and meet our commitment to reducing emissions.

The energy optimisation and environmental efficiencies measures that Glencore Oil installed included an improved hull form, a new improved electronically controlled main engine and a Rolls-Royce Promas technology propeller and rudder package.

In 2014, Glencore Oil began to operate the vessels, the Alpine Maria and Alpine Mary. After two years of operation, Glencore Oil has noticed that each vessel achieved efficiency improvements in the region of 23%, resulting in a daily reduction in fuel consumption of 5.5 tonnes per day compared to other similar sized tankers in our 41 vessel fleet.

Based on service speeds of 13kts, Alpine Mary and Alpine Maria typically burn 17.5t of fuel a day as opposed to the 23t burned by other non-Promas tankers. This has resulted in annual savings of around $700,000 (based on $350t/IFO380) per ship.

The technology and equipment improvements made to the vessels have also reduced operational costs. Cavitation erosion has decreased and recent underwater inspections have revealed no pitting or cavitation damage to the propellers. This is likely to reduce dry-docking costs as we anticipate not needing to make major repairs to the propeller or rudder.

Propeller induced lower noise and vibration are other benefits. Following a series of vibration measurements aboard both vessels, we noted that the readings were very good and better than those recorded for this class of ship.

Glencore Oil will continue to monitor the efficiency gains achieved with these two ships as part of our wider commitment to reducing our environmental footprint.

Community

Supporting community infrastructure in Chad

In Chad, our oil exploration and production (E&P) assets are committed to constructive and long-term relationships with their host communities.

During 2017, the Chad E&P team supported a number of projects in the communities living close to their operations.

Community bridge repairs

At the end of 2016, representatives from six councils local to our Mangara oil block requested that Glencore help with the repairs of the Maimougou village bridge. The bridge provides a route for trade and recreational visits between six local villages – it had fallen into disrepair resulting in local community members having to undertake a long detour.

The restoration of the bridge completed in mid-2017 at a cost of $65,000.

Rehabilitation of the Miladi village water tower

The Miladi village is close to Glencore's Badila oil block. In early 2017, the local canton chief requested Glencore's support to repair the broken water tower in the Miladi village. Our assessment of the situation showed that women and children were walking 3km a day to bring water from a neighbouring village.

A local contractor, at a cost of around $8,000, undertook the repairs. Glencore has also helped the community to develop a co-operative to raise funds to purchase the diesel required for the operation of the water tower and for its ongoing maintenance.

Construction of the Bardira School

Our socio-economic analysis for our Badila oil block identified the need to construct a new school to serve the surrounding villages. Prior to 2017, the children attending the Bardira School took their lessons sitting on the dirt under a tree. As there was no shelter, lessons had to stop during the rainy season and, as a result, many children failed to complete their school programme.

Glencore approached the regional education board to see how we could best assist. Working with the regional education board, we identified a site for the new school that was mid-way between four villages. Next, the new primary school was constructed – the school can accommodate over 200 pupils. A local contractor was engaged to build the school at a cost of around $76,000.

The whole community attended the school's opening ceremony.

Implementing the Voluntary Principles in Chad

Our Chad exploration and production (E&P) oil operations work with both private and public security.

Recognising the risk to human rights, we work with our security providers to implement the United Nations Voluntary Principles on Human Rights and Security (the Voluntary Principles).

Chad E&P has formal guidance in place for dealing with security forces; this guidance requires private security contractors to act in accordance with the Voluntary Principles and other internationally recognised standards.

In 2017, Chad E&P reviewed and strengthened this guidance in relation to the Voluntary Principles.

During 2017, Chad E&P provided training on the Voluntary Principles to both public and private security representatives.

Training included a two-day 'train-the-trainer' workshop delivered by the Swiss entity COGINTA for public and private security personnel.

Over the two days, the COGINTA training covered:

- An overview of the Voluntary Principles and responsibilities of participating countries and companies
- The legal resources available for trainers, such as conventions and treaties, United Nations' instruments, international and national humanitarian law, ethics and codes of conduct
- Expected behaviour for the respect of human rights

The participants asked many questions to understand better issues that they had previously experienced as well as using the workshop as an opportunity to share their learnings from challenges faced while performing their roles. Some of the challenges raised by the attendees included addressing community cultural differences and educational barriers within their workforces – the workshop was an opportunity to standardise security methods, which would address these concerns.

Chad E&P holds regular public forums, usually around four sessions per year, which involve all interested stakeholders including NGOs, village chiefs and canton heads, administrative authorities and military representatives. During the forums, discussions cover a range of operational matters, including security.

During the year, our security superintendent became aware of a human rights incident in a local community involving an individual from the public security forces assigned to our operation. Our security superintendent spoke to the local head of the public security forces and the individual involved was relocated out of the region.

Addressing community concerns in Chad

Our Chad Exploration and Production (E&P) operations, have established a robust grievance mechanism to collect and address community concerns.

In our areas of operations, our local E&P teams establish grievance mechanisms to receive, assess and respond to individual and community concerns and to resolve them in a timely manner.

The grievance mechanisms established by Chad E&P align with the recommendations made by the International Finance Corporation's Performance Standards on Social and Environmental Sustainability. The local communities were consulted on and approved the grievance management procedure.

In Chad, the grievance mechanism process captures concerns through a variety of methods, including the routine and ongoing community liaison as well as formal stakeholder engagement.

Through monitoring and reporting on the grievances raised, we are able to measure the effectiveness of the grievance management, as well as identify and address broad trends and recurring concerns.

During 2017, the Chad E&P grievance mechanism process received 440 complaints from local communities. Following, investigation and follow-up steps, 175 of these were valid concerns. 80% of the complaints received related to impacts from construction activities during two infrastructure projects.

Following unexpected heavy rainfall, flooding took place during the construction phase of the Mangara Bridge. During a project to repair a Mangara access road, contract workers accessed land outside of our licence and caused slight damage to the ground and trees.

Chad E&P fully addressed and remedied the issues raised and put in place measures to avoid similar occurrences in the future. The actions taken included:

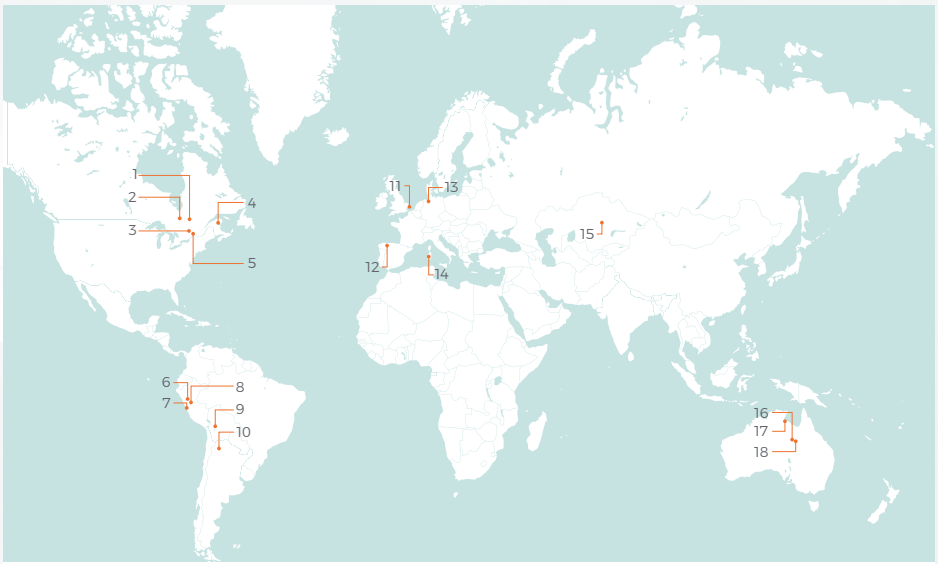
- Attendance by our stakeholder relations teams at construction meetings when building activities are communicated to impacted communities
- Ongoing meetings with the construction contractors to ensure that they are aware of Chad E&P's expectations of their behaviour, especially when their activities take place near to local communities
- The implementation of a 'community incident notification report' process, which assists in the early identification and response to incidents as well as establishing roles and responsibilities to address concerns
- The ongoing recruitment and training of community liaison officers. The officers engage with local community representatives and are key in identifying appropriate measures to address the issues raised

Zinc

We are one of the world's largest miners and producers of zinc, with a combination of mines and smelters that is unique for a single business. We trade in zinc and lead concentrates, the raw materials used to produce zinc and lead, and valuable by-products such as sulphuric acid. We also deal in gold and silver, which are typically mined in conjunction with zinc, copper and lead ores.

Metals and minerals

Zinc at a glance



- 1. Bracemac-McLeod mine
- 2. Kidd operations
- 3. General Smelting
- 4. Brunswick Lead smelter
- 5. CEZinc refinery
- 6. Antamina
- 7. Los Quenuales
- 8. Volcan*
- 9. Sinchi Wayra/Illapa
- 10. Aguilar
- 11. Britannia Refined Metals
- 12. Asturiana de Zinc
- 13. Nordenham
- 14. Portovesme
- 15. Kazzinc
- 16. Lady Loretta mine
- 17. McArthur River mine
- 18. Mount Isa Mines

* Volcan was acquired in late 2017 and its performance is not included in 2017 data

1,090 kt

of zinc production from own sources in 2017

3.9 Mt

of zinc and lead metal and concentrates sold via the marketing business in 2017

KPIs

	2017	2016	2015
Fatalities at managed operations	**6**	1	2
Lost time injury frequency rate (LTIFR) (per million hours worked)	**1.63**	1.59	1.94
Total recordable injury frequency rate (TRIFR) (per million hours worked)	**4.00**	3.61	4.26
New occupational disease cases	**11**	17	79
CO_2e Scope 1 (million tonnes)	**2.1**	2.0	2.3
CO_2 Scope 2 – location based (million tonnes)	**2.1**	2.1	2.3
Total energy use (petajoules)	**48**	49	52
Water withdrawn (million m^3)	**301**	277	278
Community investment spend ($ million)	**39.6**	36.2	34.4
Number of employees and contractors	**41,769**	42,942	42,663
Proportion of female employees (%)	**18%**	18%	18%

Safety

Improving contractor safety at Kazzinc

Our operational team at Kazzinc is working in partnership with its contractor companies to improve safety performance.

At our Kazzinc operation in Kazakhstan, 21% of the 27,000 workforce are contractors – on both long and short-term contracts. Having a flexible workforce has many benefits including hiring appropriate skill-sets for specific jobs and external perspectives, however, it can prove challenging to ensure all contractors consistently meet our required safety standards.

During 2017, Kazzinc introduced a number of activities to align the safety culture and knowledge and practice of the onsite contractors. These included:

- Signing safety agreements with all contracting companies that detailed the main safe working conditions requirements
- Holding regular training workshops for contractors on SafeWork. The workshops included theoretical and on-site training using simulators
- Requiring contractor companies to use a checklist approach to ensure the full implementation of Kazzinc's safety requirements. Kazzinc also uses the checklist to assess contractors' performance
- Introducing a multi-level control system that involves assigning a Kazzinc supervisor for each contractor company throughout their employment at Kazzinc, undertaking planned and targeted audits and the participation of contractor employees in site safety meetings
- Recording all contractor non-compliances and, when necessary, imposing fines
- Assessing all contractor companies for safe work practices twice a year; high scores result in advantages during bidding processes
- Ongoing review and improvements to existing systems and handbooks as well as looking for opportunities for further cooperation

In November, Kazzinc's CEO led a workshop to highlight the results of the steps taken to improve contractor management. Kazzinc's operational team made presentations on their best practice achievements and contractors demonstrated the work they had undertaken to implement SafeWork. Together the operational team and representatives from the contractor companies identified areas of strengths and weaknesses and made recommendations on further improvements to contractors' safety performance.

Safety

Developing an innovative tool to mitigate a difficult task

Mitigating the risks associated with a difficult maintenance task through innovation and teamwork.

In Australia, George Fisher Mine's fleet of four Caterpillar AD45 underground haulage trucks require an annual replacement of their front suspension struts. The removal and replacement of the front struts is a difficult, time consuming and physically demanding process due to the weight of the strut (145kg) as well as the restricted space in and around the front axle area of the truck obstructing vertical lifts. This exposes the maintenance personnel to multiple hazards.

George Fisher Mine initially investigated a number of commercial solutions. The team were unable to find an appropriate off-the-shelf solution and started to design and build a tool in-house.

The tool needed to:

- Support the entire 145kg weight of the strut and eliminate uncontrollable movements
- Be manoeuvrable and mobile as well as being able to fit into the tight space under the truck and around the axle
- Include a fail-safe for hydraulic failure

The tool was refined throughout its development and production process. The revisions included the addition of grab rails to improve the tools manoeuvrability and guard bars for better protection of the operator.

In addition to mitigating the risks associated with the removal and replacement of front struts, the new tool has also reduced the time required to undertake the replacement by around 11 hours. Other vehicles with a similar suspension arrangement can also utilise the tool and plans are underway to assess its suitability for the other mine trucks in operation at George Fisher Mine.

The tool was developed and manufactured for under AUD20,000 and has been shortlisted in the Queensland Mining Industry Health and Safety Innovation awards.

Environment

Recognition for a sustainable approach to mining

During 2017, our Kidd Operations were one of nine Canadian facilities awarded a Towards Sustainable Mining (TSM) Leadership Award by the Mining Association of Canada (MAC).

This award recognises facilities that meet or exceed a Level A ranking for all indicators under the tailings management, energy use and GHG emissions management, Aboriginal and community outreach, biodiversity conservation management, and safety and health TSM protocols, and meet all requirements of the crisis management and communications planning protocol.

"We celebrate these nine facilities for being role models within the Canadian mining industry. TSM's requirements go well beyond regulatory obligations, and earning a TSM Leadership Award is a testament to their leadership in environmental protection and engagement with local and Indigenous communities," stated Pierre Gratton, president and CEO, MAC.

"Kidd Operations has a long history of exemplifying leadership in health and safety, environmental sustainability and community engagement. We are proud to have been recognised by the Mining Association of Canada for our ongoing commitment to meeting and exceeding the criteria established for sustainable mining across all categories," said Steve Badenhorst, general manager.

Sharing scientific and indigenous knowledge

Our McArthur River Mine (MRM) in Australia is helping scientific and indigenous ecological knowledge to come together and drive environmental initiatives.

Traditional Owners from MRM's surrounding region have been involved in three programmes to secure the long-term future of the local environment: an ethnobotany study, community tree-planting programme and a school training partnership.

Ethnobotany study

Traditional Owners have a deep understanding of using native plants for food and medicine gained over tens of thousands of years. An ethnobotany study commissioned by MRM is documenting the knowledge of the local Gurdanji people. The study is identifying and documenting the traditional food and medicine plants of the Gurdanji people to ensure MRM has sufficient information to manage landscape vegetation communities in a way that incorporates their ecological heritage.

Local Traditional Owners have contributed to the study by sharing their knowledge with consulting scientists from IndoPacific Environmental. Walking through the bush on the mine site, the Gurdanji people identify plants of value and explain their cultural, medicinal and nutritional purposes.

There is also an ongoing study into fish catching and eating habits of local Indigenous people. In the study, IndoPacific Environmental is consulting with local people to gain an understanding of the fish species caught and eaten as well as documenting the names for each fish in the four local Indigenous languages.

Community tree-planting programme

MRM has an extensive nursery to support the rehabilitation of the McArthur River channel, a 5.5km diversion of the McArthur River. During 2017, an upgrade to the nursery is supporting the propagation of more than 80,000 plants from seed to tubestock each year. A new dedicated hardening off area accommodates the extra plants and allows the plants to acclimatise to the harsh natural environment prior to planting.

For a number of years, MRM has hired local people on seasonal tree-planting crews. In 2017, MRM's environment team employed two local indigenous trainees in dedicated rehabilitation roles. Traditional Owners also wanted to become more involved in MRM's environmental programmes and MRM invited community members to assist in tree propagation and planting on site. A number of Traditional Owners spent time working alongside the environment team collecting and propagating seeds and planting out tubestock.

School training partnership

During 2017, local students attended a site visit and information session at MRM's nursery, where they learned about nursery management and the various rehabilitation techniques used on site. MRM hopes that this will encourage an interest in environmental management in preparation for the start of a certificate course in Conservation and Land Management. Borroloola School will offer the course in 2018 through support from MRM.

Environment

Water, a resource valued and shared by Sinchi Wayra with their communities

In Bolivia, our Sinchi Wayra/Illapa mining operations are working with local communities to improve access to water and to minimise fresh water use.

Extreme weather events, such as droughts, floods, landslides and extreme temperatures are severely affecting Bolivia and particularly the rural communities in the high Andes. In 2014, Bolivia was classified as the second most vulnerable country in South America to climate change (after Guyana).

Sinchi Wayra/Illapa mining operations are located in the high Andes of Bolivia and face ongoing impacts from extreme weather events. Sinchi Wayra/Illapa is proactively taking steps to reduce the impact of climate change and to minimise the consumption of fresh water in our mine processing plants.

Today, the fresh water requirement of the Sinchi Wayra/Illapa mining operations is minimal, as our Bolívar-based zinc and lead concentrator plants recirculate 85% of the water used.

We treat the excess water from operational processes and rain before it is discharged into natural streams. This supply of water to natural channels supports local agriculture.

In accordance with Bolivian law, water discharged from the mine site is regularly tested. Laboratory results from the water samples collected at exit points show our discharged water meets all regulatory requirements.

During 2015-2017, Sinchi Wayra/Illapa invested $1.3 million in a number of projects in partnership with local communities. These projects included improved access to water, environment preservation and land reclamation, economic development, health and education. In addition, in 2017, Sinchi Wayra/Illapa made a $700,000 upgrade to its water treatment processes. The discharged water benefits around 2,600 local farmers and rural dwellers.

Best practice water management passes test

The implementation of best-practice water management at Australia's McArthur River Mine (MRM) was put to the test during a near-record rainfall event during the 2017-18 wet season.

The greater than 1-in-100 year rainfall event saw 538mm fall in just seven days, with almost 200mm in one 24-hour period. Over the week roads were flooded, bridges were over-topped and large sections of the local community were isolated by floodwaters.

At the mine site itself however, good planning meant the event was handled well, with additional resources deployed as needed and the environment protected.

Like all mine sites in tropical climates, the management of water is a critical environmental issue for MRM. All water collected on site needs to stay on site or be discharged in a controlled manner to protect the environment.

During the wet season, from around November to April, water is collected and managed, and water is then evaporated during the dry season.

With a big wet season experienced the previous year, the mine site took extra precautions heading into the 2017–18 season to ensure it was ready. These included:

- Upgrades to water management infrastructure and rigorous maintenance
- Treatment of open pit and underground water to provide additional wet season storage capacity
- Maintenance of river gauging stations and early warning flood systems
- The renegotiation of an approved waste water discharge licence to give more flexibility for the release of water

As the severe rain hit the local area, the good planning delivered results, there was no uncontrolled discharge of water from the mine site, and downstream areas were protected.

One of the keys to achieving this result was the establishment of onsite capacity to analyse water samples with a certified laboratory. This meant the mine could quickly understand the quality of water from different sources and deal with it accordingly.

The safety and security of the mine's workers was the first priority. During the extreme rainfall, a helicopter was on standby on site for emergency response to ensure the safety of the site personnel.

Preserving the last untouched piece of River Thames marshland

In Kent, in the United Kingdom, Britannia Refined Metals Ltd (BRM) owns the last untouched piece of marshland adjacent to the River Thames, the Botany Marshes. BRM is actively managing the marshland to ensure its long-term sustainability.

During 2004 to 2011, BRM sponsored a number of field surveys, ecological studies, impact assessments and habitat management plans that confirmed the presence of 16 legally protected (red-listed and endangered) species. The studies showed that the following were using the Botany Mashes as 'home': otters, yellow-faced bee, saltmarsh short-spur beetle, viviparous lizard, harvest mouse and the Cetti warbler.

The studies also noted evidence of a gradual deterioration of the Botany Marshes' biodiversity. The analysis showed that the deterioration was avoidable through active intervention to prevent the marsh from drying out and scrub taking over.

BRM developed a project to divert rainwater from its main road into a new pond, which would then naturally feed into a ditch system to maintain the wetness of the marsh.

Between 2013 and the end of 2015, phase one of the project was undertaken. This included digging, creating pathways and clearing the ditches. Today, the diversion of clean offsite water, which previously flowed through BRM's land, has also improved BRM's management of its onsite water during heavy rain events. In early 2016, the local community began to access the Botany Marshes for recreational activities.

During 2016–18, BRM is implementing phase two, which involves establishing a newly developed Habitat Management Plan, created by Kent Wildlife Trust. The Plan includes managing the growth of the reed beds and grassland to encourage greater vegetation diversity. BRM will continue to work with the Kent Wildlife Trust to ensure the sustainability of local biodiversity.

Since 2016, volunteers from Kent Wildlife Trust have hosted a number of education days for local school children.

Without active intervention the marshland would have deteriorated to a point where it was unable to support the protected species. In early 2016, a bird survey was carried out that recorded 16 extra species compared to the 2011 baseline ecology report; of which four have a Red conservation status.

BRM has contributed over £500,000 to the project since 2012. The Botany Marshes have been designated as a Local Wildlife Site in Kent; these are areas that are considered to be important for the conservation of wildlife.

Community

Delivering big results through a local trainee programme

A programme to recruit and train local people as truck operators is helping to fill important positions for the McArthur River Mine (MRM) in remote northern Australia.

MRM is increasing its workforce to cater for ore and waste rock movements required for this year. The mine faced some challenges filling the positions due to a national shortage of qualified truck operators. Trained operators are hard to recruit across Australia and particularly in the Northern Territory.

The mine implemented a strategy to invest in a training programme to develop the skills of its own workforce. There was a particular focus on recruiting local community members to the roles because they tend to stay longer, are better acclimatised to the tropical climate and understand the challenges of working in the local environment.

Advertising the trainee truck operator positions attracted almost 250 responses with a good mix of male and female applicants. MRM offered training positions to 17 people, many of whom have now graduated into qualified operator roles.

This approach is helping to create a stable and dedicated workforce.

Preserving the future through closure planning

In Australia, our McArthur River Mine (MRM) has been working closely with Traditional Owners and local residents to preserve the long-term future of the land on which it operates.

Mine closure is an integral part of all mining operations and a plan serves as a road map to direct, refine and implement closure at the end of the mine's economic life. This ensures that the integrity of the environment is sustained after mining operations have ceased.

The closure objective for the MRM mine site, in line with views expressed during stakeholder consultations, is to return as much of the project area as practical to pre-mining land uses including low intensity cattle grazing and traditional cultural uses.

The closure plan recognises that discussions need to take place early to ensure closure planning is aligned with the community's future needs. To that end, consultation has taken place over a period of almost three years, starting with meetings with the Traditional Owners of the land to understand their wishes for the future.

Given the literacy challenges of many Traditional Owners, for whom English is a second language, visual and practical aids were critical to help fully explain the process. Maps, diagrams, aerial photos, animations and 3D models were utilised.

As consultation progressed, more people engaged with the process, including local residents in the nearby town of Borroloola, non-Government organisations and regulators. MRM held eight town meetings in Borroloola, which are open to all residents, over the past three years, maximising the opportunity for people to understand different options for the future and provide their input.

During this period, 566 individuals were engaged through 263 consultations. Site tours were also a valuable way for people to see for themselves the current landform, and these were attended by 132 people.

For MRM, the key considerations for eventual closure include considering the infrastructure that should be left for future community or business use, such as the power station, airport and village facilities.

The engagement with stakeholders throughout the past three years has resulted in a more robust closure strategy.

Glossary

ASM
Artisanal and small-scale mining.

available blue water
According to the Aqueduct Global Maps 2.0 of the World Resource Institute (WRI) this is the total amount of water available to a catchment before any users are satisfied. It is calculated as all water flowing into the catchment from upstream catchments plus any imports of water to the catchment minus upstream consumptive use plus runoff in the catchment.

backfilling
Filling mined voids with non-hazardous material generally sourced from mine residues, to ensure long-term stability of excavations and minimise the effects of seismic activity.

baseline water stress
According to the Aqueduct Global Maps 2.0 of the World Resource Institute (WRI) this constitutes total annual water withdrawal (municipal, industrial, and agricultural) expressed as a percentage of the total annual available flow. Higher values indicate more competition among users. Arid areas with low water use are scored as high stress when calculating aggregated scores. The baseline water stress is calculated as water withdrawals divided by mean available blue water. Areas with less than $0.03m/m^2$ available blue water and less than $0.012m/m^2$ water withdrawal are classified as "arid and low water use".

business segment
Glencore operations are divided into three business segments: Metals & Minerals, Energy Products and Agricultural Products. Each segment manages its own marketing, sourcing, hedging, logistics and industrial investments.

"care & maintenance" phase
A phase in the lifecycle of an asset where production is stopped, but with the potential to recommence operations at a later date; we manage conditions to ensure that the asset remains in a safe and stable condition.

CDP
CDP is an international, not-for-profit organisation that provides a global system for companies and cities to measure, share and disclose environmental information. See **www.cdp.net** for further information.

closure plan
A formal document detailing a costed conceptual outline of how the operation will be closed, taking into account the options available to deal with prevailing social and environmental issues. We set aside funds specifically for site closure, including land rehabilitation.

CO_2e
Carbon dioxide equivalent is the universal unit of measurement for the global warming potential (GWP) of greenhouse gases, where one unit of CO_2e is the GWP for one unit of carbon dioxide. This unit allows us to discuss the equivalence of different GHGs in terms of their GWP. The GWPs used in this report are 1 for CO_2, 28 for methane and 298 for nitrous oxide, as per IPCC's 5th Assessment.

commodity departments
Each of Glencore's business segments are divided into a number of commodity departments, e.g. copper, nickel, ferroalloys and zinc within the Metals & Minerals business segment. See Who we are **www.glencore.com/what-we-do/** for a full list.

concentrate
A natural commodity consisting of extracted and processed mineral ores; the first step towards producing refined minerals and metals.

COP21
The 2015 United Nations Climate Change Conference, COP21, was held in Paris, France, from 30 November to 12 December 2015. It was the 21st yearly session of the Conference of the Parties (COP) to the 1992 United Nations Framework Convention on Climate Change (UNFCCC). The conference negotiated the Paris Agreement, a global agreement on the reduction of climate change, the text of which represented a consensus of the representatives of the 196 parties attending.

copper equivalent
A product specific production value that is calculated by dividing the average price of a specific product in a baseline year with the average price of copper in the same baseline year.

critical control
A control that is crucial to preventing or mitigating the consequences of an event. The absence or failure of a critical control would significantly increase the risk connected to the relevant hazard, regardless of the existence of other controls. Controls include actions that should be taken, devices and technical systems.

direct energy
Energy used and generated by our operations, including energy generated by combustion in boilers, furnaces and vehicles owned or controlled by us. Sources include coal, coke, diesel, gasoline, biomass, biodiesel, fuel oil, jet fuel, kerosene, LPG, naphtha, natural gas, propane and recovered electricity generated on site.
See *indirect energy.*

ECHA
The European Chemicals Agency is an agency of the European Union that manages the technical, scientific and administrative aspects of the REACH system and drives implementation of the EU's chemicals legislation.

EITI
The Extractive Industries Transparency Initiative aims to strengthen governance by improving transparency and accountability in the extractives sector (oil, gas and mining). EITI promotes revenue transparency by monitoring and reconciling payments from mining businesses and government revenues at the country level.

ferroalloys
Various iron alloys that have a high proportion of one or more other elements, e.g. manganese, chrome or silicon.

fugitive emissions
Emissions that emanate irregularly from many diffuse sources, such as gas leakages from equipment, and, in the case of dust, the movements of trucks and machinery in dusty areas.

GHG
Greenhouse gas.

Greenhouse Gas Protocol
Standards and guidance for corporate accounting and reporting on GHG emissions, which help governments and business leaders to understand, quantify, and manage GHG emissions (e.g. CO_2). The protocol separates GHG emissions into different scopes depending on source.

GRI
The Global Reporting Initiative is a network-based organisation that develops and disseminates voluntary sustainability reporting guidelines; there is a specific supplement for the mining and metals industry.

grievance process
A formal mechanism that local community members or other stakeholders can use to register concern about real or perceived actions by nearby operations, with the objective of resolving problems before they escalate.

hazardous
Dangerous, as defined by national legislation.

HELE
High-efficiency, low-emission

hours worked
Total hours worked by employees and contractors at our industrial sites, including overtime but excluding any scheduled or unscheduled absence (e.g. holidays or sickness) during the reporting year.

HPRIs
High potential risk incidents are incidents that could have potentially resulted in a catastrophic (Category 5) or major (Category 4) outcome.

HSEC
Health, safety, environment and communities.

ICMM
The International Council on Mining and Metals is an industry trade body dedicated to establishing and promoting leading sustainability practices.

IFC
The International Finance Corporation is part of the World Bank Group; it finances private sector ventures and projects in developing countries and provides these with advice and guidelines.

ILO
The International Labour Organization is a United Nations agency that seeks the promotion of social justice and internationally recognised human and labour rights.

ILO Declaration
The Declaration on Fundamental Principles and Rights at Work was adopted by the ILO in 1988, with the core categories of collective bargaining, discrimination, forced labour and child labour.

indirect energy
Energy used by our sites, but supplied by third parties, often as electricity. This includes electricity, steam and heating/cooling. See *direct energy.*

"industrial activities"
Glencore term covering assets and activities related to commodity production and processing, as separate from marketing activities. See *"marketing activities".*

IPCC
The Intergovernmental Panel on Climate Change assesses scientific, technical and socio-economic information on the risk of human-induced climate change. It was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO).

ISO 9001
A quality management system standard (not a performance standard) issued by the International Organization for Standardization (ISO). It is a voluntary standard that can be independently audited by certifying bodies.

ISO 14001
A management system standard, similar to ISO 9001, but covering environmental impacts and risk.

LBMA
The London Bullion Market Association is an international trade association, representing the London market for gold and silver bullion, which promotes refining standards, trading documentation and the development of good trading practices.

LTI
Lost time injuries are recorded when an employee or contractor is unable to work following an incident. We record lost days as beginning on the first rostered day that the worker is absent after the day of the injury. The day of the injury is not included. LTIs do not include Restricted Work Injuries (RWI) and fatalities.

LTIFR
LTIFR is the total number of LTIs recorded per million working hours.

"marketing activities"
Glencore term covering trading and sales activities as well as the infrastructure and resources used in transporting products from our industrial sites to customers.
See *"industrial activities"*.

MARPOL
The main international convention for preventing ships from polluting the marine environment, whether by operational or accidental causes.

mixtures
In the context of product safety regulations, a mixture or solution comprising two or more substances, where each substance is defined as a chemical element and its compounds in the natural state, or obtained by any manufacturing process, including any additive necessary to preserve stability and any impurity deriving from the process used.

nitrogen oxides
A range of related chemical compounds, collectively indicated as NOx, which can react to form GHGs. Examples are nitric oxide and nitrogen oxide.

occupational disease
Any chronic ailment or illness that occurs as a result of work or occupational activity; these are typically identified as being more prevalent in a given body of workers than in the general population, or in other worker populations. An occupational disease is different from an occupational injury.

OCIMF
The Oil Companies International Marine Forum is a voluntary association of oil companies with an interest in the shipment of crude oil and products.

OECD
The Organisation for Economic Co-operation and Development is an international organisation that provides a forum in which governments can work together to share experiences and seek solutions to tackle economic, social, environmental and governance challenges.

overburden
The rock and soil that lies above a coal seam or ore body and must be removed for mining activities.

petajoule
A measure of energy equivalent to a thousand trillion joules, or 10^{15} joules, usually used to express energy consumption by cities or major industries.

PM
Particulate matter, or dust, usually from industrial sources.

protected area
A location that receives protection because of its natural, ecological or cultural value.

PSM
Process safety management.

REACH
Registration, Evaluation, Authorisation and Restriction of Chemicals is the European Union's chemicals control act.

Scope 2 (location-based) emissions
This approach applies grid emission factors to all purchased electricity, regardless of contractual purchase arrangements for renewable electricity.

Scope 2 (market-based) emissions
This approach applies GHG emissions from contractual arrangements; supplier-specific emission factors are applied when relevant and available, but where they are not, the country's residual or grid emission factor is applied.

sulphur dioxide
A chemical compound (SO_2) produced by various industrial processes, including the combustion of sulphur-containing fuels. SO_2 is a pollutant gas and a precursor to particulates in the atmosphere. It can be captured and converted to saleable sulphuric acid.

tailings
The residue of an industrial process, especially residue that contains mineral ore.

TRIFR
Total Recordable Injury Frequency Rate = number of fatalities + lost time injuries (LTIs) + restricted work injuries (RWIs) + medical treatment injuries (MTIs) per million hours worked.

UNGPs
The United Nations Global Compact principles cover human rights, labour, environment and anti-corruption.

Voluntary Principles
The Voluntary Principles on Security and Human Rights (Voluntary Principles) Initiative is a multi-stakeholder initiative involving governments, companies and NGOs, which promotes a set of principles for oil, gas, and mining companies to guide them in providing security for their operations in a manner that respects human rights.

waste rock
Mineral wastes produced during mining, excluding overburden. It includes the parts of ore deposits that are not processed for economic reasons. Waste rock is either used for backfilling or stored at the surface.

water discharge
Total of water effluents discharged over the course of the reporting period to subsurface waters, surface waters, sewers, treatment facilities, etc.

water input
Total amount of water withdrawal plus water entrained in ore that is processed. See *"water withdrawal"*.

water output
Total amount of water discharged plus water entrained in waste material and final product and water lost to evaporation and other losses. See *"water discharge"*.

water withdrawal
Total amount of water drawn into the boundaries of the reporting organisation from all sources for any use over the course of the reporting period. Includes surface water, ground water, rainwater, potable water and non-potable water imported from third parties.

WHO
The World Health Organization is the directing and coordinating authority for health within the United Nations system, which sets many internationally-recognised norms and standards.

workforce
References to our workforce include both employees and contractors.

Assurance statement

Deloitte.

Independent assurance report to Glencore Plc on selected information in the 2017 Sustainability Reporting

An overview of the scope of our assurance work

We have been engaged by Glencore International AG ("Glencore") to perform a limited assurance engagement on the following selected sustainability information ("Subject Matter") reported in the Glencore Plc ("Glencore") 2017 Sustainability Report, and the documents "Our Approach to Sustainability" and "Databook and GRI References" for the year ended 31 December 2017. Each of these documents are available on Glencore's website **http://www.glencore.com/sustainability**.

Selected Subject Matter for assurance

Glencore's assertion in relation to:

- the alignment of its policies to the International Council on Mining and Metals ("ICMM") ten Sustainable Development Principles and Position Statements as stated on page 12, of the Sustainability Report 2017 (ICMM Subject Matter 1);
- the approach that it has adopted to identify and prioritise its material sustainable development risks and opportunities, as stated on page 16 of the Sustainability Report 2017 (ICMM Subject Matter 2);
- the existence and status of implementation of systems and approaches used to manage and report its material sustainable development risks and opportunities (ICMM Subject Matter 3) and associated selected key performance indicators, presented in Table 1 below (ICMM Subject Matters 4); and
- its self-declaration of preparing the Report in accordance with the Global Reporting Initiative ("GRI") Standards at a core level, as stated on page 12 of the Sustainability Report 2017 and in the Databook and GRI References 2017 (ICMM Subject Matter 5).

Reporting Criteria

The above Subject Matter has been assessed against the criteria provided in the ICMM Sustainable Development Framework Assurance Procedure and the definitions and approaches in the Glencore Corporate Practice (GCP) database field definitions documents ("Glencore's Reporting Criteria" and "Glencore GHG calculation principles Scope 1, 2 and 3"), dated March 2017, which is available upon request from Glencore.

Table 1: ICMM Subject Matters 3 and 4

Material risks and opportunities	Report Page[1]	Key performance indicators	Assured figure
Catastrophic hazard management	20	*Total number of major (Category 4) and catastrophic (Category 5) spills*	0
Workplace health and safety	24	Total number of Fatalities (employee and contractor)	9
		Total Recordable Injury Frequency Rate (employee and contractor) (injuries per million working hours)	3.09
		Total Lost Time Injury Frequency Rate (employee and contractor) (injuries per million working hours)	1.02
Climate change	30	Total direct and indirect energy consumption (PJ)	202
		Total direct GHG emissions (million tons of CO_2e)	21.6
		Total indirect GHG emissions – location-based (million tons of CO_2)	11.9
		Total Scope 3 GHG emissions - losses from transmission and distribution of electricity (million tons of CO_2)	0.94
		Total Scope GHG 3 emissions from the use of products sold (fossil fuels, million tons of CO_2e)	273
Water and effluents	38	Total water withdrawal (million m^3)	924
		Total water discharge (million m^3)	637
Waste and air emissions	44	*Reported KPIs not within scope of current year assurance*	
Human rights and grievance mechanisms	48	*Reported KPIs not within scope of current year assurance*	
Community engagement and social commitment compliance	56	Total amount of Payments made to Governments (million USD)	4,113
Product stewardship	60	*Reported KPIs not within scope of current year assurance*	
Our people	64	*Reported KPIs not within scope of current year assurance*	
Compliance	68	*Reported KPIs not within scope of current year assurance*	

1 Page references are provided to the Sustainability Report 2017.

* KPIs will be reported in the Databook and GRI References 2017

Our assurance conclusion

Based on our procedures described in this report, nothing has come to our attention that causes us to believe that the selected Subject Matter, stated above and on the indicated pages of the Sustainability Report 2017 and Databook and GRI References 2017, for the year ended 31 December 2017, have not been prepared, in all material respects, in accordance with the Reporting Criteria.

Respective responsibilities of Directors and independent assurance provider

The Directors are responsible for the preparation of the sustainability information and statements contained within Glencore's Sustainability Report. They are responsible for determining Glencore's sustainability objectives and for establishing and maintaining appropriate performance management and internal control systems from which the reported information is derived.

Our responsibility is to express a conclusion on the selected subject matter based on our procedures. We conducted our engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised) Assurance Engagements other than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Board. This standard requires that we comply with the independence and ethical requirements and to plan and perform our assurance engagement to obtain sufficient appropriate evidence on which to base our limited assurance conclusion. We performed the engagement in accordance with Deloitte's independence policies, which cover all of the requirements of the International Federation of Accountants' Code of Ethics and in some areas are more restrictive. The firm applies the International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

The evidence gathering procedures for a limited assurance engagement are more limited than for a reasonable assurance engagement which is akin to a financial audit, and therefore less assurance is obtained than for a reasonable assurance engagement.

Work performed

Our limited assurance procedures included, primarily:

- Making enquiries of management and senior executives to obtain an understanding of the overall governance and internal control environment, risk management, materiality assessment and stakeholder engagement processes relevant to the identification, management and reporting of Glencore's material sustainable develop issues, and associated selected key performance indicators.
- Evaluation of the design of controls and functionality of the Group sustainability information management and reporting database ("GCP database") at a corporate level.
- Analytical Reviews and trend analysis of reported data per commodity department for selected key performance indicators;
- Conducting physical reviews at a sample of assets, selected on a judgmental basis on materiality of contribution to reported group KPI data, geographic coverage (Africa, South Africa, Australia, South America, and Europe) and commodity coverage (Coal, Copper, Ferro Alloys, Nickel, Oil and Zinc). This work was performed to:
  - corroborate consistency in understanding and application of Glencore Reporting Criteria; and
  - identify systemic challenges to sustainability management and data measurement, collection, reporting and control processes, or issues pervasive to region, department and / or group, for the selected subject matter

We believe that our evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusion.

Inherent limitations

Inherent limitations exist in all assurance engagements due to the selective enquiry of the information being examined. Therefore fraud, error or non-compliance may occur and not be detected. Additionally non-financial information, such as that included in Glencore's Sustainability Report 2017, and "Our Approach to Sustainability" document is subject to more inherent limitations than financial information, given the nature and methods used for determining, calculating, and sampling or estimating such information.

Our work has been undertaken so that we might state to the Company those matters we are required to state to them in this report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than Glencore for our work, for this report, or for the conclusions we have formed.

While we acknowledge that this report will be published on the Glencore website, the maintenance and integrity of that website is the responsibility of the Directors of Glencore. The work that we carried out does not involve consideration of the maintenance and integrity of that website and, accordingly, we accept no responsibility for any changes that may have occurred to this report and Glencore's Reports since they were initially presented on the website.

Deloitte LLP
London, United Kingdom
16 April 2018

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This document contains statements that are, or may be deemed to be, "forward looking statements" which are prospective in nature. These forward looking statements may be identified by the use of forward looking terminology, or the negative thereof such as "outlook", "plans", "expects" or "does not expect", "is expected", "continues", "assumes", "is subject to", "budget", "scheduled", "estimates", "aims", "forecasts", "risks", "intends", "positioned", "predicts", "anticipates" or "does not anticipate", or "believes", or variations of such words or comparable terminology and phrases or statements that certain actions, events or results "may", "could", "should", "shall", "would", "might" or "will" be taken, occur or be achieved. Such statements are qualified in their entirety by the inherent risks and uncertainties surrounding future expectations. Forward-looking statements are not based on historical facts, but rather on current predictions, expectations, beliefs, opinions, plans, objectives, goals, intentions and projections about future events, results of operations, prospects, financial condition and discussions of strategy.

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