



BUILDING A SUSTAINABLE BUSINESS

SUSTAINABLE DEVELOPMENT REPORT 2019

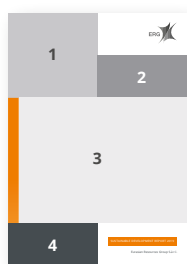
Eurasian Resources Group S.à r.l.

With a global presence and a workforce of more than 67,000,¹ ERG owns integrated mining, processing, energy, logistics and marketing operations – primarily in Kazakhstan and Africa.

ERG represents one third of the metals and mining industry in Kazakhstan, and is the world leader in high-carbon ferrochrome production by chrome content. The Group is also a substantial supplier of iron ore, aluminium and alumina in Eurasia, as well as a provider of energy and railway services.

In Africa, ERG is a large producer of cobalt and copper, and has recently launched a major tailings reprocessing operation (Metalkol Roan Tailings Reclamation or Metalkol RTR) in the Democratic Republic of the Congo (DRC). The Group has further operations and development projects in Zambia, South Africa, Zimbabwe, Mozambique and Mali.

In Brazil, ERG is pioneering an integrated iron ore mining and logistics project (BAMIN) in the State of Bahia.



Cover images

- 1 Bunker operator and electric filter operator at Pavlodar Aluminum Plant's sintering shop
- 2 Zhasybay Lake in Bayanaul State National Park, Pavlodar region
- 3 Furnaceman standing next to furnace at Aktobe Ferroalloys Plant's Smelting workshop No. 4

- 4 Student at the informal school run by the Good Shepherd International Foundation in the artisanal mining community of Kabamba in Lualaba, DRC

© Photo courtesy of Good Shepherd International Foundation/Nyokabi Kahura.

ABOUT THIS REPORT

This annual Sustainable Development Report covers ERG's sustainability performance during the 2019 calendar year.² It covers ERG's mining, processing, power generation, project development and transportation activities.

This report has been informed by the Global Reporting Initiative (GRI) Standards and as such, is focused on our most material Sustainable Development issues (p. 18). The report has not been subject to third party assurance. For all queries in relation to this report, please contact: sd.report@erg.net.

Please note that this report is produced in English, Kazakh and Russian. In the event of any inconsistencies, the English-language version shall take precedence.

Notes on the preparation of this report

All references to 'ERG' or the 'Group' refer to Eurasian Resources Group S.à r.l. and/or its subsidiaries.

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¹ Excluding contractors.

² This follows our last Sustainable Development Report, published in 2019 and covering the 2018 calendar year.

OUR VISION

An international, sustainable,
socially responsible and efficient
natural resources company

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AT A GLANCE

ERG is a leading diversified natural resources group

KEY HIGHLIGHTS

US\$1,538M

UNDERLYING EBITDA

(2018: US\$1,913 million)

67,272

GROUP HEADCOUNT¹

(2018: 69,253)

US\$4,183M

TOTAL ECONOMIC
VALUE DISTRIBUTED
TO STAKEHOLDERS

(2018: US\$4,381 million)

0.83

LOST TIME INJURY
FREQUENCY RATE (LTIFR)²

(2018: 0.58)

US\$118M

COMMUNITY SOCIAL
INVESTMENT

(2018: US\$115 million)

24.2Mt CO₂e

DIRECT AND INDIRECT
GREENHOUSE GAS (GHG)
EMISSIONS

(2018: 24.7Mt CO₂e)

WHAT MAKES US DIFFERENT?

- ▶ An enduring presence in Kazakhstan, with a global operational footprint
- ▶ A diversified portfolio, with low-cost operations and significant growth potential
- ▶ Integrated mining, processing, energy, logistics and marketing operations
- ▶ Participation in China's Belt and Road Initiative – strategically positioned in the heart of Eurasia
- ▶ A diverse and long-standing global customer base
- ▶ Poised to become a major player in responsibly produced cobalt

¹ Excluding contractors.

² Including employee fatalities.

PRODUCTION REGIONS

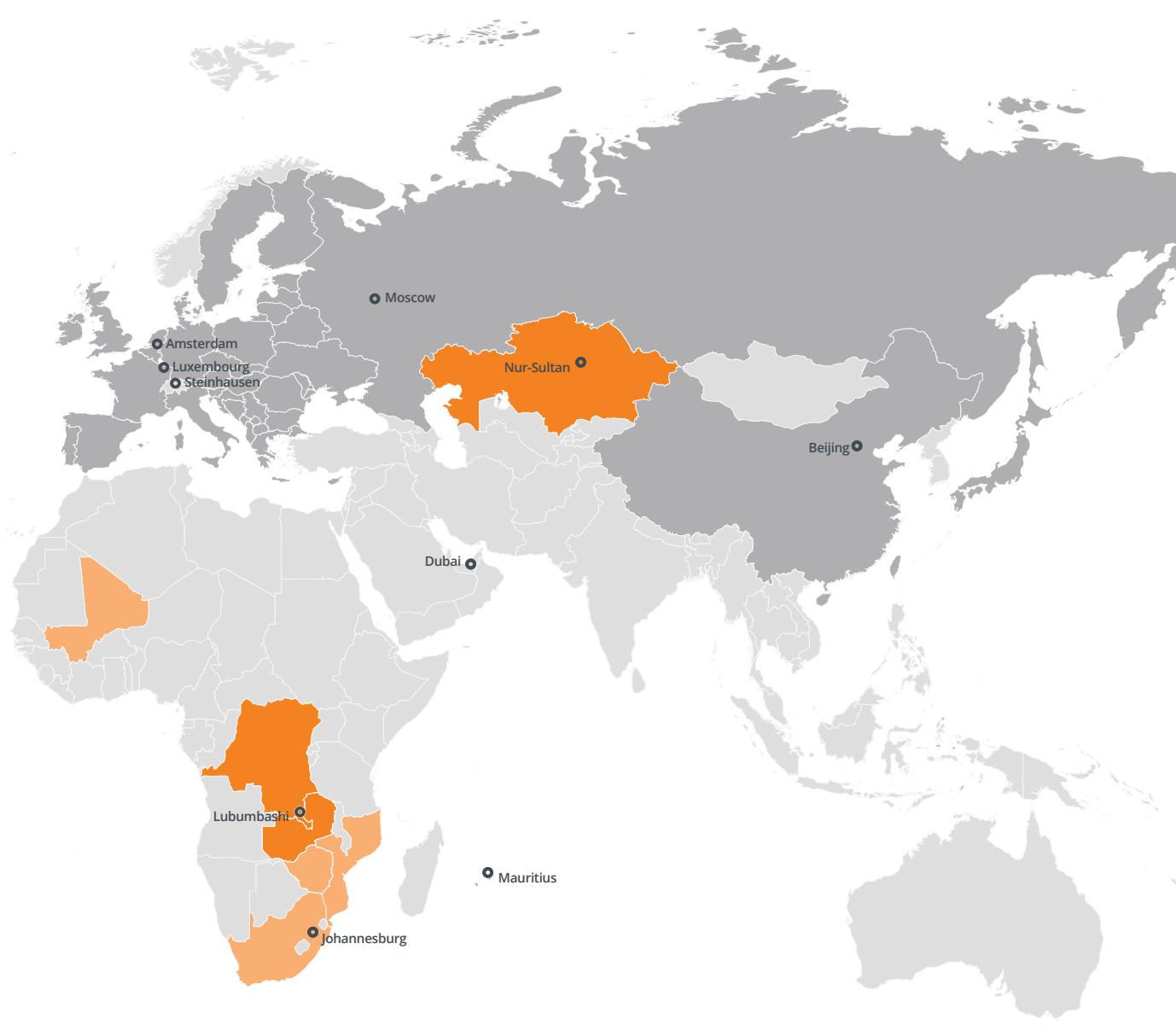
DRC
Kazakhstan
Zambia





DEVELOPMENT REGIONS

Brazil
Mali
Mozambique
South Africa
Zimbabwe

KEY CUSTOMER MARKETS

China
European Union
Japan
Kazakhstan
Russia

CORPORATE OFFICES**KEY OPERATIONS³**

	Ferroalloys	Iron ore	Alumina and aluminium	Other non-ferrous	Energy	Logistics ⁴
						
Number of key operational assets	4	1	4	5	4	1
Key countries of operation	Kazakhstan	Kazakhstan	Kazakhstan	DRC and Zambia	Kazakhstan	Kazakhstan

³ Details on specific business units and operations are available on p. 99.

⁴ Our logistics entity Sabot is included in Other non-ferrous as it primarily acts in a supporting capacity for our operations in Africa.

Note: Production/development regions as well as key customer markets are listed in alphabetical order.

CEO STATEMENT



The events of 2020 have further underlined the importance of managing our operational, financial and sustainability performance in an integrated way.

Benedikt Sobotka

Chief Executive Officer



Strategic context

In 2019, we marked the 25th anniversary of our business in Kazakhstan – and we look forward to continuing our approach, which is focused on business sustainability and long-term value generation.

In this context, we continued to embed our 2025 Strategy, placing particular focus on organisational transformation, meeting the expectations of our stakeholders, digital technology and the enhancement of our financial position. Whilst we are continuing to make positive progress in this regard, our safety performance worsened. As such, this area will continue to be our top priority.

Furthermore, in 2020 we had to perform a rapid 'pivot' to address the challenges presented by the COVID-19 outbreak (see below). The situation clearly has significant implications for our people, our business and for our host societies – and we are actively working to manage these.

Business performance

Despite a relatively promising start, 2019 was characterised by a challenging market environment and downward price pressures. Overall, we saw a 9% fall in our revenues, a 19.6% fall in our EBITDA and mixed production trends. Nonetheless, we managed to generate US\$561 million in operating cash, whilst capex amounted to US\$869 million. This was focused on ramping-up production at Metalkol RTR and sustaining production at our assets in Kazakhstan and at Frontier in Africa.

In this context, in late 2019 our credit rating was downgraded by Standard & Poor's from B to B-, reflecting the volatile market environment (amongst other factors).

Additional external factors driving this mixed performance included US-China trade tensions, which affected demand for our products. On the supply side, we saw an increase in the global supply of ferrochrome, chrome ore and alumina/aluminium. Similarly, oversupply and weaker than expected electric vehicle sales in China had a negative impact on cobalt prices.

In this context, we took steps to enhance our financial resilience, including through a debt refinancing agreement as well as an expansion of new credit lines (p. 11). These measures proved particularly timely given the economic impact of the COVID-19 pandemic.

Broader Sustainable Development performance

Despite what has been a relatively challenging year, in 2019 ERG maintained momentum in terms of embedding its 2025 Strategy.

We made further progress, for example, in terms of preparing our business for the future. This included the rollout of our ERG Way Production System (focused on the continuous improvement of our operational performance and an enhanced working culture) and the saving of US\$68 million through our efficiency programmes.

Similarly, whilst ramp-up did not progress as quickly as planned in 2019, Metalkol RTR remains on course to be a game-changer, not only for ERG but for the broader battery value chain.

With respect to our people, it is with sincere regret that I have to report 11 fatalities in 2019 (2018: 5). Four cases occurred as a result of a road traffic accident involving SSGPO employees. I send my deepest condolences to the families of those lost. We have investigated each fatal incident and applied measures to prevent their reoccurrence. For more information, see p. 35.

Furthermore, we completed a comprehensive audit of our safety management systems in Kazakhstan, which produced a range of concrete actions aimed at improving our future safety performance. We continue to actively manage safety in all our regions.

We also continued to take steps to meet our current and future skills requirements and promote opportunities for young people in Kazakhstan. This included support for the launch of the Atlas of New Professions (p. 38), as well as our ongoing support of the Student Entrepreneurship Ecosystem programme (p. 51).

Our commitment to our communities is demonstrated by our ongoing community social investments, which reached US\$118 million in 2019 (2018: US\$115 million) – as well as the launch of our new, three-year regional development programme in Kazakhstan (p. 49).

OUR VISION

An international sustainable, socially responsible and efficient natural resources company.

OUR MISSION

Be the best at what we do. Navigate global change whilst holding true to our values. Responsibly unlocking the potential of the Earth and its people, ensuring the prosperity of those who rely on us.

OUR VALUES



Safety



Development



Unity



Responsibility



Efficiency

For further details on our Values see p. 90

We are continuing to take action to improve our environmental performance. This includes our 10-year, approximately US\$350 million programme to reduce emissions to air in Kazakhstan – and in Pavlodar in particular. The programme forms part of our new Environmental Strategy, which is focused on emissions reduction, water conservation, land restoration, waste management and biodiversity. Furthermore, we carried out a Group-wide risk assessment of our large-scale waste storage facilities – plus subsequent third-party assessments of individual facilities – to help ensure their ongoing integrity and safety.

Finally, in terms of our broader relationship with society, we distributed a total of US\$4,183 million to our stakeholders – including our host governments, employees, communities, suppliers and finance providers (2018: US\$4,381 million). Our payments to governments in the form of taxes and duties amounted to US\$812 million (2018: US\$827 million).

We also made significant steps in terms of ensuring we maintain a responsible supply chain and are able to deliver assurance to our customers (and other downstream actors). This included the adoption of our first Group Supplier Code of Conduct, as well as the first independent, third-party assurance of our Clean Cobalt Framework. Our ongoing participation in the Cobalt Institute and the Global Battery Alliance further supports our efforts in this regard.

COVID-19 and business resilience

In early 2020, and in line with our commitment to 'Zero Harm', we took immediate steps to minimise employee risk exposure. These included disinfection, social distancing, the issuing of additional personal protective equipment, the use of thermal scanners and active awareness-raising. In addition, we protected 'at-risk' employees by temporarily removing them from production, applied remote working and established safer shift patterns that reduced human contact.

At the same time, we managed to successfully minimise production disruption, including through deferred maintenance, stripping and repair activities; succession-planning; and the establishment of 'quick response' teams to address operational gaps.

We have also further enhanced our financial position, through the creation of an additional 'liquidity buffer' based on working capital management, the securing of new credit lines, reduced capex (except for capex focused on maintaining stable production), cost optimisation and other related measures.

Finally, it is worth reflecting on how sustainability can support resilience. By building and maintaining positive, trust-based relationships with our employees, communities, governments and finance providers we can protect our business from external shocks.

2020 and beyond

Our immediate focus is on keeping our employees and local communities safe, whilst minimising the impacts of COVID-19 on our business. Furthermore, we will continue building on our existing efforts to enhance our resilience, not only in terms of our finances, but more broadly. Indeed, the events of 2020 have further underlined the importance of managing our operational, financial and sustainability performance in an integrated way.

Whilst the short- to medium-term global economic situation is highly uncertain, we are confident that we can weather the storm. Nonetheless, it will also be important to learn from this experience to make sure that our strategy actively supports future resilience. This may require refocusing, as well as organisational change.

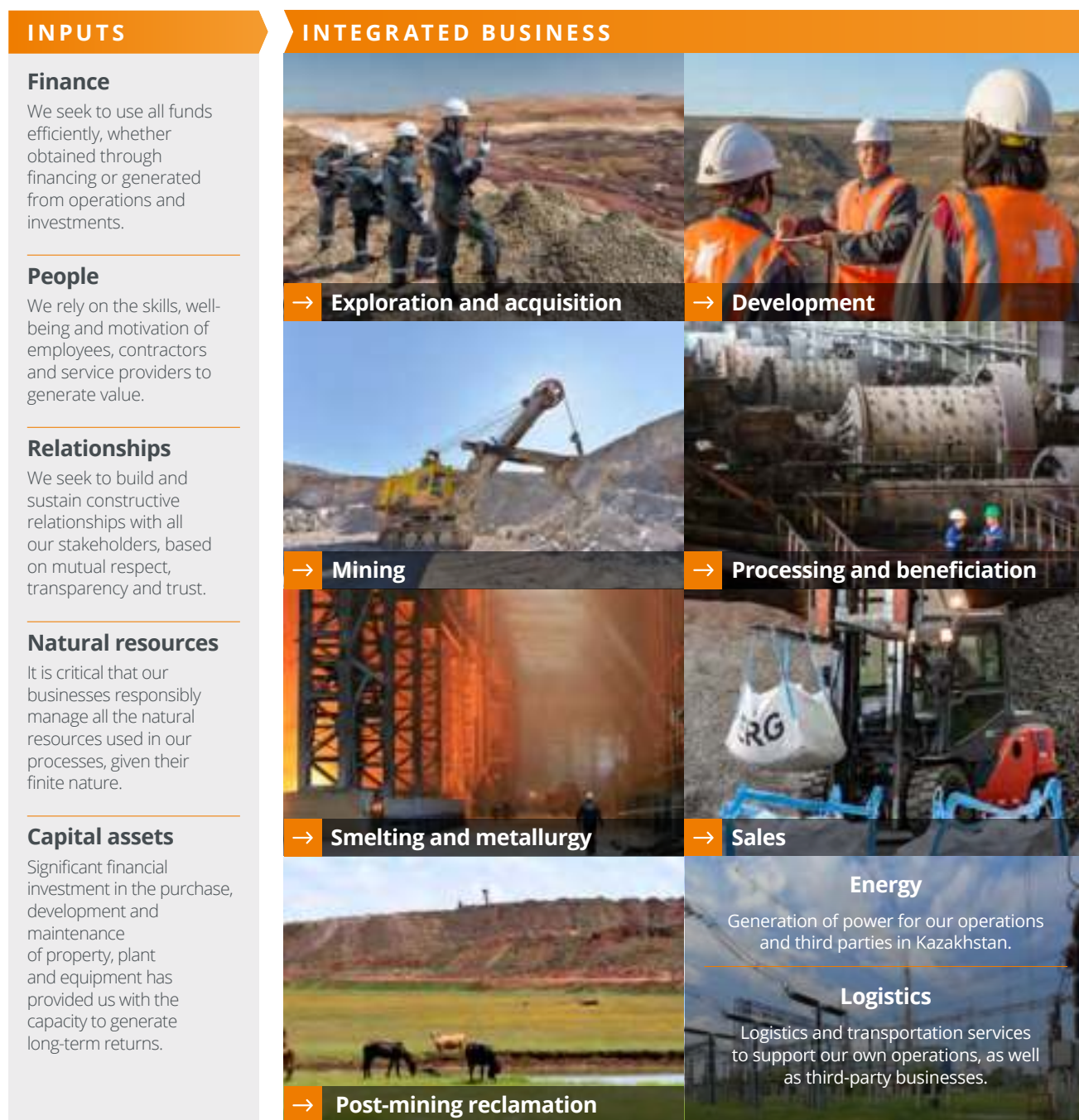
Beyond this, we will continue to invest in the modernisation of our core assets in Kazakhstan, which are likely to continue to benefit from the Belt and Road Initiative. Similarly, Metalkol RTR and our BAMIN project leave us well-positioned for the future. Together, these will do much to help ERG to continue to evolve and prosper.

Our Sustainable Development efforts will continue to be guided by the Ten Principles of the UN Global Compact, to which we remain committed. Our 2019 Sustainable Development Report represents our Communication on Progress.

Benedikt Sobotka
Chief Executive Officer

OUR BUSINESS MODEL

How we create value



EXTERNAL ENVIRONMENT

→ Read more on p. 14

STAKEHOLDERS

→ Read more on p. 96

RISKS

→ Read more on p. 16

Our integrated mining, metals, energy and transport business creates products that support the manufacturing, construction, infrastructure and logistics sectors – and that will help ensure that we support, and benefit from, the transition towards a green economy.

KEY PRODUCTS



Ferroalloys
Steel industry



Cobalt
Lithium-ion batteries



Copper
Infrastructure and construction
Transportation
Electrical and electronics



Aluminium
Infrastructure and construction
Transportation



Iron ore
Steel industry



Coal
Energy
Heat

KEY MARKETS ¹

China



European Union



Japan



Kazakhstan



Russia

¹ in alphabetical order

OUTPUTS

Social

LTIFR

0.83

TAXES PAID

US\$812M

COMMUNITY SOCIAL INVESTMENT

US\$118M

Environmental

CO₂ EMISSIONS

24.2Mt CO₂e

ENERGY CONSUMPTION

270,939 TJ

WATER WITHDRAWAL

1,862Mm³

Financial

UNDERLYING EBITDA

US\$1,538M

REVENUE

US\$4,872M

FREE CASH FLOW

US\$234M

2025 STRATEGY

→ Read more on p. 8

MATERIAL ISSUES

→ Read more on p. 18

GOVERNANCE

→ Read more on p. 88

OUR STRATEGY

An integrated approach towards business sustainability

OUR APPROACH

For ERG, Sustainable Development is about more than the responsible management of our environmental, social and governance impacts; it is also about:

- Ensuring our business is resilient, fit for the future and can generate long-term value
- Achieving the ongoing delivery of benefits to our stakeholders – including employees, shareholders, customers, business partners, local communities and host countries

As such, Sustainable Development is integral to our business model – and increasingly integrated into our core business processes. This is best demonstrated by our 2025 Strategy, which is ultimately aimed at achieving 'business sustainability'.

Furthermore, we are supportive of the United Nations Sustainable Development Goals (SDGs) and seek to maximise our positive impacts and minimise any negative impacts in this regard.

This includes the identification of relevant SDGs for ERG, selected on the basis of:

- Potential synergies between the achievement of the relevant SDGs and our own business performance
- Our ability to positively or negatively impact the achievement of relevant SDGs
- The degree to which the achievement of each SDG is relevant to our areas of operation

These efforts will help us align our actions more closely with international stakeholder expectations – to the benefit of both our business and broader society. Further details regarding relevant SDGs are set out on p. 94–95 as well as within each of the thematic chapters.

All references to associated UN targets are for the contextualisation of our impacts, risks, opportunities and performance only – and do not represent formal corporate targets.

STRATEGY REVIEW:

Please note that our 2025 Strategy is currently under review as we address the immediate impact of the 2020 COVID-19 outbreak and the longer-term implications for the Group.

STRATEGIC PRIORITIES

Balanced portfolio growth

Steady growth and development of the asset portfolio in Kazakhstan and beyond

A happy and professional team

Development of our employees' competencies and the maintenance of their safety and well-being

Sustainable development of our host regions

Contribution to the socio-economic development and well-being of communities in our regions of operation

Efficiency in all that we do

A strong focus on pursuing efficiency across the Group

Financial stability

The maintenance of financial resilience, whilst delivering sustainable shareholder returns

SUSTAINABLE DEVELOPMENT PRINCIPLES



Zero harm



Leadership



Accountability



Balance



Integrity



Innovation

STRATEGIC GOALS

- Further develop existing assets in Kazakhstan
- Increase returns on the existing portfolio of international assets
- Optimise our portfolio through new natural resource opportunities and/or divestment
- Further develop the Group's power generation business

- Deliver safe working conditions
- Improve employee health and well-being
- Deliver comfortable workplaces
- Develop strategic skills and competencies

- Improve employee benefits
- Improve ERG's employee proposition and status as an employer
- Further develop our corporate culture
- Develop our talent pool and leadership pipeline

- Improve the well-being and prosperity of communities in our regions of operation
- Maintain international environmental standards – including those relating to water, air and soil – to support local well-being in our regions of operation
- Support entrepreneurship and the development of the business environment in our host countries

- Reduce unit costs by eliminating bottlenecks and improving productivity
- Improve organisational effectiveness
- Improve sales effectiveness
- Develop a culture of continuous improvement supported by relevant tools and mechanisms

- Maintain a sustainable level of dividend yield for shareholders
- Maintain high returns on invested capital
- Achieve and maintain an acceptable level of debt
- Maintain high levels of liquidity to support resilience in the face of changing market conditions

KEY STAKEHOLDERS

- Shareholders
- Host governments
- Local communities
- Customers
- Suppliers/contractors
- Finance providers

- Employees
- Host governments
- Regulators
- Local communities

- Local communities
- Regulators
- Regional governments
- Civil society

- Shareholders
- Customers

- Shareholders
- Finance providers
- Employees
- Suppliers/contractors
- Host governments
- Local communities

BUSINESS PERFORMANCE

Operational performance

+7.3%

**IRON ORE
CONCENTRATE AND
PELLET PRODUCTION**

+1.9%

**ALUMINIUM
PRODUCTION**

+1.6%

**FERROALLOYS
PRODUCTION**

**INITIATION OF COBALT
HYDROXIDE PRODUCTION
AT METALKOL RTR**

COVID-19

For information on how we have managed the immediate impact of the COVID-19 outbreak in 2020, including with respect to our production and our business planning – please see p. 12.

GROUP PRODUCTION PERFORMANCE

Commodity	2019 (kt)	2018 (kt)	Change
Saleable ferroalloys ¹	1,639	1,613	1.6%
Saleable iron ore concentrate and pellets	13,195	12,292	7.3%
Alumina	1,393	1,481	(5.9%)
Aluminium	263	258	1.9%
Saleable copper (contained)	141.5	139.5	1.4%
Cobalt metal	1.50	1.61	(6.8%)
Saleable cobalt hydroxide	6.7	0.30	2,133.3%
Coal	27,503	28,724	(4.2%)

¹ Total net ferroalloys production.

In 2019, we increased saleable ferroalloys production by 1.6% to 1,639 kt (2018: 1,613 kt). This reflected improved efficiency at Workshop No.4 at our Aktobe Ferroalloys Plant (as well as our ongoing efforts to achieve its full production capacity) and optimisation initiatives at our other workshops.

We also responded to stronger market demand by increasing production of saleable iron ore concentrate and pellets by 7.3% to 13,195 kt (2018: 12,292 kt).

Lower internal demand for thermal coal (in combination with the use of coal substitutes in a number of Western countries) led us to reduce coal production by 4.2%.

Aluminium production reached a record 263 kt (2018: 258 kt). This reflected a range of technological improvements (including increased amperage during electro winning) to safely take the smelter beyond its original designed capacity.

Total saleable copper contained production remained broadly steady compared to the previous year. Whilst Boss Mining was moved into care and maintenance and production at Chambishi Metals was

reduced, the impact on production was offset by the ramping up of production at Metalkol RTR (p. 24) and slightly higher volumes at Frontier (141.5 kt compared to 139.5 kt in 2018).

Meanwhile, the suspension of production at Boss Mining meant our total saleable cobalt metal production decreased by 6.8% to 1.5 kt (2018: 1.6 kt). Whilst we did not achieve full planned production at Metalkol RTR, we were able to increase output significantly to 6.7 kt of cobalt hydroxide (excluding 1.7 kt used for internal consumption).



Financial resilience

US\$4,872M
REVENUE

↓ -9%

US\$1,538M
UNDERLYING EBITDA

↓ -19.6%

US\$869M
CAPEX

↑ +15.6%

Whilst market conditions in the first quarter of 2019 were largely favourable for ferroalloys, iron ore and copper, this changed in the second quarter – with the exception of iron ore, which saw increased prices. This shift was driven by, amongst other things, US-China trade tensions, record Chinese ferrochrome production, an oversupply of cobalt and weaker than expected electric vehicles sales in China. Similarly, the US-China trade war and coal substitution in Western countries also put downward pressure on thermal coal prices.

Year-on-year average price performance was largely negative, contributing to a 9% fall in our revenues to US\$4,872 million (2018: US\$5,353). This resulted in a 19.6% reduction in our underlying EBITDA to US\$1,538 million (2018: US\$1,913 million). In this context, we generated US\$561 million of net cash from our operating activities (2018: US\$641 million). In addition, we increased capex to US\$869 million (2018: US\$752 million). This was mainly focused on the ramping up of production at Metalkol RTR in the DRC and sustaining capital investments at our existing assets.

In the first half of 2020, the COVID-19 outbreak had a material impact on commodity prices. Whilst this will inevitably impact our EBITDA, we have taken steps to enhance our financial resilience even further. This includes the bolstering of our liquidity position, including through working capital management and optimisation of our costs. In addition, we entered a US\$700 million debt refinancing agreement with Sberbank and accessed up to US\$300 million of additional new financing from other lenders. Furthermore, we have optimised capex to focus on the maintenance of our existing production targets.

Credit rating²

- S&P: B- (downgraded from B on 10 December 2019)
- Moody's: B2

The downgrade by S&P reflected a challenging market environment, heavy capex and cash generation delays at Metalkol RTR. Nonetheless, ERG's debt is manageable and the company remains able to meet its obligations and repayments in a timely manner.



² As of end of reporting period.

Our response to COVID-19

We undertook a range of immediate measures to keep our people safe, minimise operational disruption and ensure the sustainability of our business amid the COVID-19 pandemic. These were coordinated through our specially established Anti-Crisis Control Centre.

CONTRIBUTING TO LOCAL EFFORTS TO ADDRESS COVID-19

ERG has committed more than US\$10 million to the creation of a national foundation in Kazakhstan aimed at minimising the socio-economic impacts of the outbreak. This is in addition to a contribution of US\$230,000 to support the fight against the virus in Nur-Sultan.

In Africa, we are supporting the Good Shepherd International Foundation to help them provide 10,000 reusable face masks for use by local communities (including the families of employees) near Metalkol RTR. The masks are being delivered through a vocational training programme, which supports the economic empowerment of local women.

Meanwhile in Brazil, we donated US\$40,000 of aid to our local municipalities, including food and hygiene baskets, more than 300,000 gloves and hand sanitiser gel.

PROTECTING OUR PEOPLE

We focused on a range of Group-wide measures to help secure the health of our workforce – as well as the continuity of our operations. These included:

- The disinfecting of our production sites, offices, canteens, camps and buses
- The use of thermal scanners and touch-free thermometers at entrance checkpoints, on buses and in our offices
- The provision of additional personal protective equipment (including reusable masks) and hand sanitisers
- The application of social distancing in the workplace
- The rental of additional buses to transport employees from their homes to work sites safely
- The acquisition of a local medical centre in Kazakhstan to provide free medical support to employees with COVID-19 or other respiratory diseases
- Daily monitoring of those confirmed to have COVID-19, as well as those in quarantine or in self-isolation
- Employee awareness-raising
- Development of a testing programme for shift-workers

- The purchase of testing equipment to be used in new ERG laboratories in Kazakhstan that we plan to open in 2020

In addition, we applied a range of preventative organisational measures, including:

- The temporary removal of 'high-risk' employee groups (i.e. +55 years of age or with chronic illnesses) from their usual operational roles
- The closure of offices, remote working for office-based employees and the placing of selected office-based employees on annual leave
- Changes to shift patterns to minimise human contact





The health and safety of our employees and contractors – as well as their families and our local communities – is an absolute priority. We continue to take rapid precautionary action as necessary. This focused approach has helped ensure the continuity of our operations and supported our ability to produce the materials needed to drive long-term, post-pandemic growth.

Benedikt Sobotka

Chief Executive Officer

ENSURING OPERATIONAL CONTINUITY

A comprehensive approach was taken towards operational continuity, which helped ensure our operations were not materially impacted. Measures included:

Sales planning

We carried out scenario analysis to better understand – and manage – the impact of the outbreak on our sales. This included benchmarking and stress-testing, the identification of key triggers likely to affect sales (such as closed borders, customer disruption, etc.), the confirmation of planned sales volumes with key customers and contingency planning. We also investigated the development of alternative markets – and supporting logistical arrangements.

Maintenance of production

We introduced a continuity plan to ensure at least three months of uninterrupted production in the event of a significant decrease in personnel availability (i.e. up to a 35% reduction in total employee availability, or up to a 20% decrease in operational employee availability). Key actions included:

- The transition to a 12-hour shift system and the introduction of additional overtime arrangements

- The creation of ‘quick response’ teams to address operational gaps
- The postponement of non-urgent maintenance, repair and stripping activity

In addition, we:

- Implemented emergency succession planning for key managers and operational personnel
- Created an operational ‘reserve’ using repair personnel, in case immediate personnel replacements were required

Supply chain continuity

We carried out extensive planning to help ensure we could maintain adequate supplies of raw materials, goods, materials and equipment. Amongst other things, this included:

- The maintenance of optimal levels of critical inventory items
- The confirmation of planned deliveries with suppliers
- The identification of alternative suppliers if/where necessary
- Analysis of potential logistical constraints and the development of alternative arrangements

Execution of capital projects

We analysed the impact of the outbreak in terms of deferred delivery of equipment and/or contractor availability. Plans have been developed (and are being implemented) to reduce any backlogs in the project implementation schedule – including through the use of alternative local contractors for specific tasks and the application of remote working by project contractors.

IMPROVING OUR FINANCIAL RESILIENCE

In the first half of 2020, it became obvious that the COVID-19 outbreak poses a significant threat to the global economy. Given this has the potential to impact Group EBITDA and liquidity, we are applying measures to further enhance our financial position.

Further details on how we are enhancing our financial resilience following the outbreak can be found on p. 11.

Understanding and navigating global challenges and opportunities in 2019

GLOBAL METALS MARKETS AND THE IMPACT OF US-CHINA TENSIONS AND COVID-19



As US-China trade tensions evolved, global economic growth slowed, causing concerns around a steeper deceleration in 2020.

In this context, prices for most ERG products (including aluminium, ferroalloys, copper, cobalt, and thermal coal) showed year-on-year declines.

Iron ore performed strongly, however, with year-on-year price gains of more than 30%.

This slowdown is in fact proving more acute than was expected for key commodities, due to the global impact of the COVID-19 pandemic.

Nonetheless, the reopening of the Chinese economy and huge national stimulus programmes helped mitigate some of these price drops.

Implications and responses: Business sustainability – and resilience

Weak market conditions in 2019 (with even stronger economic headwinds in 2020) underline the importance of preparing our business for the future. Our efforts in this respect, include:

- The embedding of our 2025 Strategy and the strengthening of our organisational culture (p. 8)
- The launch of our ERG Way Production System (p. 22), our Ideas Factory and Innovators' Forum (p. 28), and operational innovation (p. 28)
- Implementation of our Digital Strategy to support digital innovation across our organisation (p. 28)

In addition, we continue to:

- Optimise our portfolio, including through investments that will help the Group support and benefit from the transition towards a global 'Green Economy' (p. 6–7)
- Pursue financial resilience through the enhancement of our liquidity (p. 11)

KAZAKHSTAN AND THE BELT AND ROAD INITIATIVE (BRI)



China's total BRI-related investment over 2013-2019 reached US\$730 billion, according to the China Global Investment Tracker.

The land-based 'Silk Road' across Eurasia is a key pillar of the BRI, with partner countries accounting for US\$1.34 trillion of China's trade in 2019. Rail-borne trade between China and Europe is likely to increase materially over the decade, with Kazakhstan becoming the key crossroads.

According to a World Bank research paper,¹ Kazakhstan could ultimately see a net increase in its GDP of up to 6% as a result of BRI-related infrastructure investments. Nonetheless, in the short-term the impact of the COVID-19 outbreak may have a dampening effect on both Chinese commodity demand, as well as domestic investment in BRI projects.

Implications and responses: A strategic growth driver for ERG – in Kazakhstan and beyond

China is, alongside Russia, the largest buyer of ERG's raw material inputs. As such, the BRI is likely to play an important role in helping drive our future sales demand – as well as our future growth.

Indeed, Chinese financing and technical capabilities continue to support the development of our portfolio. Most notably, this includes ongoing financing and construction support for our Metalkol RTR cobalt and copper operation in the DRC (p. 24). In 2019, we sold our first volumes of cobalt hydroxide to major refineries in China – marking one of the key milestones for Metalkol RTR.

¹ World Bank, Common Transport Infrastructure – A Quantitative Model and Estimates from the Belt and Road Initiative, Policy Research Working Paper 8801, April 2019: <http://documents.worldbank.org/curated/en/879031554144957551/Common-Transport-Infrastructure-A-Quantitative-Model-and-Estimates-from-the-Belt-and-Road-Initiative>

COVID-19

The COVID-19 outbreak is having a profound effect on the global economy. National governments and central banks implemented major stimulus packages to mitigate the impact, including lower interest rates and the direct stimulation of national economies. In this context, the International Monetary

Fund has forecast a 5% contraction in the global economy in 2020, with a subsequent 5% rebound in 2021.²

For further information on how we have managed the impact of the COVID-19 outbreak in 2020 and are preparing for its economic consequences, please see p. 12.

TECHNOLOGICAL CHANGE AND BATTERY DEMAND



The electric vehicle (EV) revolution is driving strong demand for cobalt – with global sales of new EVs³ rising to 2.3 million units in 2019 (2018: 2.1 million units).⁴

The use of cobalt in EV batteries is expected to almost triple by 2022 (compared to 2019) – and increase four-fold by 2025.⁵ This trend will be supported by China's planned investment in EV charging networks and its extension of EV subsidies, as well as the European Union's 'Green Deal' and the introduction of EV subsidies by several Member States in 2020.

Demand for energy storage systems for wind and solar farms is also helping drive this dynamic – with installed lithium-ion battery capacity rising to 455GWh by the end of 2019 (end of 2018: 295GWh).⁶

Implications and responses: Metalkol RTR to transform ERG into a major, trusted cobalt supplier

ERG is exceptionally well placed to support the development of affordable, responsibly produced battery technology – and, by extension, the EV revolution – through its operations in the DRC.

Most notably, this includes Metalkol RTR. In 2019, we ramped up production at the site and initiated Phase 2 of development (p. 24). Much of this output will be processed in China and used by customers across the world – supporting battery manufacturing and the gradual global substitution of internal combustion technology.

ERG is considering the possible construction of a lithium-ion battery precursor plant, to be supplied with cobalt hydroxide from Metalkol RTR. This would support the vertical integration of ERG's cobalt business and enhance our ability to deliver responsible value chain assurance to the EV industry.

Our CEO is co-chair of the Global Battery Alliance, which is hosted by the World Economic Forum.

GLOBAL DECARBONISATION – AND ASSOCIATED OPPORTUNITIES FOR 'TRANSITION METALS'



There is a growing consensus around the importance of decarbonising the global economy – as expressed in the 2015 Paris Agreement on Climate Change (of which Kazakhstan is a signatory).

The metals and mining sector – and, more notably, the coal-fired energy generation sector – faces increasing stakeholder pressure with respect to its emissions performance.

However, decarbonisation also presents a number of potential growth opportunities for ERG and the sector more broadly – including increased demand for cobalt, aluminium and copper.

Implications and responses: Working to reduce our carbon footprint – and providing the raw materials to support the energy transition

In 2019, our efforts to reduce our carbon footprint in Kazakhstan included:

- **Energy efficiency:** The application of our 2016-2020 Energy Efficiency Programme (p. 64)
- **Renewable energy:** The advancement of a project to construct wind power generation facilities with installed capacity of 150-180MW (p. 65)

Beyond this, ERG's products means it is well positioned to play a broader role in facilitating the transition to a lower carbon economy.

In particular, Metalkol RTR will help satisfy growing global cobalt demand and put ERG at the centre of the EV revolution.

2 As of June 2020.

3 i.e. electric vehicles and highly electrified plug-in hybrids.

4 EV-Volumes: ev-volumes.com

5 Based on internal research by ERG.

6 Benchmark Mineral Intelligence: benchmarkminerals.com

Identification, assessment and control

Our risk management framework helps us identify and understand potential threats to our business sustainability – and thus our most material Sustainable Development issues (p. 18).

In 2019, we advanced our risk management practice through a range of new measures, including the application of new methodologies and information systems. For further details, please see p. 89 in the Appendix.

ERG's principal risks relevant to Sustainable Development are set out in the table below. Please note that there may be additional risks yet unknown to the Group and other risks currently not believed to be material, which could have a significant impact on our business performance and financial results.

PRINCIPAL RISKS AND KEY MITIGATION ACTIONS RELEVANT TO SUSTAINABLE DEVELOPMENT

RISK AREA AND DESCRIPTION	SELECTED MITIGATION ACTIONS
Political risks There are varying degrees of political stability in our host countries. We conduct our business in complex environments, which are characterised by ever-changing political dynamics.	<ul style="list-style-type: none"> ■ Monitoring and analysis of political and macroeconomic trends in our regions of operation
Regulatory and legal risks There are a number of factors that could affect our regulatory context. This includes the introduction of new (or changes to existing) laws and regulations by our host governments.	<ul style="list-style-type: none"> ■ Monitoring of potential legislative and regulatory changes ■ Representation of our interests through professional bodies/associations ■ Monitoring of compliance with our licence and permit obligations
Price risks A substantial decline in – or volatility around – commodity prices could materially affect our business, including our financial results and our liquidity.	<ul style="list-style-type: none"> ■ Maintenance of long-term sales contracts that link commodity prices to benchmarks ■ Hedging of commodity prices ■ Development of alternative sales channels
Production and operational risks Challenging operational environments have the potential to result in business interruption, damage to physical property, unplanned downtime, asset shutdown, uncertainty in geological formations and mineralisation, serious safety incidents and environmental harm.	<ul style="list-style-type: none"> ■ Risk-based reliability planning and maintenance ■ Independent technical diagnostics focused on machinery ■ Maintenance of a resilient power supply system/long-term contracts with reliable suppliers ■ Control of input materials (quality and specification) ■ Implementation of business continuity management processes ■ Infill drilling and ore body modelling ■ Maintenance of property damage/business interruption insurance
Supply chain and logistics risks The Group's large supply chain exposes it to risks relating to contractual non-compliance by suppliers, including non-delivery; changes in prices for purchased goods; shortage of transportation for goods.	<ul style="list-style-type: none"> ■ Quality/specification/completeness controls related to the supply of goods and services ■ Long-term contracts and category strategies for key goods/services (including formula pricing) ■ Maintenance of own fleet of railway wagons

RISK AREA AND DESCRIPTION	SELECTED MITIGATION ACTIONS
Capital project execution risks A failure to deliver major capital projects within planned timeframes, budgets and quality criteria could negatively affect long-term profitability and reputation (including our ability to attract future financing).	<ul style="list-style-type: none"> ■ Systematic, transparent and stage-gated project implementation process ■ Enhanced project due diligence, independent project reviews and mine planning process ■ Monitoring/control of project deadlines, budgets, etc.
Financial risks There are a number of financial risks the Group is exposed to, including liquidity risk, i.e. inability to meet our existing financial obligations; risk of non-compliance with loan covenants; foreign exchange risk; tax risks; credit risk; and interest rate risk.	<ul style="list-style-type: none"> ■ Maintenance of strong relationships with existing lenders, the expansion of our credit lines, as well as improvements to our debt portfolio, funding opportunities and conditions ■ Regular updating of our cash flow plan and control of the Group's liquidity level ■ Compliance with our covenants ■ Monitoring of the Group's open FX position ■ Monitoring of tax legislation compliance ■ Credit control implementation
Personnel management risks The fact we operate in remote locations poses risks in terms of our ability to attract personnel with the skills and experience we need, as well as the outflow of qualified personnel.	<ul style="list-style-type: none"> ■ Maintenance of competitive remuneration packages ■ Training and development to maintain the skills pipeline ■ Implementation of an effective incentivisation and retention system
Social risks Our business activities may negatively affect nearby communities. Therefore, there is a risk that this could affect our social licence to operate. In addition, we provide social benefits to Group employees (many of whom are from our local communities) as part of our broader human resources management approach.	<ul style="list-style-type: none"> ■ Application of community social investment ■ Application of the Participatory Rural Appraisal programme and Clean Cobalt Framework in the DRC ■ Monitoring of social attitudes within our host regions – and community grievance mechanisms
Health, safety and security risks The nature and location of our operations mean they have, in absence of appropriate controls, the potential to affect the physical well-being and health of our employees, contractors and community members.	<ul style="list-style-type: none"> ■ Implementation of OHSAS 18001-certified and/or aligned occupational health and safety management systems ■ Zero Harm approach towards critical health and safety risks ■ Safety management system audits ■ Integration of safety targets into managers' KPIs
Environmental and climate change risks The nature of our activities and processes mean they have, in the absence of appropriate controls, the potential to harm the environment. Furthermore, our substantial greenhouse gas emissions mean we face direct and indirect risks in relation to future regulatory attempts to limit organisations' emissions.	<ul style="list-style-type: none"> ■ Implementation of ISO 14001-certified and/or aligned environmental management systems ■ Implementation of ISO 50001-certified energy management systems in Kazakhstan ■ Implementation of renewable energy projects ■ Carbon footprint analysis
Compliance risks The Group has a presence and does business in locations that are considered to pose higher levels of legal compliance risks in terms of bribery and corruption; sanctions; human rights; personal data protection; anti-money laundering and counter-financing of terrorism.	<ul style="list-style-type: none"> ■ Monitoring of adherence to Group compliance policies ■ Extensive training and awareness programme ■ Regular counterparty and supply chain due diligence ■ Application of a Sanctions Compliance Programme ■ Compliance with the EU General Data Protection Regulation (GDPR) and other applicable laws ■ Maintenance of a whistleblower system, including an anonymous and confidential 24-hour, independently operated Group Hotline
IT and information security risks In the context of our digitalisation and the enhancement of our Information Technology (IT) landscape, we recognise that this exposes us to potential risks including in relation to loss of access to IT infrastructure; disruption of business processes; internal and/or external fraud; data leakage and data breaches; non-compliance with information security regulations; and other related risks.	<ul style="list-style-type: none"> ■ Building of a robust cyber resilience framework ■ Prompt responses to IT failures and cyber security incidents ■ Implementation of continuity plans for critical IT processes ■ Monitoring of software licence compliance

OUR MATERIAL ISSUES

Understanding what matters

In 2019, we completed our first structured materiality process to inform our reporting and broader management approach – including the engagement of a range of external stakeholders. In 2020, we updated this assessment using:

- ERG's ongoing risk assessment process and stakeholder engagement activity

- Desk-based analysis carried out by third-party sustainability specialists
- Further engagement of key executives and managers across the Group

Our material issues are prioritised using a quantitative scoring system based on the following criteria:

- The potential/actual impact of ERG on stakeholders and their interests

- The potential/actual impact of stakeholders on ERG and the achievement of its business objectives

If an issue does not appear as material, it does not mean it is irrelevant or is not being managed, but only that it is not of sufficient significance to be addressed in detail in this report.

ASSESSMENT OUTCOMES

The assessment resulted in a number of relatively minor changes in the prioritisation of ERG's most material issues, including the following:

- Increased prioritisation of **'Energy and climate'** for ERG, reflecting the long-term impact on ERG as investors and customers factor climate change into their decision-making – plus commercial opportunities with respect to those ERG metals that will support the transition to a low-carbon economy
- Increased prioritisation of **'Community social investment'** for ERG, reflecting the company's key socio-economic role in Kazakhstan, and the integration of social investment requirements into the DRC's new Mining Code
- Increased prioritisation of **'Health and safety'** for ERG, due to the worsening of safety performance in 2019
- Increased prioritisation of **'Labour relations'** for stakeholders, reflecting high levels of employee/community dependency and the importance of enhanced working conditions
- Increased prioritisation of **'Managing impacts on air and water'** for ERG, reflecting the anticipated impact of a new Environmental Code in Kazakhstan and rising social pressure in the country

In addition, it resulted in the reconfiguration of issues subject to the assessment, including the following:

- The inclusion of **'Financial resilience'** as a distinct issue. This reflects the need for ERG to actively manage its financial position to ensure it can successfully navigate ongoing market uncertainty
- The inclusion of **'Portfolio development'** as a distinct issue. Whilst the issue has been addressed in previous reporting, this is in recognition of the key role it is likely to play in terms of longer-term business sustainability
- The inclusion of **'Responsible supply chains'** as a distinct issue. This reflects broad stakeholder interest in companies' 'indirect' impacts (including those relating to human rights), as well as a more specific focus on responsible mineral sourcing and value chain assurance

In addition, **'Human rights'** cuts across multiple thematic issues (e.g. employees, value chains and local communities). As such, we have integrated human rights into these areas of analysis where relevant, rather than treating it as a distinct, separate issue. An overview of our broader approach to human rights can be found on p. 80.

Similarly, as **'Governance'** and **'Risk management'** are integral to all our business processes, and thus to all of the issues in the assessment, they were not treated as standalone issues.

For further information on/analysis of our material issues, please see p. 94 of the Appendix.



LIST OF MATERIAL ISSUES

ISSUES ASSESSED	MATERIAL ISSUES	DESCRIPTION
Preparing our business for the future <ul style="list-style-type: none"> Organisational transformation Portfolio development Technology and efficiency Financial resilience 	Organisational transformation	<ul style="list-style-type: none"> Enhanced organisational performance through improved structures, processes and culture
	Portfolio development	<ul style="list-style-type: none"> Acquisition, development and/or maintenance of production, processing and other assets that collectively support ERG's business sustainability
	Technology and efficiency	<ul style="list-style-type: none"> Enhanced operational performance through improved practices and processes
	Financial resilience	<ul style="list-style-type: none"> The maintenance of sufficient capital/access to capital, financial flexibility and acceptable debt levels
Helping our people thrive <ul style="list-style-type: none"> Health and safety Skills, capabilities and development Labour relations Diversity and inclusion 	Health and safety	<ul style="list-style-type: none"> Delivery of a safe and healthy workplace – and the promotion of safe working practices
	Skills, capabilities and development	<ul style="list-style-type: none"> Development of skill and capability levels within our workforce
	Labour relations	<ul style="list-style-type: none"> Relations with our workforce and their legitimate representatives on salient workplace and non-workplace (e.g. quality of life, family welfare, etc.) issues
Community development and well-being <ul style="list-style-type: none"> Community impacts Community social investment Artisanal and small-scale mining Indigenous people 	Community impacts	<ul style="list-style-type: none"> ERG's positive and negative impacts on local communities (excluding dedicated social investment, which is dealt with separately)
	Community social investment	<ul style="list-style-type: none"> Voluntary and/or mandatory spending aimed at enhancing socio-economic conditions in our countries of operation¹
	Artisanal and small-scale mining	<ul style="list-style-type: none"> The presence of – and interaction with – artisanal and small-scale mining (ASM) communities within or near ERG's concession areas in Africa
Environmental stewardship <ul style="list-style-type: none"> Managing impacts on air and water Energy and climate change Waste management Responsible closure and transfer Water availability Biodiversity 	Managing impacts on air and water	<ul style="list-style-type: none"> Responsible management of emissions to the environment²
	Energy and climate change	<ul style="list-style-type: none"> The minimisation of energy consumption and greenhouse gas emissions, plus the management of climate change impacts
	Waste management	<ul style="list-style-type: none"> Responsible approaches to waste generation, management and disposal (e.g. overburden, tailings, slag, general industrial waste, etc.)
Our relationship with broader society <ul style="list-style-type: none"> Value generation and distribution Compliance Responsible supply chains Government relations and policy 	Value generation and distribution	<ul style="list-style-type: none"> The generation of economic value by ERG – and the distribution of such value to its stakeholders
	Compliance	<ul style="list-style-type: none"> Maintenance of Group/employee compliance with regulatory requirements and ERG's compliance commitments
	Responsible supply chains	<ul style="list-style-type: none"> The avoidance and or/mitigation of indirect supply chain impacts – and the delivery of assurance to downstream value chain actors regarding the responsible sourcing of minerals
	Government relations and policy	<ul style="list-style-type: none"> Relations between ERG and host – plus other third-party – governments, including positive and negative mutual impacts

1 Please note that community-focused spending linked to our employees is addressed under 'Labour relations'.

2 Excluding carbon emissions, which are addressed separately under 'Energy and climate change'.

PREPARING OUR BUSINESS FOR THE FUTURE

SECTION 1: PREPARING OUR BUSINESS FOR THE FUTURE

2019 HIGHLIGHTS

Rollout of the
**ERG Way Production
System** in Kazakhstan

**Production ramp-up
at Metalkol RTR** and
initiation of Phase 2
of development

US\$68M

saved through our
Operational Efficiency
programmes in
Kazakhstan

MATERIAL ISSUES INCLUDE

ORGANISATIONAL TRANSFORMATION

→ Read more on p. 22

PORTFOLIO DEVELOPMENT

→ Read more on p. 24

TECHNOLOGY AND EFFICIENCY

→ Read more on p. 27

Under our 2025 Strategy,¹ we have prioritised **financial stability**. Amongst other things, this means maintaining acceptable leverage and sufficient liquidity. Two additional priorities identified in our 2025 Strategy are of particular relevance:

- **Efficiency in all that we do** through unit cost reductions, organisational effectiveness and a culture of continuous improvement
- **Balanced portfolio growth** through the development of our existing assets, improved asset returns, and the development of new opportunities

¹ Please note that our 2025 Strategy is currently under review as we address the immediate impact of the 2020 COVID-19 outbreak and the longer-term implications for the Group.



ORGANISATIONAL TRANSFORMATION

Efficiency in all that we do:

Under our 2025 Strategy, we have prioritised the pursuit of efficiency at Group and asset level. This includes enhanced organisational effectiveness and the development of a culture of continuous improvement – supported by relevant management tools and processes.



Our organisational transformation process is aimed at applying incremental improvements to our business structures and processes on a continuous basis – and through the application of international standard systems, practices and organisational structures. In 2019, this included our ongoing embedding of our 2025 Strategy (p. 8), which is currently under review in light of the 2020 COVID-19 outbreak.

Key issues and initiatives

The ERG Way Production System in Kazakhstan

The ERG Way Production System is one of the key tools we are using to promote a more effective working culture in Kazakhstan (where most of our assets and people are located). This supports efficiency across the product lifecycle, including through the application of lean management principles. In particular, the ERG Way Production System aims to:

- Promote continuous improvement in production efficiency, with a focus on equipment productivity and sustainable cost reduction

- Improve site-level management efficiency through the application of common principles and effective employee/team interaction
- Encourage employees to engage proactively in production improvement processes
- Support systemic change management in the production process, including through employee empowerment and cross-functional collaboration

In 2019, we initiated pilot applications of the ERG Way Production System at Kazchrome's Aksu Ferroalloys Plant and Aktobe Ferroalloys Plant, as well as at SSGPO's Kacharsky mine. This involved:

- Improvements to on-site working conditions (including facilities) to support employee effectiveness and morale
- The promotion of effective communication and cooperation via a three-pronged training process involving the most senior to the most junior management levels. This was organised around:
 - People (i.e. organisational structure, safety, etc.)
 - Processes (i.e. goals, bottlenecks, etc.)
 - Tools (i.e. lean management)

Knowledge gained through this training will cascade into all parts of the relevant operations, as participants apply it in practice. To help this process, the project team are offering hands-on assistance and will support the formal integration of the ERG Way Production System into each site's business processes.

Further applications are planned to ensure full coverage of both Kazchrome's and SSGPO's operations. We plan to roll the system out to all parts of our business in Kazakhstan, supported by dedicated training for supervisors and managers at every level.

Driving cultural change through the ERG Academy in Kazakhstan

The ERG Academy plays a key role in supporting cultural transformation within our business in Kazakhstan – and the broader implementation of our 2025 Strategy. Key activities include internal awareness raising, the evolution and communication of ERG's Values, input into the development of functional sub-strategies, the holding of large-scale employee events in Kazakhstan and the delivery of training to support the implementation of the ERG Way Production System.

ERG Business System in Kazakhstan

We continued to enhance the efficiency of our business processes in Kazakhstan and achieve continuous improvement through the implementation of our ERG Business System (first launched in 2018). The system is focused on:

- Improving engagement and empowering managers at all levels to improve organisational efficiency
- Simplifying and enhancing our management processes, including through the development of universal standards and processes, enhanced cross-functional collaboration, process automation and reduced bureaucracy



In 2019, application of the ERG Business System resulted in:

- Enhancements to our systems, which will improve organisational transparency and functional accountability
- Process optimisation, with a particular focus on procurement and repair and maintenance processes

Organisational design and resource planning in Kazakhstan

In Kazakhstan we continued to build effective organisational structures to improve the transparency of our processes, and to help meet the current and future needs of our business. This included the following measures:

- The remodelling of our organisational design to create flatter and more efficient management structures
- The ongoing standardisation of role profiles and grading structures to provide a more transparent framework for performance benchmarking
- The creation of a single service centre to support the standardisation of human resources service provision across our operations (e.g. recruitment, payroll and other administration processes)

Functional transformation programmes in Kazakhstan

In addition to these initiatives, we implemented a number of functional transformation programmes to support our Group objectives. These included:

- The establishment of a dedicated ERG Capital Projects company to enhance project delivery
- The establishment of ERG Recycling to grow our waste reprocessing, recycling and marketing activities (p. 68)
- Multiple measures to enhance our management of risk,¹ including:
 - The enhancement of our business continuity, capital project risk and group internal control methodologies
 - Implementation of our risk management information system
 - Implementation of our Hazard Identification (HAZID) project (a live database of hazards, risks and mitigation actions, which assigns relevant responsibilities and resources for the management of risks)

Furthermore, we continued to apply our Maintenance and Repair Operations (MRO) transformation programme. This is aimed at optimising our service approach, improving equipment reliability and enhancing the efficiency of existing processes.

MRO transformation programme in Kazakhstan

In 2019, we implemented over 170 projects to reduce repair time across our business units in Kazakhstan. This increased the available operating time of relevant equipment by around 8,000 hours, saving more than US\$19 million in otherwise lost income. Examples of projects, many of which integrated lean manufacturing principles, included the:

- Overhaul of Furnace No. 11 of Smelting workshop No. 1 at Kazchrome's Aksu Ferroalloys Plant, with a 30% reduction in repair time
- Repair of the exhaust on EEC's Boiler No. 4, with a 45% reduction in repair time
- Repair of Power Unit No. 3 at EEC, with a 50% reduction in repair time

Driving organisational effectiveness in Africa – ERGA SHIFT>> programme

In 2019, we initiated a programme in our Johannesburg office focused on improving organisational effectiveness and strengthening our internal culture. The initiative ('ERGA SHIFT>>') supports ERG Africa's journey towards business sustainability and aligns it more closely with our Group 2025 Strategy.

ERGA SHIFT>> is made up of three workstreams:

- The building of leadership capabilities to drive change and business performance
- The establishment of a stronger working culture, including through better ways of working, improved communication and an improved physical environment
- The pursuit of continuous improvement with respect to financial performance, cultural alignment, safety and sustainability

In future, we plan to expand the ERGA SHIFT>> programme to other operations in Africa.

Planning for the future

In 2020 we plan to:

- Pilot the integration of an impact assessment process into our portfolio management system, with the ultimate aim of ensuring that each investment project is assessed for its sustainability impacts
- Enhance our sustainable development management practices, including through the establishment of robust methodologies to evaluate social projects and manage our sustainability metrics
- Continue to embed and develop the ERG Business System and ERG Way Production System in Kazakhstan
- Optimise our management of human resources, including through the elimination of inefficient processes
- Continue to standardise and centralise our functional processes through the ongoing rollout of single service centres

We will also seek to better understand the implications of the COVID-19 outbreak for how we organise and manage our business.



¹ See Appendix (p. 89) for further details.

PORTFOLIO DEVELOPMENT

Balanced portfolio growth:

Under our 2025 Strategy, we have prioritised steady portfolio growth and development. This includes the development of our assets in Kazakhstan, as well as increased returns on our international assets. Furthermore, we are focused on optimising our portfolio through new natural resource opportunities and/or divestment, whilst further developing our energy business.



Relevant UN Sustainable Development Goals

UN SDG

Associated UN Targets



8.2

Achieve higher levels of economic productivity through diversification, technological upgrading and innovation



9.2

Promote inclusive and sustainable industrialisation and, by 2030, significantly raise industry's share of employment and gross domestic product

9.4

By 2030, upgrade infrastructure and retrofit industries to make them sustainable

In 2019 we took a number of actions to support the balanced growth of our portfolio, including:

NEW ERG CAPITAL PROJECTS COMPANY

This company consolidates and enhances our project management capabilities in Kazakhstan and will, in combination with the recruitment of highly qualified personnel and process development, support future project delivery.

We also continued to implement our Capital Expenditure Governance Policy through the development of an associated management system.

EFFICIENT MINE PROJECT

We continued to ramp up our Group-level project due diligence and mine planning team, overseen by our Chief Technical Officer. The team (and its third-party experts) are updating our geological models and enhancing our mining plans.

In 2019, work included extensive exploration and a transition towards international-standard 3D geomodelling at our Kacharsky (SSGPO) and 10th Anniversary (Kazchrome) mines. A less extensive programme is taking place at Aluminium of Kazakhstan and Shubarkol Komir.

We also completed an extensive exploration programme at Metalkol RTR, supporting a JORC 2012 compliant Mineral Resources and Ore Reserves estimate.

At Frontier, we optimised the life of mine schedule, aimed at minimising waste stripping and improving overall project economics.

ENHANCEMENT OF OUR EXPLORATION PORTFOLIO IN KAZAKHSTAN

We enhanced our portfolio of exploration projects, including through the addition of new licences. Our portfolio now includes more than 30 targets at different stages of development, focusing on a range of minerals, such as chromite, bauxite, iron ore, manganese and others.

This is with the aim of replenishing our Mineral Resource and Ore Reserve base.

Cobalt and copper

Ramp-up and expansion at Metalkol RTR (DRC)

Metalkol RTR reprocesses historical cobalt-copper tailings near Kolwezi. These accumulated over decades of mining at the site by previous operators, including at the existing Kingamyambo tailings deposit and in the Musonoi River. Once it reaches full production, this strategically important operation will make us a major player in the global cobalt market.

Furthermore, by reprocessing and responsibly storing these tailings in a safe, modern facility, we will:

- Support the development of affordable battery technology and, by extension, the electric vehicle revolution (p. 15)
- Deliver responsible value chain assurance through our Clean Cobalt Framework (p. 84)
- Reduce local pollution risks by reclaiming poorly stored and managed legacy tailings, and relocating them to a modern, responsibly managed facility (p. 68)

In 2019, we continued to ramp up production at Metalkol RTR, achieving 100% of the Phase 1 design tailings feed rate. However, volumes were affected by lower than expected grades from the Kingamyambo tailings deposit, initial water supply challenges and the illegal invasion of artisanal miners (p. 56). We are implementing a number of initiatives to help Metalkol RTR achieve its designed capacity, including the overhaul of its belt filters and the upgrading of its production infrastructure.

Construction also started on Phase 2 of the operation, with plant fabrication completed in Q2 2020. Phase 2 will add 6ktpa of cobalt and 28ktpa of copper once it achieves full production in Q3 2020.

We are now exploring potential opportunities for the construction of a lithium-ion battery precursor plant, to be exclusively supplied with cobalt hydroxide from Metalkol RTR.

Expansion of the Frontier mine through the Cut 3 project (DRC)

In 2019, we continued to develop our Frontier copper mine through the expansion of its open pit – referred to as Cut 3. The majority of waste stripping was undertaken in 2019 to support the production of more than 350kt of copper contained in concentrate over the life of the project. In combination with the processing of ore stockpiles, Cut 3 is expected to extend the life of mine to 2024.

We also conducted an additional geotechnical drilling campaign and a slope stability assessment. These will support a further pit expansion ('Cut 4', which has the potential to extend the life of mine by approximately 10 years) and will inform a pre-feasibility study that is to be completed in 2020.

Alumina and aluminium

Adding value through the KAS-2 project (Kazakhstan)

We continued to advance our major KAS-2 upgrade project at Kazakhstan Aluminium Smelter. If it proceeds, the project will more than double our overall aluminium smelting capacity. This will help us meet an anticipated increase in demand, whilst also laying the groundwork for the potential production of aluminium alloys. This is in a context in which we have successfully diversified our alumina customer base, with China and Tajikistan now accounting for a significant proportion of our sales.

We substantially completed two parallel bankable feasibility studies for this US\$1.0-1.5 billion project, resulting in the selection of a development approach. We are now focused on arranging financing and selecting a project contractor.

Ferroalloys

Development of Kazchrome's 10th Anniversary mine (Kazakhstan)

In 2019, we advanced this project, which is aimed at increasing production at this world-class chrome ore body. This will help address projected production reductions at other mines supplying our ferroalloys plants – and help increase Kazchrome's overall production volumes.

Work included the continued development of a pre-feasibility study, including the gathering of additional geo-technical data. The study is focused on a potential transition to higher productivity mining methods (including mechanised block-cave mining, amongst others). Once the study is complete, we aim to select the most effective development method in 2021 and move into the design phase.

Furnace reconstruction at Kazchrome's Aksu Ferroalloys Plant (Kazakhstan)

In August 2019, we commissioned the Aksu Ferroalloys Plant's smelter furnace No. 64 following a major reconstruction process. This marks the completion of Phase 1 of the broader Workshop No. 6 renovation project, which aims to increase production at the workshop by over 20% by 2026.

The rebuild included the gastight sealing of the furnace, which will allow us to harvest off-gas from our ferroalloy production process and use it to help heat charge materials during feeding. This is expected to improve furnace productivity, and to reduce energy consumption, costs and (in conjunction with the installation of two advanced filters) emissions to air.

The reconstruction of the other three furnaces at Workshop No. 6 is planned to take place by 2026. Upon completion (and in combination with a range of operational efficiency measures), the workshop is expected to produce 480ktpa of ferrochrome and reduce electricity consumption by 10%.



SECTION 1: PREPARING OUR BUSINESS FOR THE FUTURE

PORTFOLIO DEVELOPMENT CONTINUED

Other projects

Other growth and renewal projects that support the sustainability of our business include:

Advancement of the BAMIN project (Brazil)

BAMIN, a wholly-owned ERG subsidiary, is developing what will be an 18mtpa low-cost, high-margin greenfield iron ore project in Brazil, consisting of:

- The fully owned and licensed Pedra de Ferro iron ore mine
- The Porto Sul deepwater port, over which BAMIN has the relevant development licences
- The first stage of the multi-user West-East Integration Railway (FIOL), which is currently owned and being constructed by the Federal Government – but which is due to be auctioned in 2020

As configured, this integrated project enjoys high-grade, low-impurity ore, giving it an important advantage in terms of competing against Australian ore exports to China. This is particularly the case given the Chinese Government's prioritisation of higher-quality iron ore imports to help reduce the domestic iron sector's greenhouse gas emissions and impacts on air quality.

Key activities in 2019 included:

- Preparation for the 2020 FIOL bidding process (delayed from 2019). If our bid is successful, it will help underpin the integrated nature of the overall project
- Ongoing engagement with potential co-investors and joint venture partners

Upgrading of SSGPO's processing facilities (Kazakhstan)

Our existing iron ore processing facility at Rudny, which has a production capacity of 17 million tonnes of concentrate and 8 million tonnes of pellets a year, requires significant investment to continue operations. In this context, we carried out pre-feasibility studies on two strategic options to support future production volumes, whilst also reducing future production costs and improving product quality:

- The construction of a modern processing facility at our Kacharsky mine
- The modernisation (and extension of life) of the existing Rudny processing facility

These studies were completed in the first half of 2020. Once approved, the selected option will be moved to the design phase.

New special coke plant at Shubarkol Komir (Kazakhstan)

We continued to pursue the potential development of a new 400ktpa special coke plant at Shubarkol Komir, as well as the reconstruction of our existing 210ktpa special coke plant. This would help us meet internal demand for cost-effective reductants used during the smelting process, and to support potential external sales.

Plans are in place to complete the project feasibility study in 2020 and to start construction in 2021.

Major upgrade of EEC's Aksu Power Plant (Kazakhstan)

In 2019, we commissioned Power Unit No. 5, following the replacement of its boiler, turbine and generator equipment. This will increase its capacity from 300MW to 325MW, helping address an anticipated internal power supply shortfall. In addition, the replacement of the filters at the power unit will reduce its emissions to air (p. 61).

We also carried out a feasibility study for the reconstruction of Power Unit No. 7 and approved a contracting strategy. In 2020, we plan to move to a design phase, with commissioning planned for 2025.



TECHNOLOGY AND EFFICIENCY

Efficiency in all that we do:

Under our 2025 Strategy, we have prioritised the pursuit of efficiency at Group and asset level. This includes reducing our unit costs by eliminating bottlenecks and improving productivity.



Relevant UN Sustainable Development Goals

UN SDG Associated UN Targets



8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation



9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries

We seek to achieve efficiency in all that we do, including through:

- The optimisation of our mineral deposits, infrastructure and equipment
- The pursuit of innovative technical solutions
- The renewal of legacy capital assets (see p. 25–26)

Key issues and initiatives

Operational Efficiency initiatives

In 2019, our Operational Efficiency team in Kazakhstan continued to take a systems-based approach to achieving ongoing, incremental improvements in efficiency and productivity. This includes the application (in the context of our broader transformation

efforts, p. 22) of lean management principles and collaboration with employees at all levels to improve 'how things are done'. Under this system, the best improvement opportunities identified by employees are selected every month, quarter and year – with prizes offered in return.

TOP 5 ONGOING OPERATIONAL EFFICIENCY INITIATIVES IN KAZAKHSTAN

Business unit	Anticipated annual economic impact (US\$M)	Examples of initiatives
KAS	1.9	<ul style="list-style-type: none"> ■ Increase in electric current during electrolysis The achievement and maintenance of a higher, 340kA current resulted in increase production volumes of primary aluminium.
SSGPO	1.5	<ul style="list-style-type: none"> ■ Reduction of overburden transportation distances This included the establishment of a new transformation scheme that reduced the unit cost of transporting overburden.
Kazchrome	1.4	<ul style="list-style-type: none"> ■ Improved slag composition This used peripheral furnace bunkers to improve the composition of the operation's slag, resulting in both improved furnace productivity and ferrochrome quality.
Kazchrome	1.2	<ul style="list-style-type: none"> ■ Productivity improvement at Workshop No. 6 This was achieved through a reduced maintenance schedule, which reflected the stabilisation of the high ferrochrome production process and the identification/elimination of furnace components that require frequent repairs.
Shubarkol Komir	0.7	<ul style="list-style-type: none"> ■ Reduction in coke furnace downtime A reconfiguration of maintenance shifts – from an eight-hour shift to two four-hour shifts – enhanced team productivity.

SECTION 1: PREPARING OUR BUSINESS FOR THE FUTURE

TECHNOLOGY AND EFFICIENCY CONTINUED

Such opportunities are communicated by a variety of means, including through:

- **Ideas Factory:** The Ideas Factory concept is used to gather employee-identified improvement ideas at our operations in Kazakhstan. In 2019, it was used to collect over 8,000 employee ideas, of which 4,462 were accepted for implementation – with anticipated savings of US\$14.9 million (2018: Over 3,000 employee ideas submitted and 1,600 accepted). This increase in numbers suggests that the application of the ERG Way Production System (p. 22) is positively impacting employee engagement in this regard
- **ERG Innovators' Forum:** During our fourth Innovators' Forum in Kazakhstan, instead of focusing on the generation of new, innovative initiatives to support our business, participants focused on the practicalities of implementing innovation in practice – including through the identification and addressing of common 'implementation barriers'

In 2019, this approach helped deliver cost savings of US\$68 million (2018: US\$91.7 million) in Kazakhstan. However, our approach to operational efficiency is ultimately about cultural change that will, over time, affect everything that we do – thereby generating long-term benefits on an ongoing basis.

In 2019, we also implemented new efficiency initiatives, including:

- **New ferroalloy casting process:** This project uses innovative equipment to remove the need for crushing (as well as the reprocessing of resulting fines) from the ferroalloy casting process at Aksu Ferroalloys Plant (Kazchrome). By doing so, it reduces costs, dust emissions and energy consumption, whilst improving working conditions
- **Vibro-diagnostics:** This project saw the installation of 1,185 vibration sensors to 89 units of static equipment at Kazchrome, Aluminium of Kazakhstan and KAS to help us pre-empt equipment failures and avoid unplanned downtime. Collectively, this resulted in US\$2.1 million of cost savings

We also expanded our Smart Mine initiative to Shubarkol Komir, following its application at SSGPO's Kacharsky Mine (where it improved mining and transportation productivity). The initiative uses specialist dispatching systems and software to enhance the management of dump trucks and other moving equipment.

Operational innovation

Our dedicated Research & Development Centre in Kazakhstan helps drive technological innovation to support our operations. Examples of ongoing projects in 2019 are listed below. In addition, the Centre is working on a range of projects to, amongst other things, reduce the ash content of our coal at Shubarkol Komir and EEC, and upgrade coal from Shubarkol Komir so it can be used in metallurgical processes.

Digital innovation

In 2019, we finalised our Group-level Digital Strategy, which will guide us as we use digital technology to improve what we do and how we do it – and move ERG further towards Industry 4.0. This will be supported by well-aligned digital sub-strategies at a functional level, as well as our parallel, ongoing efforts to further enhance our cyber security arrangements.

The new Digital Strategy places particular focus on the development of key employee capabilities (including with respect to robotisation and big data), ensuring cost-effective digital investment decisions and the building of adaptive/modular digital architectures to support our broader business and production processes.

EXAMPLES OF OPERATIONAL INNOVATION PROJECTS

Donskoy GOK Slimes 2 project	SSGPO Liquid Natural Gas (LNG) fuel conversion project	EEC greenhouse gas (GHG) capture project	Aluminium of Kazakhstan Syngas generation project
The development and testing of flotation technology to significantly improve the enrichment of chrome oxide-bearing tailings.	Assessment of the potential conversion of SSGPO's diesel truck fleet to an LNG system – with the aim of reducing both costs and emissions to air.	Review of methods to capture GHGs at our EEC power generation operations. This was found to be technologically possible but currently economically unviable on a full-scale basis.	Assessment of the potential use of coal-derived synthetic gas ('Syngas') to replace fuel oil in our calcination furnaces. This will help reduce costs and emissions to air.
This will supplement our chrome concentrate output, whilst helping reduce the site's tailings footprint.	This project is now ready for piloting, with works expected to start in 2021.	Nonetheless, we are exploring alternative options, including the planned piloting of a smaller-scale gas treatment solution at one of our boiler facilities at our Vostochny coal pit (p. 63).	Industrial testing has now confirmed the viability of this approach. We are now exploring financing options for the project.

Our growing capability in this area – including our application of artificial intelligence technology to our iron ore processing operations – helped us become a finalist in the 2019 OEE Awards¹ for the CIS ‘Artificial Intelligence in Production’ category.

More broadly, we are continuing to explore how we can leverage new digital technology to support independent, sustainable development in our local communities – including through the facilitation of local entrepreneurship (p. 52).

Exploring how blockchain technology can support value chain assurance

In 2019, we continued to explore how blockchain technology could enhance the traceability of the cobalt we produce at Metalkol RTR in the DRC. This work has the potential to strengthen the assurance provided through our Clean Cobalt Framework by leveraging the unique data protection, security and resilience properties of this decentralised technology. We also worked with a consortia of large cobalt players to investigate whether a blockchain-based solution could help support broader traceability from the mine site to end users – including with respect to electric vehicle batteries (p. 66).

Planning for the future

In 2020, we plan to:

- Continue to apply our operational efficiency programmes and initiatives
- Continue rolling out our Smart Mine initiative to Aluminium of Kazakhstan, SSGPO's Sarbay and Kurzhunkul mines as well as EEC's Vostochny coal pit
- Integrate the Digital Strategy into our functional strategies to help embed the Industry 4.0 concept throughout the business, whilst building the digital capabilities of our teams
- Continue to identify and fund start-ups that could benefit our business (p. 52) – and pursue the development of artificial intelligence technology

¹ <https://oee-conf.ru/>



HELPING OUR PEOPLE THRIVE

SECTION 2: HELPING OUR PEOPLE THRIVE

2019 HIGHLIGHTS

Completion of a **comprehensive safety management system audit** at all our operations in Kazakhstan

Investment of approximately **US\$20.5 million** to modernise employee facilities at our sites in Kazakhstan

Launch of the **Atlas of New Professions in Kazakhstan**

MATERIAL ISSUES INCLUDE

HEALTH AND SAFETY

→ Read more on p. 32

SKILLS, CAPABILITIES AND DEVELOPMENT

→ Read more on p. 37

LABOUR RELATIONS

→ Read more on p. 41

Under our 2025 Strategy,¹ we have prioritised the development and maintenance of a **happy and professional team**. This includes the development of our employees' competencies and the maintenance of their safety and well-being.

ERG is fully committed to achieving Zero Harm and to developing our employees' skills and competencies. Furthermore, our approach to labour relations is driven by the significant interconnectivity between our workforce and local communities in Kazakhstan.

¹ Please note that our 2025 Strategy is currently under review as we address the immediate impact of the 2020 COVID-19 outbreak and the longer-term implications for the Group.



Workforce profile

- At the end of 2019, we directly employed **67,272** people² – of which over 90% are located in Kazakhstan
- 24%** of our workforce is female
- Over **90%** of the Group's employees are trade union members

NUMBER OF EMPLOYEES BY REGION

Region	2019	2018
Kazakhstan	63,194	62,422
Africa	3,709	6,446
Brazil	98	99
Corporate offices ^{3, 4}	271	286

² i.e. employees holding a written contract of employment with ERG as at 31 December 2019. This figure does not include contractors.

³ Includes offices in Europe, Russia, UAE and China.

⁴ Headcount of corporate offices in Kazakhstan, Africa and Brazil are included within each relevant region.

SECTION 2: HELPING OUR PEOPLE THRIVE

HEALTH AND SAFETY

A happy and professional team:

Under our 2025 Strategy, we have prioritised the maintenance of our employees' safety and well-being. This includes the delivery of safe working conditions and the improvement of employee wellness and health.



Relevant UN Sustainable Development Goals

UN SDG

Associated UN Targets



3.8 Achieve universal health coverage



8.8 Protect labour rights and promote safe and secure working environments for all workers

COVID-19

For information on how we have managed the immediate impact of the COVID-19 outbreak in 2020, including with respect to the health and safety of our workforce – please see p. 12.

WE AIM TO ACHIEVE zero harm

We are fully committed to delivering a healthy, safe, productive and stable working environment for all our employees and contractors. This includes our ongoing efforts to achieve Zero Harm.

Our operations in Kazakhstan are certified to the OHSAS 18001 occupational health and safety management systems standard.

In Africa, our Safety, Health and Sustainability (SHS) management system is informed by OHSAS 18001.

For further information on how we address health and safety issues in our supply chain, please see p. 82.

Key issues and initiatives

ERG experienced a highly challenging year in respect of our safety performance. We are deeply saddened that this included an increase in fatalities at our operations (p. 35). We have set out below the measures we are taking to improve our performance and minimise the risk of such fatalities reoccurring.

Employee safety in Kazakhstan

Enhanced safety management system

In 2019, we completed a comprehensive audit of our safety management system at all our operations in Kazakhstan. This included:

- **Gap analysis:** An in-depth diagnostic of our safety management system across all our operations and our corporate office to assess their maturity levels and to identify gaps in safety processes and controls
- **Risk assessment:** The piloting of an enhanced Hazard Identification (HAZID) assessment process at our Aktobe Ferroalloys Plant (Kazchrome) and Aksu Power Plant (EEC). In 2019, we trained 56 employees in the process and developed an assessment plan for 2020

The audit results will inform the following activities:

- The implementation of an integrated, risk-based occupational and process safety management system, aligned with the ISO 45001 management system standard
- The rollout of the HAZID risk assessment methodology across our operations in Kazakhstan
- The development and implementation of an enhanced fatal risk control management programme
- The development and rollout of a safety training programme to support the development of enhanced employee competencies
- The implementation of enhanced contractor and transport safety management systems
- The rollout of safety culture and leadership development programmes

Other key safety initiatives

During the year, we also implemented several other measures to help improve safety, including the mitigation of fatality risks. This included:

■ Working at heights:

- The development and rollout of a safety standard for working at heights
- The application of independent safety audits for all elevated work sites
- The establishment of dedicated training facilities at a further five operations,¹ as well as the provision of role-specific safety training

■ **Transport safety:** The development of a transport safety procedure, as well as the rollout of a satellite control, analytics and transport management system to reduce the frequency and severity of traffic incidents. This included the installation of automated safety tracking systems on 277 vehicles

■ **Personal protective equipment (PPE):** The rollout of a new programme to provide enhanced PPE across our operations until 2021. This included the provision of enhanced PPE for higher risk roles, as well as the development and rollout of a corporate standard for PPE

■ **Control of fatal risks:** The strengthening of requirements related to higher risk works, including the integration of information on key risks and mitigation actions into our permit to work process

■ **Underground explosives work:** The installation of underground positioning systems for personnel and equipment at SSGPO's Sokolovskaya mine

■ **Enhanced monitoring:** The ongoing improvement of our video surveillance practices, including the provision of 109 personal video surveillance systems for employees in higher risk roles at our Aktobe Ferroalloys Plant

Workforce engagement, motivation and awareness

Embedding a safety first culture is a key component of our safety management strategy. In 2019, we continued to evolve and strengthen our approach. This included:

■ **Operations-level Key Performance Indicators (KPIs):** The integration of a 'zero fatalities' target into the KPIs for operations-level senior managers, extending the integration of lost time injury frequency rate (LTIFR) performance that was completed in 2018

■ **Communication and training:** The ongoing integration of safety dialogues into our large-scale employee events, such as our League of Professionals programme (p. 38) – as well as the conducting of safety training for production personnel across various levels as part of the ERG Way Production System (p. 22)

■ **Data management and reporting:** The ongoing improvement and centralisation of our data management and reporting systems – including the rollout of an enhanced database to monitor building and construction safety, as well as the automation of reporting on hazardous/unsafe conditions

Employee safety in Africa

In Africa, we continued to enhance our integrated SHS management system. This included the implementation of:

- Internal safety audits at our Metalkol RTR, Frontier, Chambishi Metals, Comide and Boss Mining operations to assess the strength of our fatal risk protocols and related procedures (e.g. relating to electrical safety, traffic management and working at heights)
- Our Visible Felt Leadership safety programme at Metalkol RTR and Frontier, including the undertaking of regular site visits by senior operations-level managers

In addition, at Metalkol RTR we also implemented:

- An internal audit of our safety management system
- An integrated Isometrix software programme. This supports the 'plan-do-check-act' cycle by tracking SHS audits and improving central oversight and data analytics. Isometrix is now fully operational across our Africa region, following its rollout to our other operations in 2018

Employee safety in Brazil

In Brazil, we implemented measures to support the safe development of the forthcoming construction phase at our BAMIN iron ore project. This included:

- The strengthening of contractor safety standards, including enhanced procedures for reporting contractor-related safety incidents (in preparation for a significant increase in our contractor numbers during the construction phase)
- The implementation of enhanced safety inductions for all new employees and contractors, as well as role-specific safety training relating to higher risk activities
- The running of weekly safety dialogues between management and operational staff to support effective communication and safety incident reporting

Contractor management

Regrettably, a contractor fatality occurred at our operations in Kazakhstan (p. 35). This tragic incident demonstrates the need for constant vigilance and action on contractor safety. In this context, we place particular emphasis on improving contractor safety at our operations in Kazakhstan. This includes our ongoing efforts to understand potential gaps between contractor and employee safety standards and/or behaviours.

Key steps in Kazakhstan included:

- **Contractual measures:** The application of more stringent contractual terms (e.g. the integration of a penalties system for cases of non-compliance with ERG's safety standards, as well as the right to conduct spot safety audits)
- **Work schedules:** The ongoing management of contractor work schedules to help ensure that dedicated ERG safety specialists are on site to oversee higher risk activities
- **Supervision:** The hiring of additional safety managers to provide 24/7 monitoring of contractor activities during the renovation of the power units at EEC
- **Communication:** The ongoing hosting of contractor safety forums – as well as larger-scale annual forums – to help reinforce contractor safety standards

In addition, we implemented a new traffic management programme at Metalkol RTR in the DRC to enhance safety controls for contractors transporting hazardous waste and other materials. The programme includes regular driver safety assessments and the rollout of an automated vehicle tracking system.

¹ Aktobe Ferroalloys Plant, Shubarkol Komir, Aksu Power Plant, Krasno-Okyabrskoye Mining Unit and Donskoy GOK.

SECTION 2: HELPING OUR PEOPLE THRIVE

HEALTH AND SAFETY CONTINUED

Occupational health

Kazakhstan

Some of our workplace activities – if not proactively managed – can present latent risks to the health of our employees (e.g. potential exposure to dust, noise, vibrations and heat). As such, we implement comprehensive occupational health programmes for all our employees.

In Kazakhstan, this includes:

- Mandatory annual medical examinations
- On-site, pre-shift, role-specific medical examinations
- Workplace health risk assessments
- The provision of relevant medical treatment

During the year, we also took steps to support the continuous improvement of our occupational health procedures. This included:

- The remodelling of our organisational structures to support the rollout of more standardised medical services
- The development of new health protocols to embed standardised guidance on health improvement measures relating to working conditions
- The development and testing of a new mobile health app ('ERG Health') to provide employees with up-to-date information on healthcare services

In addition, we implemented several measures to help our employees proactively manage non-occupational health issues (see below).

Africa and Brazil

In Africa, we continued to implement an Industrial Hygiene Programme at Frontier and Chambishi Metals to protect employees' health at work, monitor and maintain regulatory compliance, and manage key health risks. The Industrial Hygiene Programme at Boss Mining was suspended, in line with operational changes that resulted in reduced activity at the site (p. 10). However, we continued to undertake dust and water monitoring.

At Metalkol RTR, we launched an Industrial Hygiene Programme, which includes dust, acid mist and noise monitoring. Dust exposure analysis carried out under the programme identified levels of silica dust at the Kingamyambo tailings facility that were in excess of internally set limits. In response, we strengthened our dust control measures, provided enhanced PPE to our employees and increased the frequency of employee medical examinations from annual to biannual.

At our BAMIN iron ore project in Brazil, we continue to run annual occupational health assessments for all employees.

Personal health

Kazakhstan

We are committed to addressing non-occupational diseases that can impact the health of our employees. In 2019, this included the introduction of a preventative examination programme, which includes diagnostic examinations for detecting coronary heart disease in men over 40 and screening for breast cancer in women over 40.

In addition, we provide enhanced healthcare cover for our employees in Kazakhstan (in excess of what is required by law).

This includes, for example, dental care, additional medication allowance and certain preventative treatments. In 2019, we invested around US\$9 million in these programmes (2018: around US\$10 million).

Finally, we continue to help increase employee involvement in sports and improve lifestyle choices through our Health, Sports and Wellbeing Center (p. 42).

Africa and Brazil

In Africa, we provide free medical support to employees and their families. We also:

- Participate in government vaccination campaigns, as well as HIV/AIDS and tuberculosis programmes
- Implement malaria prevention measures for employees at Metalkol RTR and Frontier
- Provide antenatal healthcare at some of our ERG Africa clinics

In Brazil, we provide vaccinations to employees against seasonal flu and H1N1 flu. In addition, we provide a partially funded employee health insurance plan, as well as fully funded dental care, for all employees and their families. Finally, we operate a health programme ('Saúde de Ferro'), through which we provide physical activity clubs to employees.



Performance

Fatalities

We are deeply saddened by the loss of 11 of our colleagues in 2019 (10 employees and one contractor). Four of these fatalities occurred in one traffic-related incident at SSGPO in Kazakhstan. Regretfully, this marks a regression on 2018, during which we had 5 fatalities (one employee and four contractors). We would like to express our sincere condolences to all those affected by these tragic events. This has given renewed impetus to our efforts to achieve Zero Harm – and highlights the need for constant vigilance and action.

Each incident was subject to a thorough investigation in order to inform appropriate prevention measures and minimise the risk of recurrence. Our investigations in Kazakhstan resulted in the following responses:

- The development of a fatality risks control standard (including enhanced work permit procedures)
- The rollout of additional standards related to working at heights and production control
- The revision of safety risk management procedures
- Strengthened speed limit requirements and the continued rollout of a satellite control, analytics and transport management system

In addition, we enhanced our region-wide risk assessment processes in Kazakhstan. This included optimising the number and scope of risk assessments, to develop deeper analysis of risk exposure across the entire production process, as well as the ongoing rollout of the HAZID methodology (p. 32).

In Africa, our investigations into the causes of the two fatalities at our operations resulted in the following responses (amongst other measures):

- The review and enhancement of standard operating procedures for transport safety
- The implementation of biannual safety refresher training for truck drivers
- The communication of lessons learnt from incidents and investigations to minimise the risk of reoccurrence

KEY SAFETY INDICATORS BY YEAR

	2019	2018	2017	2016
Fatalities (employees only)	10	1	3	10
Fatalities (contractors only)	1	4	3	5
LTIs (employees only)	85	70	83	84
LTIs (contractors only)	17	13	10	6
LTIFR (employees only)	0.83	0.58	0.69	0.76

KEY SAFETY INDICATORS BY REGION IN 2019

	Kazakhstan	Africa	Brazil
Fatalities (employees only)	8	2	0
Fatalities (contractors only)	1	0	0
LTIs (employees only)	80	5	0
LTIs (contractors only)	13	3	1
LTIFR (employees only)	0.87	0.53	0

- The enhancement of our production control procedures, including those relating to the monitoring of pipe pressure
- The installation of additional physical safety barriers

In addition, we applied further measures in Kazakhstan and Africa to enhance our management of/engagement with contractors (p. 33).

Lost time injuries

In 2019, we also experienced 95 lost time injuries (LTIs) involving employees (2018: 71), resulting in a lost time injury frequency rate (LTIFR) of 0.83 (2018: 0.58).² Whilst this marks a regression in our safety performance, these trends also partially reflect improvements in our safety data collection processes.

At Metakol RTR in the DRC, we recorded 8.6 million consecutive LTI-free hours (employees and contractors) during 2019. This strong performance reflects our ongoing application of consistent safety management systems and controls.



² Employees only and including employee fatalities.

SECTION 2: HELPING OUR PEOPLE THRIVE

HEALTH AND SAFETY CONTINUED

Planning for the future

Kazakhstan

We are planning further measures to improve our safety performance and reduce the risk of harm to our employees, including:

- **Strategy:** This will include the region-wide rollout of a new Safety Strategy, supported by the implementation of our enhanced safety management system and the automation of core safety processes
- **Safety standards:** The development of new corporate safety standards and the revision/enhancement of existing standards (where required). This will include a particular focus on:
 - Change management
 - Safety training
 - Employee motivation
 - Internal safety audits
 - Road safety management
 - Contractor management
- **Working at heights safety programme:** The ongoing implementation of the programme, including the purchase of enhanced PPE (based on 2019 audit findings); the establishment of new dedicated training facilities at Aksu Ferroalloys Plant and SSGPO; and training employees across all operations on working at heights
- **Transport safety:** The ongoing rollout of our satellite control, analytics and transport management system to all operations, as well as the development of a new corporate standard for transport safety and a related driver training programme
- **Enhanced PPE programme:** The ongoing rollout of the programme, including the region-wide implementation of our new PPE safety standard
- **Access controls:** The rollout of automated access controls for higher risk works
- **Enhanced training:** The implementation of an online distance learning system to expand the scope of our employee safety training programme
- **Personal health and well-being:** The acquisition of a medical centre to improve the quality of employee medical services; the provision of free counselling services and training events focused on well-being; and the piloting of our new ERG Health app for our operations in Aksu, prior to its rollout across our operations
- **Incident reporting:** The rollout of an entity-wide incident reporting standard to improve the speed and consistency of reporting – and to better inform immediate mitigating actions

Africa and Brazil

In Africa, we plan to further strengthen our safety performance by:

- Continuing to undertake biannual internal safety audits, with a focus on enhancing our SHS management system and fatal risk protocols
- Conducting an external audit of our safety management system at Metalkol RTR against the ISO 45001 management system standard, with a view to achieving certification by mid-2021
- Enhancing our Industrial Hygiene Programme at Metalkol RTR, including through the delivery of employee awareness training on dust, noise and acid mist exposure
- Introducing safety audits for key contractors (aligned to internal audit standards) at Metalkol RTR, as well as enhanced contractor fleet controls and driver risk assessments

At our BAMIN iron ore project in Brazil, we will continue to strengthen our health and safety management team, including through external hires, as well as implementing new training programmes focused on higher risk activities.

COVID-19

In 2020, we will continue to assess the implications of the COVID-19 outbreak in terms of how we manage the health and safety of our employees and contractors, their families and local communities – and take appropriate action. For further information on our response to COVID-19, please see p. 12.



SKILLS, CAPABILITIES AND DEVELOPMENT

A happy and professional team:

Under our 2025 Strategy, we have prioritised the development of our employees' competencies. This includes the building of their strategic skills and capabilities, the evolution of our corporate culture and the development of our talent pool and leadership pipeline.



Relevant UN Sustainable Development Goals

UN SDG Associated UN Targets



4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship



8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training

We focus on embedding innovative ways of working throughout every level of our organisation. In line with our strategic priorities, we place particular emphasis on the development of our employees' strategic skills and competencies, as well as our high-potential individuals and leadership pipeline.

We take a comprehensive approach to talent management to ensure we have the right skills mix to drive the growth of our business. We also analyse – and proactively adapt our approach to – emerging labour market trends, to strengthen our future skills pipeline on an ongoing basis.

These efforts are particularly important in the context of a shortage of young mining specialists (particularly in our operating regions), the ongoing transformation of our business, and the impact of technological change in reshaping future mining professions.

Key issues and initiatives

Comprehensive approach to talent management in Kazakhstan

Our approach to talent management focuses on continuously building our current – and future – skills pipeline across a broad spectrum of age groups, levels of experience and disciplines.

In 2019, key initiatives included:

Schools

- The provision of 21 educational tours at ERG facilities for 220 pupils under our Open Days with ERG initiative
- The delivery of 19 presentations to over 500 pupils at local schools to raise awareness around careers in mining

Colleges and higher education institutions

- The provision of technical internships to around 2,000 students at ERG operations – around 850 of whom were hired into full-time positions across a range of disciplines
- The delivery of presentations at colleges and universities to around 3,000 students to raise awareness around careers at ERG
- Participation in graduate job fairs and conferences, including the Harvard-run HPAIR Conference in Nur-Sultan¹

- Ongoing financial support for vocational colleges and universities, with a focus on supporting our current and future skills requirements (see 'The Atlas of New Professions' case study, p. 38)

In 2019, these initiatives helped to identify 1,170 students for inclusion in our new 'external talent pool'. This provides a framework for ERG to engage with high-potential external candidates regarding future employment opportunities.

Young professionals:

- The hosting of three large-scale corporate events to develop the core management/ leadership competencies of 500 high-potential young employees, and to support their career progression
- The ongoing implementation of an internal mentoring programme in which experienced managers provide coaching and guidance to young employees
- The establishment of a region-wide 'Youth Council' to provide enhanced communication, networking and development opportunities for young employees
- The establishment of a discussion platform for ERG's young employees and the rollout of a pilot of ERG Debates

¹ HPAIR: hpair.org/asia-conference-homepage

SECTION 2: HELPING OUR PEOPLE THRIVE

SKILLS, CAPABILITIES AND DEVELOPMENT CONTINUED

Experienced professionals:

- The ongoing implementation of our League of Professionals programme to support the development of our production specialists, with over 1,000 employees participating in 2019
- The expansion of our performance-linked motivation system (p. 41)
- The launch of our new ERG Leader programme for senior and mid-level managers, with external support from lecturers at the Moscow School of Management SKOLKOVO in 2019
- The holding of professional skills competitions ('Altyn Kor') across nine operational competencies

In addition, we have established strategic 'talent pools' to support the rapid development of our high-potential individuals, and to support our talent pipeline and succession planning. These are grouped into the following categories:

- Business leaders (i.e. executive management)
- Operational leaders (i.e. senior managers at operations level)
- Middle management

We identify individuals for inclusion in these talent pools on an ongoing basis through our annual employee evaluation programme (see opposite), as well as through large-scale events – such as the League of Professionals and other leadership programmes.

The Atlas of New Professions in Kazakhstan

Globalisation, technological development and demographic shifts are transforming global labour markets. In the context of this 'Fourth Industrial Revolution', new industries and professions are emerging – while others are changing or becoming obsolete. This creates new challenges for governments, businesses, educational institutions and young job seekers.

As part of our response to these dynamics, ERG supported the launch of the 'Atlas of New Professions' in 2019. The Atlas provides a strategic planning tool to forecast the most critical and in-demand professions over the next 5-10 years – as well as helping to identify new technologies and management practices. It is based on the Skills Technology Foresight (STF) methodology, which was developed by the International Labour Organization, the Russian Agency for Strategic Initiatives (ASI) and the Moscow School of Management SKOLKOVO.

In May 2019, ERG undertook the first Atlas pilot study in Kazakhstan at Donskoy GOK in the mining town of Khromtau – the outputs from which will be used to inform a range of management actions. For example, in 2020 we plan to provide funding for a new course at Khromtau College to train operators of unmanned aerial vehicles. Following the success of the pilot study, we rolled out the methodology to all our operations in Kazakhstan.

In addition, we worked with the Ministry of Labour and Social Protection of the Republic of Kazakhstan to define nine key sectors of the national economy that would benefit from the application of the Atlas methodology. These were identified as mining and metallurgy, oil and gas, agriculture, transport and logistics, engineering, information and communications technology, energy, tourism and construction. As the largest metals and mining company in Kazakhstan, ERG will lead the Atlas methodology for the sector in 2020 and beyond. The outputs from these workstreams are hosted on an online Government portal (enbek.kz).

In future, under the leadership of the Ministry of Education and Science of the Republic of Kazakhstan, the results of the Atlas will be introduced into a vocational guidance system for secondary education organisations, through the edunavigator.kz platform. The Ministry will also support the creation of educational programmes for new mining professions.

Over the long term, the Atlas will enable young people to make better informed career choices, based on current and future labour demand. At the same time, it will help to reduce systemic imbalances in the country's labour market and address future skills gaps. Finally, it will help ERG to proactively adapt our recruitment and training strategies – and to identify specialist educational institutions and qualifications that we will support externally.



ENHANCED EMPLOYEE EVALUATION

We continued to roll out our structured, competency-based employee evaluation programme, with more than 5,000 employees assessed during the course of the year (2018: more than 3,000 employees).

This programme aims to support:

- The development of corporate and individual training and development programmes (p. 37), and address gaps in critical employee competencies
- The identification of individuals for inclusion in our talent pools (see opposite)

In addition, we undertake a structured, comprehensive evaluation process for all new hires in Kazakhstan.

People management in Africa and Brazil

Operational changes at our Africa assets resulted in the suspension of many of our skills development programmes in the region.

In this context, we focused on ensuring we have the right structures and competencies in place to support our current and future operational requirements. For example, we launched our 'ERGA SHIFT>>' programme at our office in Johannesburg. This is focused on improving organisational effectiveness and strengthening our internal culture (p. 23).

At Metalkol RTR, our efforts were framed by the transition of the project from commissioning to production. As such, we continued to run technical skills assessments for our new and existing employees – and rolled out targeted training programmes to fill identified skills gaps.

In Brazil, we rolled out individual professional development plans for all employees as part of our ongoing implementation of a performance evaluation programme across all organisational levels.

We also continued the rollout of a cultural change programme to support our BAMIN project's forthcoming construction phase.

Finally, we continued to implement the Mining Talent programme at the Porto Sul port development in Brazil (as part of our mandatory obligations under our licence agreement). This will help train local communities in transferable technical disciplines and improve access to employment opportunities, while supporting our skills pipeline for the project (p. 54).



SECTION 2: HELPING OUR PEOPLE THRIVE

SKILLS, CAPABILITIES AND DEVELOPMENT CONTINUED

Performance

In Kazakhstan, we invested around US\$6.5 million in training and skills development for our employees (2018: around US\$5 million). This includes mandatory training delivered under ERG's subsoil licensing obligations, as well as large-scale employee development events. The increase in investment against the prior year primarily reflects an increase in the number and scale of employee training and development events in 2019.

In Africa, we spent US\$304,000 on such efforts (2018: US\$295,000).

Planning for the future

In Kazakhstan, we plan to:

- Launch our Corporate Digital University – an intranet-based platform that will host online training courses, support the rollout of tailored development plans and enable enhanced corporate networking
- Continue the development of clear and transparent career paths to support career planning and development
- Continue the implementation of the Atlas of New Professions. In addition, we will participate in the Future of Work Initiative of the World Economic Forum² to share lessons learned from the Atlas project

At Metalkol RTR in the DRC, we continue to develop a range of new leadership, competency and technical training programmes. These will help support localisation, the development of our leadership pipeline, and employee talent development.

2 WEF, Preparing for the Future of Work: [weforum.org/projects/future-of-work](https://www.weforum.org/projects/future-of-work)



LABOUR RELATIONS

A happy and professional team:

Under our 2025 Strategy, we have prioritised the development of our employees' competencies and the maintenance of their safety and well-being. This not only includes employee wellness and health, but also the delivery of comfortable workplaces, enhanced benefits and an improved employee proposition.



Relevant UN Sustainable Development Goals

UN SDG

Associated UN Targets


8.8

Protect labour rights and promote safe and secure working environments for all workers


11.1

By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

In Kazakhstan, our approach to labour relations is framed by the significant inter-connectivity between our workforce and local communities. We place strong emphasis on the social needs of our employees and their families in our operating regions (many of which are geographically remote and highly reliant on ERG's activities). This supports the development of a motivated, safe, productive, stable and loyal workforce – whilst also contributing to regional socio-economic development.

Our Group-wide approach to labour relations is underpinned by constructive engagement with our employees' unions. ERG respects the right of all employees to join unions and to freely engage in collective bargaining. More than 90% of the Group's employees are trade union members, and collective bargaining agreements are in place at the majority of our operations.

Finally, we are fully committed to the principle of equal opportunity and the maintenance of a fair and non-discriminatory work environment. We treat our employees fairly, equally and without prejudice, irrespective of gender, race, age, disability or sexual orientation.

Key issues and initiatives

Labour relations in Kazakhstan

Our comprehensive approach to labour relations means we focus on the provision of comfortable working conditions, as well as on the social needs of our employees and their families. Priority areas include:

- The ongoing enhancement and standardisation of the physical working conditions of our employees – as well as the improvement of our employee benefits
- The raising of living standards for our employees and their families

We use the findings from comprehensive socio-economic surveys in our operating regions to prioritise actions in these areas (p. 42).

Employee motivation and remuneration

In 2019, we implemented differentiated pay rises for all production employees, following a round of pay rises in the previous year. This was based on analysis of employee salaries across our entities, as well as external peer benchmarking. In addition, we continued to expand the scope of our employee motivation system in Kazakhstan to help further embed our performance-based culture and to help cascade our Group-level strategic objectives across the organisation. This included the rollout of our structured performance assessment to all corporate (i.e. non-production) personnel in Kazakhstan (totalling around 4,500 employees).

The assessment will inform the measurement of transparent, performance-linked bonuses – based on defined key performance indicators (KPIs), including corporate and individual targets. This builds on the successful rollout of the system to over 1,500 management-level employees in 2018.

Delivering comfortable workplaces

In 2019, we continued to enhance workplace conditions in Kazakhstan, with the aim of ensuring our operations are raised up to a common standard. This included:

- **On-site facilities:** Investment of US\$19.5 million in the renovation of on-site facilities across all of our operations (e.g. bathrooms, sports facilities and dormitories)
- **Catering:** Investment of US\$1 million in the renovation of 12 canteens, as well as the ongoing region-wide auditing of canteens to ensure compliance with Group standards
- **Transportation:** The ongoing implementation of our transport standardisation programme. Key initiatives included:
 - The staged modernisation of ERG-owned and contracted transport, including the purchase of 14 new buses (2018: 31)
 - The rollout of a new service ERG Bus (through the SmartERG app) to provide up-to-date journey information and enable employees to give feedback on service standards. This was successfully piloted at KAS, before being rolled out across eight other operations and our corporate office

SECTION 2: HELPING OUR PEOPLE THRIVE

LABOUR RELATIONS CONTINUED

We also worked with local governments in the Pavlodar, Aktobe and Kostanay regions to implement relevant public transport improvement programmes. This included the introduction of a new public transport route in Aktobe (which will primarily be used by ERG employees), as well as the purchase of eight new buses that were handed over to the municipality to service the route.

Finally, in 2019 we undertook two employee surveys to gauge levels of satisfaction with our ongoing workplace standardisation programmes. The majority of employees surveyed felt the standard of on-site facilities had improved over the past year – while employees at some operations reported that standards of catering and transportation required further improvement.

Raising living standards

In 2019, we continued to raise living standards for our employees and their families in our operating regions. This included:

- **Housing:** The construction of multi-storey accommodation building in Kostanay region – as well as the provision of 61 apartments to employees in Karaganda region (provided on preferential financial terms under our Affordable Housing Programme¹). Around 775 employees and their families have benefited from the programme since 2015, including 175 employees and their families in 2019 (2018: 186)
- **Social infrastructure:** Investment in social infrastructure across our operating regions, including health centres, sports facilities, and cultural and recreational areas (p. 51). These facilities are available to our employees and their families, with discounts provided for retired workers and disadvantaged and/or large families
- **Education and entrepreneurship:** Investment in a range of educational and entrepreneurship programmes to support regional socio-economic development and future job prospects for community members, including the children of employees (p. 50)

¹ We are implementing our Affordable Housing Programme as part of a national housing programme, and in partnership with third party financial institutions.

Supporting employee well-being in Kazakhstan

In Kazakhstan, we focus on increasing employee participation in sports and improving lifestyle choices through our Health, Sports and Wellbeing Center. The programme is aligned with our commitment to invest in mass participation in sport to maximise our positive impacts on community well-being.

The programme focuses on three main areas:

1. Sports events

- The hosting of our annual charity running event (ERG Run Fest), held simultaneously in the Aktobe, Pavlodar and Kostanay regions – with around 5,000 employees and community members taking part
- The hosting of our first winter and summer health festivals, where employees and their families competed in various sports events – with approximately 2,500 and 3,000 participants, respectively
- The hosting of the Eurasian Regional Games, a corporate sports competition held in Khromtau, Aksu, Rudnyi and Nur-Sultan

- The hosting of a charity running event in which ERG employees tracked their running distances using the Strava mobile app. Around US\$6,000 was raised (through this event and the above mentioned Run Fest) and donated to a children's health charity

2. Sports infrastructure modernisation

- The ongoing rollout of our sports infrastructure modernisation and standardisation programme. In 2019, we invested US\$48,000 in the development of new sports facilities at Shubarkol, including a football pitch, wrestling facilities and gym equipment.

3. Digital solutions to support healthy lifestyles

- Participation in the Virgin Pulse Global Challenge through a pilot programme involving 3,000 employees. The initiative included an app-based platform that helps track fitness and educate employees about healthier lifestyle choices.



Employee relations in Africa and Brazil

Africa

At Metalkol RTR in the DRC, we continued to expand our full-time operational workforce to support the project's transition from construction to production. This contributed to a further increase in the proportion of DRC nationals employed on a full-time basis. Nonetheless, we applied for an extension to local content exemptions (which only apply during the construction phase), as we are still making progress towards relevant targets for the employment of DRC nationals – the operation is still in the construction stage for Phase 2.

In this context, we continued to implement a comprehensive succession/localisation plan and induction process at Metalkol RTR, with a focus on the development of a common corporate culture and the embedding of safe behaviours. We also continued the rollout of our 'Pamoja tuta Weza'³ programme to help build a bottom-up, shared corporate culture to support the forthcoming production phase. The programme includes workshops and training sessions focused on developing shared understanding, collaborative problem-solving and teamwork.

At our other assets in Africa, employee relations continued to be framed by the following operational changes/contexts:

- **Boss Mining:** The operation was placed into care and maintenance in 2019
- **Comide:** The operation was placed into care and maintenance in 2017
- **CCC:** The operation was scaled back, following the placement of Boss Mining into care and maintenance
- **Chambishi Metals:** Production was reduced at the operation, and it was placed into care and maintenance in January 2020
- **Johannesburg head office:** The office was restructured in the context of the above noted operational changes

All of these operational changes were conducted in full compliance with local labour laws, as well as our collective bargaining agreements.

EMPLOYEES AT METALKOL RTR BY CATEGORY

Category	2019	2018
DRC nationals – permanent employees	789	738
DRC nationals – fixed term employees	45	16
Contractors ²	2,182	2,212
Expatriates	95	72

Brazil

At our BAMIN iron ore project, we established a new employee-led Diversity Committee to support the development of a new diversity programme (see '*Planning for the future*', below). In addition, we continued our efforts to enhance two-way communication between management and our workforce. This included working with an expert third party to roll out our first employee engagement survey.

Performance

On 6 July 2019, around 300 employees at Shubarkol Komir in Kazakhstan launched a short-term collective action that resulted in a two-hour delay in their shift commencing. The issues they raised primarily related to a perceived lack of communication from operational senior management (the operation's corporate office is located offsite in the city of Karaganda).

Following constructive dialogue with the employees, all issues raised were resolved and there was no impact on production. In addition, we have relocated some senior management roles to the mine in order to provide a constant management presence and to facilitate improved two-way communication (including a more frequent schedule of engagement meetings).

In Kazakhstan, we did not experience any other industrial action or strikes. This reflects the consistent and constructive relations we maintain with our employees' labour unions, as well as our commitment to address the social challenges faced by employees and the maintenance and strengthening of social stability.

We did not experience any strike action in Africa or Brazil in 2019. We continue to actively engage unions at our operations in the DRC regarding conditions of employment through the statutory collective bargaining framework.

In addition, during 2019:

- We did not identify any of our operations as presenting risks to workers' rights to freedom of association and collective bargaining
- There were no reported incidents of discrimination at our operations

Planning for the future

In Kazakhstan, we plan to focus our activity on the following areas:

- **Motivation system:** The further cascading of our motivation system to management-level production employees, including workshop supervisors
- **Housing:** The completion of apartment complexes, benefiting more than 457 employees and their families – as well as supporting disadvantaged employees and their families (e.g. single parent families or those raising children with disabilities) to purchase apartments under the 'Bakytty Otbasy'⁴ national housing programme
- **Transportation:** The ongoing standardisation of ERG-owned and contracted transport, including the purchase of additional buses
- **Enhanced communication:** The rollout of new mobile apps to provide digital platforms for employees to give feedback regarding onsite conditions

In Brazil, we plan to finalise and commence the rollout of our employee diversity programme, including enhanced policies and procedures covering gender, sexual orientation and race, among other aspects of diversity.

2 Including employees of Sabot and CCC (which provide services to Metalkol RTR).

3 'Together through teamwork' in Swahili.

4 'Bakytty Otbasy' means 'Happy Family' in Kazakh.

COMMUNITY DEVELOPMENT AND WELL-BEING

SECTION 3: COMMUNITY DEVELOPMENT AND WELL-BEING

2019 HIGHLIGHTS

US\$118M

Group community
social investment

Continued to support
**the Good Shepherd
International
Foundation – helping
to protect children
from child labour in
the DRC**

Continued to support
economic
diversification through
the **Student
Entrepreneurship
Programme in
Kazakhstan**

MATERIAL ISSUES INCLUDE

COMMUNITY IMPACTS

→ Read more on p. 46

COMMUNITY SOCIAL INVESTMENT

→ Read more on p. 49

OUR APPROACH TO ARTISANAL AND SMALL-SCALE MINING

→ Read more on p. 55

Our 2025 Strategy¹ commits us to the **sustainable development of our host regions**. This is particularly important, as many local communities in Kazakhstan have effectively developed around our operations, whilst our local communities in the DRC face significant socio-economic challenges.

More broadly, we actively manage our impacts on local communities – and seek to address the socio-economic drivers behind / the negative impacts of child labour that can be associated with artisanal and small-scale mining (ASM) in the DRC.

¹ Please note that our 2025 Strategy is currently under review as we address the immediate impact of the 2020 COVID-19 outbreak and the longer-term implications for the Group.



COMMUNITY IMPACTS

Sustainable development of our host regions:

Under our 2025 Strategy, we have prioritised our contribution to the socio-economic development and well-being of communities in our regions of operation. This includes the maintenance of international environmental standards, as well as support for entrepreneurship and the development of the business environment in our host countries.



© Photo courtesy of Good Shepherd International Foundation / Nyakabi Kahura

Relevant UN Sustainable Development Goals

UN SDG Associated UN Targets



3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination



6.3 By 2020, substantially reduce the proportion of youth not in employment, education or training



11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage



12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle

We are committed to minimising the negative impacts of our activities, where these cannot be avoided. This is not only the right thing to do; it also directly supports our social licence to operate. At the same time, we seek to maximise our positive impacts – ranging from job creation to local procurement (p. 73). These efforts are underpinned by transparent and constructive engagement to help ensure we remain responsive to the concerns and priorities of local stakeholders.

Key issues and initiatives

Managing our impacts – Kazakhstan

Community consultation

We conduct comprehensive impact assessments and community consultations whenever undertaking any major developments or operational changes. These are conducted in line with national legal requirements and relevant international standards.

In 2019, we held a range of public consultations related to operational changes, including:

- The expansion of our Kacharsky, Kurzhunkul, Sarbay and Sokolovskaya mines (SSGPO)
- Engineering works at KAS
- The reconstruction of furnaces at Workshop No. 4 (Aktobe Ferroalloys Plant)

In addition, we carry out large-scale surveys of community members (including ERG employees) and undertake benchmarking of socio-economic conditions in our mining towns. These efforts help us to proactively identify stakeholder priorities, and have directly informed the focus areas for our new regional development programme (p. 49).

Managing planned closure at Arkalyk

In 2019, we continued to actively manage the potential socio-economic impacts of the 2021 closure of our Torgayskoe Mining Unit (Aluminium of Kazakhstan) in the mining town of Arkalyk (Kostanay region) on our employees and local communities. The closure is anticipated to result in the retrenchment of around 600 employees (representing approximately 2.3% of the population of Arkalyk).

Our ongoing efforts are focused on:

- **Employee transfer within ERG:** Helping employees transition to new roles within the business. This will include the phased transition of 430 employees to new jobs at SSGPO and Krasnooktyabrsk Bauxite Mine (Aluminium of Kazakhstan). Their terms of employment, including remuneration, will remain unchanged, and retraining will be provided as required

- **Support for small- and medium-sized enterprises:** Implementing a joint programme with the National Chamber of Entrepreneurs of Kazakhstan 'Atameken' to help former employees establish new businesses in Arkalyk. In 2019, this included the provision of start-up training for 18 employees
- **External employment opportunities:** Working with the local government in Arkalyk and Kostanay region, as well as the National Chamber of Entrepreneurs of Kazakhstan, to identify alternative employment opportunities in the city and the broader region

These activities are based on the outputs of a comprehensive employee survey, as well as an in-depth diagnostic of the local business environment – both of which were conducted in 2018.

Managing our impacts – Africa

Impact and grievance management

In Africa, we manage our community impacts through our Safety, Health and Sustainability (SHS) management system. This includes dedicated policies, procedures and management plans for human rights and ASM management (p. 56).

We continued to use Isometrix software to help record, centralise and analyse SHS data and to facilitate more effective impact and grievance management. Following its rollout at Metalkol RTR in the DRC in 2019, Isometrix is now fully operational at all our active Africa operations.

In addition, we apply a community grievance procedure across our Africa operations, which supports the continuous, timely identification of our actual and potential impacts. This has also been integrated into the Isometrix software platform, which has helped enhance our community grievance oversight and management.

Community compensation

We paid compensation to 1,438 community members near Metalkol RTR, whose agricultural land and crops have been affected by the construction of the new tailings storage facility. This compensation totalled approximately US\$580,000. These community members also benefit from our alternative livelihood programmes (p. 53).

Environmental and Social Impact Assessments (ESIAs)

We continued to develop and implement social and environmental management programmes identified through our ESIAs in the DRC. Our updated ESIA for Comide was finalised in 2019 and is under management review.¹

In 2019, ESIA-related activities at Boss Mining, Frontier and Comide focused on, for example:

- Capacity building for local, community-led water committees, which manage potable water distribution facilities that ERG helped fund (p. 53)
- The establishment of community-based voluntary savings groups to provide micro-financing for local development projects
- Continued implementation of our Sustainable Agricultural Programme

At Metalkol RTR, we launched a pilot project for a new Sustainable Agricultural Programme (p. 53).

Resettlement at Metalkol RTR

At Metalkol RTR, we continued to support 16 resettled families from the Samukonga community. The families were successfully resettled into a new village in the Kamimbi II community in 2018 – in line with local law and the IFC Performance Standards. The need for resettlement was identified through our ESIA, due to the proximity of the families to Metalkol RTR's new tailings storage facility. ERG funded the construction of the village, which offers a better standard of accommodation than the families previously enjoyed.

Activities in 2019 included:

- The completion of the acquisition of 35 hectares of agricultural land, which will be used as part of a livelihood restoration programme
- The provision of monthly supplies of food and essential products to the 16 families, which will continue until the livelihood restoration programme is in operation
- The development of a nursery project to support the planting of fruit trees on the Metalkol RTR concession – and, by extension, income-generating opportunities for the families

During the year, we also undertook a Participatory Rural Appraisal (PRA) with the Kamimbi II community to help establish their development priorities and to ensure they are not negatively impacted by the resettlement. Identified priorities included community cohesion, income-generating opportunities and agricultural production. We plan to support the Kamimbi II community in the delivery of a sustainable Community Action Plan (CAP) to address these priorities.

Legacy complaint against ENRC

In 2019, ERG continued to actively engage with Rights and Accountability in Development (RAID), a UK-based non-governmental organisation, regarding a legacy complaint against ENRC. The complaint was originally made in 2013 on behalf of the chiefs of the Kisankala and Lenge villages and their communities near the Comide concession. In April 2018, the UK National Contact Point (NCP) for the OECD Guidelines for Multinational Enterprises issued a Follow-Up Statement relating to the complaint. Whilst the complaint relates to ENRC legacy issues, we remain committed to responding to the concerns of our local communities.

In this context, we continue to address the UK NCP recommendations on an ongoing basis. This includes:

- Regular engagement with community chiefs, elected sustainable development committees and impacted groups in Kisankala and Lenge
- The delivery of human rights training to all private and public security personnel operating at Comide, including training on our Code of Conduct for security personnel (which is based on the Voluntary Principles on Security and Human Rights)
- The ongoing maintenance of solar-powered water installations provided by ERG in Kisankala and Lenge (these installations are managed by two community-led water committees)
- Ongoing investment in community-led development – in line with our PRA and CAP processes – to ensure these efforts are fully led by the communities themselves. In 2019, this included:
 - The ongoing rollout of our Sustainable Agricultural Programme at Comide (p. 53)
 - The establishment of community-based voluntary savings groups

¹ The updated ESIAs for Frontier and Metalkol RTR were accepted by regulators in 2018, while the updated ESIA for Boss Mining was accepted in 2017.

SECTION 3: COMMUNITY DEVELOPMENT AND WELL-BEING

COMMUNITY IMPACTS CONTINUED

Managing our impacts – Brazil

At our BAMIN iron ore project in Brazil, we continued to implement the recommendations from our ESIA (which was completed and accepted by government in 2014).

In addition, we operate a community engagement programme under which, we:

- Continued to host a multi-stakeholder working group, comprised of representatives from BAMIN, the local mayor's office, the environmental regulator and local communities. This meets on a quarterly basis to discuss potential challenges relating to project development
- Implemented new communications and awareness raising initiatives, with a focus on addressing potential community concerns ahead of the construction of the Porto Sul terminal (p. 26)

Finally, we continued to operate a phone line to enable local community members to raise complaints.

Performance

In Kazakhstan, we conducted 21 public consultations related to project changes. No significant grievances were raised during these hearings or through any of the available community relations channels.

In the DRC, 104 grievances were raised by local community members. These primarily related to complaints around compensation payments, local employment opportunities and damage to property. A total of 82 of these were resolved, with the remaining 22 requiring additional follow-up action.

No significant grievances were raised through the grievance mechanism established at the Samukonga village near Metalkol RTR.²

Finally, we did not register any significant grievances via our dedicated community telephone line at our BAMIN iron ore project in Brazil.

Planning for the future

In Kazakhstan, we plan to:

- Continue to mitigate the impact of the planned closure of Torgayskoe Mining Unit in the mining town of Arkalyk
- Conduct a range of public consultations, including in relation to operational activity at SSGPO, EEC, Shubarkol Komir Kazchrome and Aluminium of Kazakhstan

In Africa, we plan to expand our alternative livelihoods programme to support the Samukonga resettlement village, as well as planning to construct additional boreholes in the communities near Metalkol RTR in the DRC.

² Any issues raised related to straightforward administrative issues concerning the facilities at the village.



COMMUNITY SOCIAL INVESTMENT

Sustainable development of our host regions:

Under our 2025 Strategy, we have prioritised our contribution to the socio-economic development of communities in our regions of operation. This includes improving community well-being and prosperity, whilst also supporting entrepreneurship and the development of the local business environment.



Relevant UN Sustainable Development Goals

UN SDG Associated UN Targets

	1.1	By 2030, eradicate extreme poverty for all people everywhere
	1.2	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty
	2.3	By 2030, double the agricultural productivity and incomes of small-scale food producers
	4.4	By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
	6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all
	6.B	Support and strengthen the participation of local communities in improving water and sanitation management
	8.3	Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises
	10.2	By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status
	11.1	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
		

In Kazakhstan, our community social investment (CSI) strategy is driven by our long-standing and deep relationships with our local communities. In addition to providing employment opportunities, we place particular emphasis on improving the lives of our employees and their families outside work (i.e. as local community members). We also invest in initiatives that support regional socio-economic development and diversification, as well as youth job creation (including for employees' children). This helps reduce community dependency on our operations over the long term.

In Africa, our CSI efforts are focused on addressing the most material development challenges facing communities in our operating regions, many of which live in conditions of extreme poverty. In 2019, ongoing operational challenges – including some operations being placed into care and maintenance (p. 43) – have contributed to the suspension of some of our community investment activities in the region.

Finally, we place significant focus on addressing the socio-economic drivers behind, and negative impacts of, child labour that can be associated with ASM mining (see 'Our approach to artisanal and small-scale mining' on p. 55).

Key issues and initiatives – Kazakhstan

Regional development programme in Kazakhstan

In 2019, we commenced the rollout of our three-year programme to support long-term socio-economic development in our operating regions. The programme is being implemented through partnerships with government at the national and regional levels, including through our regional memoranda of understanding (Regional MoUs).

SECTION 3: COMMUNITY DEVELOPMENT AND WELL-BEING

COMMUNITY SOCIAL INVESTMENT CONTINUED

OUR APPROACH TO CSI IN KAZAKHSTAN

Our regional development programme is being implemented in the context of our long-standing approach to CSI in Kazakhstan. This is focused on:

- **Legacy communities:** Many local communities have effectively developed as a result of our operations. As such, we aim to reduce community dependency on ERG over the long term through investment in regional economic diversification and youth skills development
- **Employees living in our local communities:** Our unique community context means we actively target part of our CSI spending on improving the living standards of our employees and their families outside of work. These efforts aim to ensure that our operating regions are places where multiple generations will choose to live and work
- **Regional government partnerships:** A significant proportion of our CSI spending is invested through Regional MoUs that we sign annually with regional governments. These strategic partnerships are critical for delivering broader socio-economic development
- **National-level social investment:** We also contribute to national-level social investment initiatives to help address some of the principal socio-economic challenges facing the country and to help preserve our national cultural heritage

The programme is based on in-depth analysis of the specific development needs of each operating region, developed through a series of comprehensive large-scale social surveys held annually.

These workstreams identified the following priorities:

- Housing and utilities infrastructure
- Public transport
- Improvement of urban spaces
- Education and youth skills development
- The modernisation of medical institutions and the provision of advanced medical training for doctors
- The promotion of sports and well-being, including the development of community infrastructure and youth leagues

Projects that benefit our local communities (including, where relevant, employees and their families) are set out below. Projects that only focus on employees are covered in 'Labour Relations' on p. 41–42.

Improving living standards

We invest in improving living standards in our mining towns and our broader operating regions, much of which takes place through our Regional MoUs. Over the long term, we aim to support the development of our mining towns into comfortable urban environments where multiple generations (including the children of our employees) will choose to live and work.

Examples of projects supported by ERG in 2019 included:

- **Infrastructure and sanitation:** The maintenance of heating, water supply and sewage systems in Aktope region (US\$575,000); the upgrading and repair of the heating supply system in Kostanay region (US\$380,000); and the purchase of new garbage disposal trucks in Aktope region (US\$262,000)
- **Improved urban spaces:** The construction of a pedestrian/bicycle pathway in a park in Nur-Sultan (US\$439,000); the installation of playground equipment and park sports facilities in Aktope region (US\$51,000); and the reconstruction of the central river embankment of Aksu city in Pavlodar region (US\$124,000)

Entrepreneurship and business incubation

We invest in the future of our local communities through our support of entrepreneurship, business incubation and capacity-building programmes. This includes a particular emphasis on youth-focused initiatives to generate alternative (i.e. outside of our operations) economic opportunities for future generations.

In addition to our ongoing support for the Student Entrepreneurship Ecosystem programme (see opposite), we invested a further US\$16,000 to sponsor a Makeathon Tikkun Olam Makers (TOM) event in Shymkent city.¹ TOM events help young inventors develop commercially viable technologies to support people with disabilities. The inventors with the best ideas are offered scholarships to help bring their ideas to fruition. In 2019, specialist equipment developed by TOM inventors was purchased by a rehabilitation centre in Pavlodar. In total, we have invested over US\$62,000 in TOM events since 2017.

We are also helping employees develop small- and medium-sized businesses in the mining town of Arkalyk in Kostanay region, ahead of the planned 2021 closure of our Torgayskoe Mining Unit (p. 46).

Education

We invest in local educational programmes to support future-orientated youth employment and regional economic diversification. These efforts are also vital for the development of ERG's own future skills pipeline, and provide assurance to current and future employees that their children can look forward to promising futures in their home towns.

In 2019, we continued to support STEM² education. This included an investment of US\$38,000 in a training programme for 10 STEM teachers, which was facilitated by a UK-based training provider. The programme will benefit a range of secondary schools in various regions of Kazakhstan.

In addition, over 9,000 pupils continued to benefit from 11 STEM laboratories that were constructed in 2018 with support from ERG. The laboratories are used to provide education in engineering, computer programming, robotics, 3D modelling and related skills.

We also invested US\$261,000 to support an endowment fund for a specialist physics and mathematics educational institution based in Nur-Sultan and Almaty.

Separately, we support a range of educational institutions (and their students) in Kazakhstan. In 2019, this included support for:

- The Khromtau Mining and Technical College, including additional funding for teachers and external tutors, as

1 Tikkun Olam Makers: tomglobal.org

2 Science, Technology, Engineering, Maths.

well as the purchase of training materials and equipment (US\$87,000)

- The Aksu College of Ferrous Metallurgy (US\$24,000), including the funding of building repairs, payments to tutors and training equipment

Finally, we provided funding for the iQanat programme to help improve access to higher education for children studying in rural schools in Pavlodar region (US\$40,000).

Healthcare

We finance modern healthcare infrastructure to support the well-being of our current and retired employees, their families and the wider communities in our operating regions.

In 2019, this included investment of:

- US\$261,000 to fund the purchase of modern medical equipment at a hospital in Khromtau (Aktobe region), as well as US\$26,000 to support young doctors working at the hospital
- US\$32,000 to fund the renovation of buildings, as well as the purchase of wheelchairs and other medical equipment (including the equipment developed by TOM inventors mentioned earlier) for a healthcare centre in Pavlodar

Sports, culture and well-being

True community well-being is about more than narrow economic development. In recognition of this, we make strategic investments in the broader social fabric of our operating regions.

Key investments in regional sports projects included:

- Support for the development of regional football in Pavlodar (US\$3.4 million)
- The construction of a community football arena in Pavlodar Region (US\$3.1 million)
- Support for the development of amateur youth football in Kostanay Region (US\$567,000)
- Support for the development of regional volleyball in Pavlodar Region (US\$797,000)

Key investments in cultural activities and infrastructure included:

- The construction of a national cultural centre in Kostanay (US\$1.1 million)
- The undertaking of archeological and restoration works at Kultobe settlement in Turkestan (US\$2.5 million)
- The ongoing renovation of a museum in Pavlodar (US\$337,000)

The Student Entrepreneurship Ecosystem programme in Kazakhstan

One of the most pressing challenges facing Kazakhstan is how to generate opportunities for a growing youth demographic through high-tech industrial growth. This is a particular issue in our remote operating regions, as many young people seek opportunities in major domestic cities or abroad.

Part of our response to this challenge is the Student Entrepreneurship Ecosystem programme.³ This programme supports the transformation of regional universities and colleges into hubs of entrepreneurial excellence, with the long-term goal of helping to develop new start-up businesses throughout our operating regions.

In 2019, we invested a further US\$131,000 in the programme, which is being implemented in partnership with the Tel-Aviv University Friends Association in Kazakhstan and the Almaty Management University.

In addition, we work closely with universities to support the development of their transformation strategies and study programmes. We also offer our facilities for student-led research and development, and engage senior business experts to mentor students on the commercialisation of their ideas.

Since its launch in 2017, more than 5,000 students from seven universities and two colleges located in ERG's operating regions have benefited from the programme. This has already contributed to the launch of several successful business ventures, including a support centre for stroke patients in Karaganda region and a social media marketing agency in Kostanay region.

³ Student Entrepreneurship Ecosystem programme: ecosystemerg.kz



SECTION 3: COMMUNITY DEVELOPMENT AND WELL-BEING

COMMUNITY SOCIAL INVESTMENT CONTINUED



ERG Town programme in Kazakhstan

In 2019, we rolled out our ERG Town programme in Kazakhstan. This programme aims to give employees – and, over the longer term, community members – the opportunity to shape local development priorities. The programme evolved out of a social project competition previously held as part of the Innovators' Forum (p. 28).

The programme includes an annual competition in which employees submit ideas for new social investment projects and local government representatives help select winning submissions. It is expected that these projects will be subsequently implemented under our Regional MoUs.

In future, we plan to engage community members in this participatory budget process, which will be digitalised and open to public oversight.

Socially vulnerable and disadvantaged groups

We invest in initiatives to help socially vulnerable and disadvantaged groups in our operating regions. In 2019, this included:

- Continued sponsorship of the SOS Children's Villages of Kazakhstan organisation to support children without parental care and families at risk (US\$34,000)
- Sponsorship of 'Ana uyi',⁴ a foundation that provides shelter, health essentials, vocational training and counselling for disadvantaged mothers in Pavlodar region (US\$81,000)

Digital Ecosystem in Kazakhstan

Global experience has demonstrated that digital technology can act as a catalyst for economic, social and cultural growth. In this context, ERG is a partner in the Digital Ventures fund ('the Fund'). The Fund invests in a range of digital initiatives that enable Kazakh citizens, including those from disadvantaged parts of society, to benefit from digital technology by being able to access online content and services tailored to local needs.

The Fund engages and supports innovative start-ups to develop an ever-growing range of new solutions that can benefit both ERG and a wide range of stakeholders.

Together, the services delivered by the Fund's portfolio of companies form the Aitu Digital Ecosystem, which includes:

- Online services aimed at helping people find employment through enhanced knowledge and skills. By helping identify future employment roles (i.e. over the next 10 to 15 years) we can help people prepare themselves for future opportunities
- A range of applied technology to support local communities, businesses and institutions. This includes digital payment services focused on financial inclusion and online marketplaces to promote market efficiency and regional entrepreneurship
- Social media projects focused on the production and dissemination of local online content – including Kazakh language content. This is with the aim of supporting local creative communities
- An online communication platform to improve interaction between users and promote an online market

Collectively, these initiatives are expected to help support employment, economic development and online social and cultural exchange in ERG's local communities – and beyond.

4 'Ana uyi' means 'Mother's House' in Kazakh.

Key issues and initiatives – Africa

In Africa, our CSI efforts are focused on addressing the most material development challenges facing communities in our operating regions. A key component of this is our support for external initiatives that help address the socio-economic drivers behind, and the potentially negative impacts that can be associated with, ASM. This includes a particular focus on alternative livelihoods and the transitioning of children and young people out of ASM activity (further details on our ASM-focused CSI efforts are provided in *'Our approach to artisanal and small-scale mining'* on p. 56).

New community investment framework in the DRC

The updated DRC Mining Code (published in 2018) incorporates new community investment obligations for the mining sector. This includes a requirement for all mining companies to contribute 0.3% of turnover to a community sustainability fund that will be managed by relevant stakeholders – including the government, impacted communities, civil society and the companies themselves.

Community investments will be identified through extensive engagement and consultation with the relevant stakeholders in order to establish a legally binding framework (or a 'Commitments Register') to help address local development priorities. Progress made against these commitments will be subject to independent monitoring on an annual basis. This process applies to all new mining licences and/or licence renewals.

Accordingly, in 2019 we commenced formal consultations at Metalkol RTR. The priorities identified are aligned with those already established through our existing Participatory Rural Appraisals (PRAs)⁵ and Environmental and Social Impact Assessments (ESIAs) – the results of which were integrated into the process. Most notably, these include:

- Support for local farming to enhance food security
- Potable water distribution
- Educational access
- Healthcare
- Infrastructure

Many of these areas are already being addressed under existing Community Action Plans (CAPs) managed by community-led committees.

The impact of operational change

In 2019, we continued to manage operational change in our Africa region – including the placing of some sites into care and maintenance (p. 43). We are evaluating this situation on an ongoing basis.

Where feasible, we continued to support certain CSI projects – with priority given to higher impact agricultural and community capacity building programmes. Details on these projects are set out below.

Alternative livelihoods and food security

In the DRC, we support alternative local livelihoods – with a focus on sustainable agriculture. These efforts aim to address food insecurity, a lack of formal employment opportunities and the potentially negative impacts that can be associated with ASM activity. This includes our support for alternative livelihood programmes through our partnerships with the Good Shepherd International Foundation and Pact development organisations (p. 56–57).

In 2019, we continued to roll out our Sustainable Agricultural Programme at Comide and Boss Mining, while the programme was discontinued at Frontier. We prioritised the continuation of the programme at Comide and Boss Mining to help partially mitigate the employment impacts of these operations being placed into care and maintenance.

We launched the Sustainable Agricultural Programme in 2018 to help boost local agricultural productivity. This includes the provision of seeds, equipment and technical support to farm maize on around 500 hectares of land located near our operations. In 2019, we funded training in maize farming techniques for community members. This helped contribute to a significant increase in maize yields.

At Metalkol RTR, we launched a pilot project for a Sustainable Agricultural Programme to help improve food security for around 300 households in nearby communities. Unfortunately, the rollout of the programme was delayed until early 2020, due to procurement challenges.

Outside of the scope of community social investment, we also offered short-term employment (i.e. on a day rate basis) to more than 1,000 people from communities surrounding Metalkol RTR.

Clean water distribution

At Metalkol RTR, we focus on improving clean water infrastructure for our local communities. In 2019, for example, we invested US\$19,000 to fund maintenance work on wells and solar-powered water distribution facilities, which were installed in 2018 under our potable water programme.

We launched the programme in response to community priorities identified through our PRAs – and in light of some of our own project impacts, including the fencing of the Kingamyambo tailings, which restricted water access for some community members. Programme facilities are managed by community-led water committees, with community members paying a small fee that is reinvested into ongoing maintenance. Drilling work to significantly expand the scope of the programme is planned to commence in 2020. In line with the requirements of our ESIAs, we also continued to fund capacity building for community-led water committees at our other operations in the DRC. These committees manage facilities that were constructed using ERG funding.

Improving educational access

Access to adequate formal education is an acute challenge for local communities in the DRC. Despite Boss Mining being in care and maintenance, we continued to fund educational initiatives in Kakanda (albeit in a reduced capacity). This included supporting more than 4,900 students (2018: 7,000) and 150 teachers (2018: 200).

Under our partnership with the Good Shepherd International Foundation, we funded the construction of a Child Protection Centre in Kolwezi near Metalkol RTR that will support up to 1,000 children from ASM communities (p. 57).

Healthcare

The prevalence of relatively weak health indicators in our local communities in the DRC means we also focus efforts on improving healthcare services and behaviours. This includes the provision of support to government vaccination campaigns, and HIV/AIDS/tuberculosis programmes.

⁵ We successfully completed PRAs with 19 local communities in the DRC in 2017. The process helps local communities to identify their own development priorities – and supports them in the delivery of CAPs to address these needs.

SECTION 3: COMMUNITY DEVELOPMENT AND WELL-BEING

COMMUNITY SOCIAL INVESTMENT CONTINUED

GROUP CSI CONTRIBUTIONS BY REGION (US\$M)

	2019	2018
Kazakhstan	109.8	107.9
Africa	7.9	6.9
Brazil	0.3	0.3

CSI CONTRIBUTIONS IN KAZAKHSTAN BY TYPE (US\$M)

	2019	2018
Direct investment	91.3	87.5
Regional memoranda of understanding ⁶	18.5	20.4

⁶ Including projects outside our operational regions in Kazakhstan.

Key issues and initiatives – Brazil

In Brazil, we continued to implement our Mining Talent programme at the Porto Sul port development, in partnership with the Brazilian Government and local technical schools. The programme forms part of our mandatory obligations under our licence for the project. It aims to build technical capacity and improve access to employment opportunities for local communities, while strengthening our own skills pipeline.

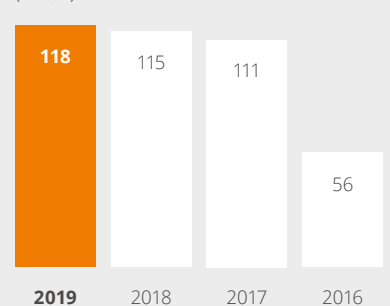
Under the programme, around 200 community members were selected from educational institutions, based on the results of written exams. These exams were structured around ERG's anticipated operational requirements during the construction phase of the port development. Successful candidates were subsequently provided with specialist skills training across a range of electrical and mechanical disciplines. This will support their future employment – whether with BAMIN or otherwise.

In addition, we continued to provide support to the São José – Santa Casa de Misericórdia Hospital in the city of Ilhéus, which faces significant funding challenges. This includes funding to support catering for employees, patients and visitors. In 2019, we invested around US\$200,000 in this regard.

Performance

In 2019, ERG's worldwide CSI contributions were US\$118 million (2018: US\$115 million). This included investment of US\$18.5 million to fund Regional MoUs with local governments in Kazakhstan. We also continued to support national-level social investment projects. Most notably, this included a donation of US\$53 million to the Foundation of the First President of the Republic of Kazakhstan – Elbasy (2018: US\$59 million), which was primarily used for educational, cultural and infrastructure projects.

GROUP CSI CONTRIBUTIONS BY YEAR (US\$M)



Planning for the future

We plan to build on our existing CSI programmes in Kazakhstan through a range of strategic initiatives including:

- The ongoing rollout of our three-year regional development programme (p. 49). In 2020, this will include two additional social surveys to help ensure the strategy remains aligned to local priorities
- The piloting of a new community engagement programme in Khromtau ('ERG Town programme') to closer align community investment expenditure to local development priorities (p. 52)
- The ongoing transfer of our sports and well-being initiatives away from the sponsorship of professional sports teams and towards mass participation sports, community sports infrastructure and youth sports

At Metalkol RTR in the DRC, we are planning to:

- Launch a range of new initiatives to support priorities identified through our new Commitments Register (i.e. focused on local farming and food security, potable water distribution, educational access and healthcare)
- Continue the livelihood restoration programme – as well as the planned expansion of our potable water distribution programme

In Brazil, we are planning to expand the scope of our Mining Talent Programme to train additional community members in relevant technical disciplines.

Beyond this, we will seek to better understand the implications of the COVID-19 outbreak for our local communities and what this means for our approach towards social investment.



OUR APPROACH TO ARTISANAL AND SMALL-SCALE MINING

Sustainable development of our host regions:

Under our 2025 Strategy, we have prioritised our contribution to the socio-economic development and well-being of communities in our regions of operation. This includes a focus on the responsible production of cobalt in the DRC, and on addressing the potential risks that can be associated with artisanal mining. Furthermore, we seek to harness opportunities to drive sustainability along the cobalt value chain, including in partnership with others.



Photo courtesy of Pact

Relevant UN Sustainable Development Goals

UN SDG Associated UN Targets



- 8.7** Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour
- 8.8** Protect labour rights and promote safe and secure working environments for all workers



- 16.1** Significantly reduce all forms of violence and related death rates everywhere
- 16.2** End abuse, exploitation, trafficking and all forms of violence against and torture of children



- 17.16** Enhance the global partnership for sustainable development
- 17.17** Encourage and promote effective public, public-private and civil society partnerships

None of our cobalt or copper production comes from artisanal and small-scale mining (ASM). Our Clean Cobalt Framework (p. 84) ensures that no cobalt is sourced from ASM, whilst also helping improve conditions for local people. This is in the context of ongoing concern amongst international cobalt value chain actors about the potential social and environmental risks associated with cobalt supplied from the DRC (a country which accounts for more than 65% of global supply). This is often linked to the negative impacts that can be associated with ASM, including child labour and other human rights, safety and environmental issues.

While ASM production is absent from our value chain, ASM activity is present in the vicinity of all our DRC sites, with the exception of Frontier. The situation has been highly dynamic, and in 2019 resulted in a number of illegal ASM occupations of formal mining concessions in the Kolwezi region (including at Metalkol RTR, p. 56).

We acknowledge the important role that ASM plays in supporting much-needed livelihoods. This need is driven by structural conditions in the DRC, including inadequate access to technical education and related employment opportunities for a growing youth demographic. The challenge is particularly acute in our operating regions, which have experienced high levels of inward economic migration.

As such, we support:

- External initiatives focused on addressing the socio-economic drivers and potentially negative impacts that can be associated with ASM – with a particular focus on alternative livelihood programmes and the transitioning of children and young people out of ASM activity
- Advocacy for the achievement of responsible external value chains for cobalt (i.e. outside of our own production) (p. 84–85)



© Photo courtesy of Good Shepherd International Foundation

SECTION 3: COMMUNITY DEVELOPMENT AND WELL-BEING

OUR APPROACH TO ARTISANAL AND SMALL-SCALE MINING CONTINUED

Key issues and initiatives

Addressing ASM activity at our operations in the DRC

We manage ASM activity and its associated risks through our integrated Safety, Health and Sustainability (SHS) Management System. This includes dedicated policies, procedures and management plans for human rights and ASM management. We also maintain ongoing dialogue with ASM communities to help build constructive relations.

Any potential grievances are managed through our established grievance procedure (p. 47). In 2019, we received one grievance from small-scale mining communities. This related to a pipe dislocation at Metalkol RTR, which caused flooding at a nearby ASM site. This grievance was resolved in 2019, including through the payment of compensation to the impacted parties.

We have established a dedicated ASM policy and ASM Management Plan, which outline our approach to managing ASM activities on and around our concessions. In addition, at Metalkol RTR we have established a cross-departmental Joint ASM Working Group. This group meets regularly and is responsible for reviewing and assessing ASM-related information, risks and incidents – and for developing recommendations for remediation and/or mitigation measures.

These details are documented and managed by an internal ASM specialist and reviewed by the Joint ASM Working Group.

ASM occupation at Metalkol RTR

In 2019, a significant number of artisanal miners occupied areas of our concession at Metalkol RTR for a period of around four months. This was caused, in part, by military-led evictions of large numbers of illegal miners at neighbouring industrial mining concessions. The occupation was primarily focused on the Musonoi River area, a large submerged historical copper tailings deposit.

None of the illegal miners entered Metalkol RTR's securely fenced working sites. As such, no ASM material entered our supply chain. However, a fire that was started during the occupation damaged the Kingamyambo pipeline and resulted in the loss of approximately five days of production.

During the occupation, we maintained close engagement with the miners and impacted local communities. We also requested an increased presence from the state police to supplement our security provisions. All state police officers received training on the application of the Voluntary Principles on Security and Human Rights, and no rights issues were reported as a result of the increased presence.

The Government of the DRC took the decision to undertake an involuntary eviction, which resulted in the peaceful eviction of all the illegal miners – in line with DRC law and without any injuries being reported.

External partnerships at Metalkol RTR

In line with our Clean Cobalt Framework (p. 84), we support a range of initiatives to help improve the lives of local communities near Metalkol RTR. This includes a focus on helping children transition out of small-scale mining, and on strengthening the capacity of local communities to address this important challenge. In 2019, this support included:

- **The Good Shepherd International Foundation ('GSIF'):** Ongoing support for our three-year partnership, which aims to improve living conditions in local communities, especially for women and children. Since its launch in 2017, ERG has pledged more than US\$1 million to support the programme. During the year, this included the provision of funding for:
 - The ongoing implementation of the Bon Pasteur intervention programme in Kolwezi near Metalkol RTR. This provides educational support to children involved in ASM activities, capacity building for young women, and support for alternative livelihoods



- The construction of the Bon Pasteur Child Protection Centre in the community of Kanina in Kolwezi. The centre, which will support the activities of the above-mentioned programme, was opened in September 2019 and will support up to 1,000 children from ASM communities in 14 newly equipped classrooms. This includes the provision of free education as well as healthcare, nutrition, counselling and human rights training. The project also included the construction of two boreholes to supply clean water to communities in Kanina
- Scoping studies for a further child protection centre in the community of Tshala in Kolwezi
- A pre-feasibility study for the development of a new social business model in Tshala, with a focus on agricultural and fish farming. The full feasibility study was completed in 2019, and the programme will be launched in 2020
- The rollout of the Bon Pasteur intervention programme in Tshala. This included the launch of two farming cooperatives (involving 120 community members), the provision of training in financial management, and the establishment of two community savings groups. In addition, the programme provides capacity-building support for young women, as well as community awareness training on women and girls' rights

■ **'Children Out of Mining – Northern Kolwezi' programme:** In 2019, we continued to support a major one-year partnership with Pact, an international development organisation and co-founding member of the Global Battery Alliance (p. 85).¹ The programme aims to strengthen child protection in communities in Northern Kolwezi² near Metalkol RTR through a range of tailored capacity-building interventions. It will support 120 miners aged between 15 and 17 (over 50% of whom are girls) by delivering six-month vocational training programmes (including in mechanics, welding and sewing). This will be accompanied by short-term remuneration to help them transition into alternative employment

In 2019, we also continued to support advocacy for the achievement of responsible global cobalt supply chains. This includes our membership of the Global Battery Alliance (GBA)³ as well as the Cobalt Institute, through which we implement the Cobalt Industry Responsible Assessment Framework (CIRAF).⁴ These initiatives are covered in further detail in *'Responsible supply chains'* on p. 84–85.

Performance

Our investment in GSIF is helping vulnerable children access basic education and other services – including counselling, healthcare and referral systems for physical abuse. During the year, these activities contributed to:

- The protection of 2,263 children from the worst forms of child labour, including where it is linked to ASM activity
- The training of 182 girls and 64 women to help them access the labour market
- A total of 529 women gaining alternative livelihood skills and enhanced incomes

In addition, in late 2019 and early 2020 the 'Children Out of Mining – Northern Kolwezi' programme delivered awareness training on the risks associated with child labour to 4,435 community members.

Planning for the future

Future planning in the DRC is currently focused on:

- Ongoing support for the Bon Pasteur intervention programme in Kolwezi communities
- Commencing construction of a new child protection centre in Tshala near Metalkol RTR to help the Good Shepherd International Foundation expand its Bon Pasteur intervention programme, as well as the launch of the new social business model programme
- Continued support for the rollout by Pact of the 'Children Out of Mining – Northern Kolwezi' programme. This will include the completion of vocational training for 120 young people
- Ongoing advocacy for responsible cobalt supply chains, including the establishment of a Child Labour Coalition Fund and standards for ASM through the Global Battery Alliance (p. 85)

1 Pact: pactworld.org

2 The programme focuses on 12 villages in Northern Kolwezi, selected because of the close proximity of residential areas to active mine sites, and therefore high risk of child labour in mining.

3 World Economic Forum Global Battery Alliance: weforum.org/projects/global-battery-alliance

4 The Cobalt Institute: cobaltinstitute.org

ENVIRONMENTAL STEWARDSHIP

SECTION 4: ENVIRONMENTAL STEWARDSHIP

2019 HIGHLIGHTS

Ongoing implementation of a 10-year, approximately **US\$350 million programme to significantly reduce our emissions to air** in Kazakhstan

The launch of multiple **waste reprocessing initiatives** at Kazchrome

Implementation of a **Group-wide risk assessment of our large-scale waste storage facilities**

MATERIAL ISSUES INCLUDE

MANAGING IMPACTS ON AIR AND WATER

→ Read more on p. 60

ENERGY AND CLIMATE CHANGE

→ Read more on p. 64

WASTE MANAGEMENT

→ Read more on p. 67

Under our 2025 Strategy,¹ we have prioritised the **sustainable development of our host regions**. Amongst other things, this means minimising any environmental harm – including through the management of our climate change impacts and waste.

The majority of our operations in Kazakhstan are certified to the ISO 14001 environmental management systems standard. In Africa, our existing Safety, Health and Sustainability (SHS) management system is informed by ISO 14001.

¹ Please note that our 2025 Strategy is currently under review as we address the immediate impact of the 2020 COVID-19 outbreak and the longer-term implications for the Group.



SECTION 4: ENVIRONMENTAL STEWARDSHIP

MANAGING IMPACTS ON AIR AND WATER

Sustainable development of our host regions:

Under our 2025 Strategy, we have prioritised our contribution to the well-being of communities in our regions of operation. This includes a focus on avoiding and/or minimising any potential negative environmental impacts, including through the maintenance of relevant international standards.



Relevant UN Sustainable Development Goals

UN SDG Associated UN Targets



3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination



6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials



8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation



9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable



12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle

Our international standard environmental management systems are heavily focused on the detection, prevention and/or minimisation of harmful discharges to local water systems and to the air.

Key control measures include, amongst other things:

- The treatment of emissions to air
- Ongoing air and water quality monitoring
- The treatment and recycling of process water
- Technical and engineering controls to minimise pollution risks

Key issues and initiatives

In Kazakhstan, our most significant impact on air quality takes place in and around the industrial city of Pavlodar. The area hosts Pavlodar Aluminium Plant and KAS. Furthermore, the broader region hosts EEC's Aksu Power Plant, Kazchrome's

Aksu Ferroalloys Plant and EEC's Vostochny coal pit. Despite being compliant with regulatory emission limits, these contribute to a larger collective impact on local air quality, involving other actors. This includes peer companies involved in oil refining, chemical production and heavy manufacturing, local transportation activity and domestic households that rely on coal for domestic heating.

In this context, we are working actively to better understand and reduce our emissions to air. The delivery of assurance to a range of stakeholders in Kazakhstan is important given evidence of growing stakeholder concern over air pollution outside of our operating regions.

In addition, heavy industrial, metallurgical and mining operations carry a range of inherent risks in relation to their potential impacts on water quality, which require our ongoing management. These include risks relating to the quality of our planned water

NEW ENVIRONMENTAL STRATEGY IN KAZAKHSTAN

In 2019, we developed – in support of our Group 2025 Strategy – a new Environmental Strategy. Amongst other things, this is focused on the following five pillars:

- Emission reduction
- Water conservation
- Restoration of disturbed lands
- Waste management
- Biodiversity conservation

discharges to the environment, the potential for unplanned discharges, the potential seepage of process water to the environment, and other related issues.

Managing our emissions in Kazakhstan

Air emissions

We are actively implementing the emission reduction pillar of our new Environment Strategy (see opposite). This is intended to bring our operations in Kazakhstan – and our metallurgical and power generation operations in particular – closer in line with relevant EU air quality standards relating to particulate matter.

For example, whilst particulate emissions from our existing power generation and metallurgical plants are in line with local regulatory requirements, they are nonetheless significant. We plan to reduce these markedly to within EU limits ahead of the imposition of Kazakhstan's new Environmental Code. This ambitious initiative is expected to require expenditure of approximately US\$350 million over a 10-year period.

Key areas of focus include the application of advanced gas treatment technologies and the conversion of selected boiler houses to gas (where possible).

In 2019 we undertook multiple initiatives to improve our emissions performance in Pavlodar – with a particular focus on Kazchrome's Aksu Ferroalloys Plant. These included:

- Completion of a major rebuild of smelter furnace No. 64, including the gastight sealing of the furnace (p. 25). This will – in conjunction with two new gas filters – result in fewer emissions to air
- Preparation for filter upgrades at three furnaces at Smelting workshop No. 4
- A pilot project that eliminates the crushing, tromelling and melting process for fines at Smelting workshop No. 4 through the use of innovative casting equipment. This will, in combination with the fitting of modern filters, reduce particulate emissions – whilst also reducing energy consumption and unit costs

We plan to apply similar measures at our other operations in the region. Indeed, in early 2020, we completed the installation of an advanced filter at Pavlodar Aluminium Plant's sintering shop. A second filter is to be installed during 2020. Once commissioned, these filters are expected to remove up to 2,500 tonnes of particulate matter per furnace.

In addition, we developed a staged filters upgrade programme at Aluminium of Kazakhstan's power station, with plans to do the same at the power station in Aksu.

Outside Pavlodar, we continued preparing for the conversion of SSPGO's Kacharsky boiler house from coal to gas. This project, which is due for completion in the 2021-2022 period, will:

- Reduce its particulate emissions
- Significantly reduce its NOx¹ and SOx² emissions
- Significantly reduce its GHG emissions
- Improve overall efficiency

Water emissions

We apply a range of measures to avoid or minimise our emissions to water, including:

- Ongoing water quality monitoring to identify irregular discharges
- Treatment and recycling of wastewater and process water
- The application of engineering controls and the ongoing auditing of our hydraulic structures
- Measures to minimise our water discharges, including the expansion of our in-pit drainage

1 Nitrogen oxides.

2 Sulphur oxides.



SECTION 4: ENVIRONMENTAL STEWARDSHIP

MANAGING IMPACTS ON AIR AND WATER CONTINUED

We are planning a range of additional measures under our Environmental Strategy. Examples include:

- **Aksu Ferroalloys Plant:** Construction of wastewater treatment plants, the output of which will be reused in the production process
- **Aluminium of Kazakhstan:** Reconstruction of the ash dump, including the installation of underground barriers to prevent groundwater seepage
- **Aluminium of Kazakhstan:** Construction of enhanced wastewater treatment facilities
- **Donskoy GOK:** Construction of mine water treatment facilities at Sump No.8, with the output again to be reused in production

Managing our emissions in Africa

Air emissions

Each of our active sites in the DRC has a legally mandated Environmental and Social Impact Assessment (ESIA) in place, prepared by third-party experts. These contain air quality management plans, which include relevant requirements for the regular monitoring of our air emissions (e.g. particulates, SOx and NOx – see below).

Water emissions

At Frontier we pump significant volumes of groundwater from the pit into the natural environment. A decantation system is in place to remove suspended solids when needed and the water is monitored on a regular basis to ensure quality remains within regulatory limits.

For further details on how we manage pollution risks at Metalkol RTR, please see p. 68.

Pollution monitoring

Kazakhstan

We apply a range of air quality monitoring measures, including regular monitoring of gas and particulate emissions to air, at and around our major plants. We also use spectrometry to generate additional insight into the exact composition of our emissions.

Furthermore, we have established automated air quality monitoring around Aluminium of Kazakhstan's operations in Pavlodar. A remote station delivers real-time data from the edge of defined 'sanitary protection zones'. This real-time data enables us to adjust production activity if there is a risk of excessive emissions. We also carry out preparatory work to roll out similar systems at EEC and Kazchrome.

In terms of water quality, we carry out both discharge monitoring, as well as groundwater monitoring. In the latter case, this includes the use of observation wells around potential pollution sources – including our reservoirs, waste landfill sites, tailings storage facilities, slag dumps, ash dumps and similar structures.

Africa

We apply a range of measures to monitor air and water emissions, including:

- The preparation of air and water monitoring plans by independent third parties, covering both the sites themselves and local communities. These plans are compliant with national standards, and are implemented through our SHS management system (including detailed requirements such as parameters to be monitored, monitoring locations, etc.)
- The application of Isometrix SHS management software. This helps us manage and analyse our monitoring results, take action where needed and ensure the proper resolution of any identified issues
- Annual reporting of our monitoring results to the DRC Government. Where needed, results are independently reviewed by third-party consultants to assure monitoring quality

Furthermore, we carry out on-site air quality monitoring at Metalkol RTR using an online monitoring station. Supplementary air quality monitoring is carried out in local villages, as required by the operation's ESIA.





Preparing for changes to Kazakhstan's regulatory environment

Kazakhstan's new Environmental Code is expected to enter into force in 2021. The Code is likely to require us to apply 'best available techniques / technologies' (or BAT) where necessary, and will be enforced through a new system of integrated environmental permits. It is expected that these new requirements will be aligned with relevant EU environmental standards.

In 2019, we initiated a technical review to assess our alignment with relevant EU BAT reference documents, as well as the Russian BAT directory. The first technical audits took place at the end of 2019 at EEC and Aluminium of Kazakhstan. This will be followed by audits at Kazchrome's ferroalloys plants in Aktobe and Aksu in 2020.

The results will provide insight into the investments required to achieve future compliance with the expected requirements of the new Code. Key areas of focus include particulate emissions, energy efficiency, environmental management systems and automated monitoring systems.

Performance

In 2019, our particulate and gas emissions to air in Kazakhstan were well within permitted limits. Nonetheless, we experienced an increase in our emissions compared to the prior year, primarily driven by the use of more locally-sourced reducing agents at Aksu Ferroalloys Plant. Likewise, our water emissions in Kazakhstan were within permitted limits.

At Frontier, water discharged from the pit is generally of adequate quality, although occasional heavy precipitation events during the rainy season did result in (anticipated) increases in the concentration of suspended solids. Water quality monitoring was subject to independent third-party review (including supervised sampling) and no further issues were observed or recorded. The ramp-up at Metalkol RTR meant the air and water emissions at this site were increased as a consequence of volumes processed and are subject to regular monitoring as well as sample analysis by an independent accredited laboratory. An independent third-party review of relevant processes and performance at Metalkol RTR is planned for 2020.

Dust deposition continues to be a general challenge at our sites in the DRC, primarily during the dry season. This reflects the local environment, as well as bushfires, slash and burn agricultural practices, and a general lack of paved roads, etc. In terms of our own dust emissions, we use water bowsters and chemical suppressants to reduce the impact of onsite traffic.

Whilst some excessive dust depositions were identified near Frontier's treatment facilities, corrective actions have been implemented, including the installation of dust suppression systems.

Operational change at Boss Mining, Comide and Chambishi Metals (p. 43) meant their emissions to air were reduced.

Planning for the future

We will continue to advance our ongoing projects, including:

- The rollout of advanced particulate filtration technology at metallurgical plants and selected power stations in Pavlodar and Kostanay regions
- The piloting of our GHG capture (and filtration) technology (p. 28) at the boiler facility of EEC's Vostochny coal pit
- The conversion of SSPGO's Kacharsky boiler house from coal to gas
- The establishment of automated air monitoring around the boundaries of EEC's and Kazchrome's 'sanitary zones'

In addition, we plan to execute a comprehensive environmental lifecycle assessment of our ferrochrome production. This is with the aim of ensuring we better understand, manage and communicate the full scope of our product impacts.

ENERGY AND CLIMATE CHANGE

Sustainable development of our host regions:

Under our 2025 Strategy, we have prioritised our contribution to the well-being of communities in our regions of operation. Our focus on maintaining international environmental standards to support local well-being includes the management of our carbon emissions and the use of renewable energy.



Relevant UN Sustainable Development Goals

UN SDG Associated UN Targets



7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

7.3 By 2030, double the global rate of improvement in energy efficiency



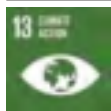
8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation



9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable



12.2 By 2030, achieve the sustainable management and efficient use of natural resources



13.2 Integrate climate change measures into national policies, strategies and planning

13.3 Improve education, awareness-raising and human and institutional capacity on climate change

ERG remains one of Kazakhstan's largest electricity producers (16% of national generation). Most of our total installed capacity of 3,362 MW is used to service our own operations. Of the power we consume 82%¹ (2018: 83%) is generated using coal produced by EEC.

The majority of our energy-producing operations in Kazakhstan are certified to the ISO 50001/EN 16001 energy management system standard.²

In the DRC, the majority of electricity we use is generated from hydropower. Our GHG emissions in the region largely relate to the operation of our vehicles and emergency generators.

Key issues and initiatives

Policy context

Kazakhstan's 2017 National Plan and emissions trading scheme do not currently apply restrictions on our emissions. Nonetheless, Kazakhstan is a signatory to the 2015 Paris Agreement on climate change and plans to reduce national GHG emissions by 15% (unconditional)/25% (conditional) by 2030. This means that we could face future restrictions. As such, we are working to reduce our GHG emissions.

Energy efficiency

Kazakhstan

In 2019, we applied 95 energy-saving measures across our operations in Kazakhstan under our 2016-2020 Energy Efficiency Programme. These are in addition to other projects referenced in the *'Technology and efficiency'* (p. 27) and *'Managing impacts on air and water'* sections (p. 60), that are likely to improve our carbon emissions. Examples of our energy-saving measures included:

- The replacement of lighting with energy-saving lamps at EEC, Kazchrome, Aluminium of Kazakhstan, Shubarkol Komir and KAS
- Optimisation of an air separation unit at Aktobe Ferroalloys Plant
- Installation of a reactive power compensator at SSGPO
- Reconstruction of the thermal insulation on steam pipelines at Aluminium of Kazakhstan and Kazchrome

¹ The slight decrease against the prior year is due to increased non-coal energy production at 3-Energoortalyk.

² In 2019 we continued to prepare for the re-certification of relevant assets in Kazakhstan to the 2018 update of the standard by 2021. All other operations in Kazakhstan apply energy management systems that are otherwise aligned with the standard.

Collectively, these 95 initiatives reduced our total consumption by more than 600 terajoules and saved us around US\$1 million (2018: 2,021 terajoules/ US\$2.2 million).

We also continued to upgrade (through energy service contracts) our lighting systems using high-efficiency LED bulbs at SSGPO. In 2020 we plan to sign similar energy service contracts to cover lighting replacement at all SSGPO subsidiaries and Kazchrome.

In addition, we initiated energy audits at all of our operations in Kazakhstan, which are planned to be completed by the end of 2020. The outcomes will inform an energy efficiency action plan.

Renewable energy

Kazakhstan has national targets in place to produce 3% of energy from alternative energy by 2020 (wind, solar), 10% by 2030 (wind, solar) and 50% by 2050 (wind, solar, hydro and nuclear). In this context, conventional energy producers – including EEC – are required to purchase defined amounts of renewable energy (which can significantly increase their cost base) or to establish their own renewable energy generation capacities.

We are planning to establish renewable energy capacity of 150-180MW using wind turbines. In 2019, wind monitoring at two potential sites for wind farms in the Aktobe and Pavlodar regions – one near Kazchrome's Donskoy GOK operation and one near EEC's Vostochny coal pit – demonstrated strong potential. We are now examining the possible transition of these projects to a feasibility stage.

In the interim, we carried out a pilot project at Shubarkol Komir that saw the installation of a mini solar- and wind-powered lighting system. In addition, we have implemented, alongside the Coalition for Green Economy and Development ('G-Global'), a Green Office project at our corporate office in Nur-Sultan. This includes the installation of solar panels and LED lights, amongst other environmentally friendly measures.

Metalkol RTR is investigating the potential integration of photovoltaic solar panels into its (diesel) emergency power arrangements, to both reduce costs and emissions to air (including GHGs). As noted, the fact that our other operations in the region largely rely on hydropower significantly reduces their carbon footprint.

Energy security in Africa

In 2019, DRC and the Zambian Copper Belt experienced power shortages due to droughts in Zambia (a key supply country) that affected hydropower generation there. A regional power surplus is expected in 2020 once Zambian utility ZESCO completes its 750MW Kafue Gorge Lower hydropower project.

In 2019, we focused on optimising the collective power supply arrangements of our operations in the region. This was in a context in which Boss Mining was placed into care and maintenance and Frontier's power supply contract came to an end. Changes included a transfer of power generated by DRC utility SNEL from Boss to Frontier, reducing the latter's reliance on more expensive imported power. The overall result has been lower costs and ongoing supply stability.



SECTION 4: ENVIRONMENTAL STEWARDSHIP

ENERGY AND CLIMATE CHANGE CONTINUED

ENERGY CONSUMPTION BREAKDOWN (terajoules)

Type	Energy source	2019	2018	2017	2016
DIRECT	Coal	217,768	227,368	226,405	225,288
	Petrol	138	147	144	160
	Residual fuel	7,130	7,284	7,185	6,909
	Diesel	9,599	8,606	8,038	8,079
	Natural gas	31,306	28,949	19,921	18,338
	Kerosene	14	9	15	15
	Liquefied gas (new)	1			
	SUBTOTAL	265,956	272,362	261,708	258,789
INDIRECT¹	Electricity	4,716	2,943	2,537	2,377
	Heat	204	211	207	278
	Steam	63	80	69	77
	SUBTOTAL	4,983	3,234	2,813	2,732
	TOTAL	270,939	275,596	264,521	261,521

¹ Excluding internal purchases of internally-generated power.

GREENHOUSE GAS EMISSIONS (tonnes CO₂e)

	2019	2018	2017	2016
Direct emissions	24,026,847	24,672,108	24,014,808	23,768,926
Indirect emissions	224,837	59,026	55,572	365,746
TOTAL	24,251,684	24,731,134	24,070,380	24,134,672



World Economic Forum project: Using blockchain to promote responsible sourcing and manage the carbon lifecycle

ERG was one of the seven founding members of the Mining and Metals Blockchain initiative, launched by the World Economic Forum in 2019. ERG is working actively with Glencore, Tata Steel, Anglo American, Minsur, Antofagasta and Klöckner & Co to apply blockchain technology to promote sustainability practices in the metals and mining sector.

The initiative is focused on the pursuit of value chain transparency and connectivity, in order to strengthen industry trust and reputation, whilst also delivering value for the entire metals and mining ecosystem.

Key areas of focus include:

- Cross-lifecycle carbon emissions tracking
- Supply chain transparency and traceability
- Enhanced efficiency

The initiative pools resources and costs, increases speed-to-market and improves industry-wide trust in a way that cannot otherwise be achieved by acting individually. It aims to promote standardisation and improve efficiency – whilst also helping satisfy ever-growing stakeholder demand for greater insight into the sustainability performance of entire value chains.

Performance

In 2019, we used 270,939 terajoules of energy globally (2018: 275,596 terajoules), with around 82% of direct energy sourced from coal (2018: 83.5%). This slight decrease in consumption reflects decreased heat and steam consumption (driven by lower production and warmer weather), as well as the impact of our energy efficiency measures and furnace modernisation efforts. This was partially offset by increased gas-powered electricity generation at 3- Energoortalyk and indirect electricity consumption (due to delayed commissioning of EEC's Power Unit No.5).

Furthermore, enhanced production efficiency at Kazchrome meant that we were able to increase output there using similar amounts of electricity – enhancing the energy and carbon intensity of our ferroalloy products.

Planning for the future

In 2020, we plan to further explore how to reduce our GHG emissions in Kazakhstan – including through energy efficiency and potential renewable energy opportunities. In addition, we will continue examining the generation of energy using off-gas from our ferroalloy production process. This includes:

- The potential construction of an off-gas-fuelled power station at Aktobe Ferroalloys Plant
- The conversion of the boiler house at Aksu Ferroalloys Plant to off-gas

Furthermore, we plan to enhance our internal capabilities with respect to the assessment and management of our carbon footprint.

In Africa, the fact that some of our sites have been placed into care and maintenance means emissions from the region are expected to fall in 2020.

WASTE MANAGEMENT

Sustainable development of our host regions:

Under our 2025 Strategy, we have prioritised our contribution to the well-being of communities in our regions of operation. Our focus on maintaining international environmental standards with respect to water, air and soil includes strict regulatory compliance regarding the physical and environmental management of our waste.



Relevant UN Sustainable Development Goals

UN SDG Associated UN Targets



9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable



12.2 By 2030, achieve the sustainable management and efficient use of natural resources

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

Tailings and other high-volume waste

Our mining and metallurgical operations produce large volumes of waste rock, tailings and sludges – whilst our generation of coal-fired power produces large volumes of ash. These deposits are managed in line with our established environmental management systems and local regulations (including an annual audit conducted by external experts). This includes a focus on preventing groundwater and surface water pollution, the management of fly ash/dust, as well as the physical integrity of large-scale waste storage facilities.

The fatal dam collapse at Vale's Córrego do Feijão mine near Brumadinho, Brazil, in January 2019 highlighted the potential risks associated with the management of such structures. In 2019, we implemented a Group-wide, internally-managed risk assessment of our large-scale waste storage facilities. This prompted the development of a management action plan, as well as the engagement of third-party international experts to support our risk management efforts.

As part of this programme, we also:

- Initiated a third-party risk assessment programme covering 14 existing facilities in Kazakhstan, with the first phase of the process focused on Aluminium of Kazakhstan's sludge storage facility in Pavlodar. Assessment work on the other facilities will continue in 2020.
- Commissioned a third-party risk review of our new tailings storage facility (TSF) at Metalkol RTR against applicable international standards
- Had all of our other TSFs in Africa independently risk assessed by specialists. Identified issues are in the process of being resolved

In addition, we achieved the extension of our environmental permit at our BAMIN iron ore mine, despite a significant toughening in the regulation of TSFs post-Brumadinho. This partially reflected the fact that we had already changed the TSF design from an upstream model to a safer, more stable downstream model.

Other industrial waste

Our operations also produce a range of operational waste such as metal scrap, wood, metal and other materials. In Kazakhstan, this is categorised as 'Green', 'Amber' or 'Red' to reflect relative levels of potential hazard. Red or Amber waste is collected, transported, recycled and/or disposed of by suitably qualified specialist service providers.

As part of this process, we check:

- Contractors have appropriate processing areas, equipment, transport and qualified staff to take and process relevant waste, as well as relevant environmental permits
- That the recycling or processing method to be employed by the contractor or their subcontractors is specified in our contracts

In 2019, it was discovered that three waste contractors serving the Aktobe Ferroalloys Plant had not disposed of Amber category waste (which had been transferred to them in 2018) as per the terms of their contracts. Instead, the waste was dumped on open plots of land and in a rented warehouse in Aktobe. Although this waste no longer legally belongs to Kazchrome, we are considering various options to ensure its proper disposal.

In Africa, scrap steel from Frontier is collected by a government-approved company and waste oil is collected by our supplier or used (with government approval) by a local cement factory. Meanwhile Metalkol RTR has implemented a Solid Waste Management Plan, which includes the responsible collection and disposal of hydrocarbon wastes by a contractor, and the safe incineration of hazardous wastes.

SECTION 4: ENVIRONMENTAL STEWARDSHIP

WASTE MANAGEMENT CONTINUED

Key issues and initiatives

Cleaning up legacy waste at Metalkol RTR

Our Metalkol RTR tailings reprocessing facility near Kolwezi in the DRC will actively remediate decades' worth of historical, third-party waste mismanagement and land degradation that took place prior to our ownership. This involved:

- The dumping of tailings into the Musonoi River valley, with more than 83.2 million tonnes of tailings spread over an area 11km long and up to 2.5km wide – impacting the local water system and beyond
- The dry-stacking of tailings at the Kingamyambo Tailings Dam, which contains 41.1 million tonnes of tailings and produces dust emissions

Metalkol RTR is extracting (through hydraulic mining and dredging), reprocessing and re-depositing these tailings into a modern, closely-managed and centralised TSF. This facility is operated by a dedicated international contractor and third-party specialist. It is subject to regular inspection, monitoring and reporting, supported in 2019 by the appointment of a dedicated Engineer of Record and an independent laboratory.

We apply a comprehensive air quality and upstream/downstream water quality monitoring system at the site, to ensure we do not contribute to existing water quality challenges. Metalkol RTR reduces its annual water consumption through the re-use (using an on-site water treatment facility) of process water.

ERG Recycling: Driving waste reprocessing and commercialisation in Kazakhstan

In 2019, the establishment of ERG Recycling marked a major expansion of our waste reprocessing, recycling and commercialisation efforts.

ERG Recycling not only supports the 'circular economy' concept, but also helps reduce our environmental liabilities.

Waste commercialisation

We sell aluminium slag, carbon foam, carbon-bearing aspiration powder, microsilica, used refractory linings and bauxite tailings, as well as other industrial waste. All sold products are used as raw materials in other industries. In addition, ERG Recycling continues to explore other high-tech opportunities, including a focus on rare earths, the production of specialised cement from metallurgical waste as well as other potentially profitable opportunities.

Waste reprocessing

In 2019, ERG Recycling focused on expanding our waste reprocessing efforts, including through the following new programmes concentrated on Kazchrome:

- The launch of a project to process the 14.7 million tonne slag stockpiles at Aktobe Ferroalloys Plant (see box below). This project will process ever-increasing volumes until the slag dump is completely disposed of

Slag reprocessing at Aktobe Ferroalloys Plant (Kazchrome)

In 2019, ERG Recycling reprocessed and enriched 50,000 tonnes of stale slag from Aktobe Ferroalloys Plant's waste stockpiles. This produced around 2,800 tonnes of 28% ferrochrome metal concentrate, which contained approximately 800 tonnes of pure ferrochrome and a large volume of inert materials for use in construction. In addition, ERG Recycling reprocessed crust slag, producing around 3,000 tonnes of pure ferrochrome.

ERG Recycling plans to expand this process in 2020 by reprocessing 100,000 tonnes of stale slag to produce 6,000 tonnes of metal concentrate – which in turn is expected to contain 1,500 tonnes of pure ferrochrome. Similarly, ERG Recycling aims to produce more than 6,500 tonnes of pure ferrochrome from crust slag.



- The processing of our (previously) closed Vostochny Kamys mine's approximately 1 million tonne manganese dumps in the Karaganda region, and the production and sale of concentrates to third parties both within and outside Kazakhstan
- The establishment of a process to produce chrome from slag at Aktobe Ferroalloys Plant's smelting workshops. This will see to the extraction of 700 tonnes of saleable chrome per month
- The beginning of construction of a new workshop at Aktobe Ferroalloys Plant to reprocess slag, dust and other fine waste, feed it back into primary production and produce building materials. The commissioning of the workshop is planned for 2020

These projects supplement our existing programmes, including those focused on reprocessing:

- High-grade waste and dust produced during ferroalloys production, which is fed back into the production process
- Chrome oxide slimes at Donskoy GOK, with the aim of adding 700,000 tonnes of concentrate production per year from 2022 ('Slimes 2' p. 28)

Management of our ash dump

We are in the process of raising Aluminium of Kazakhstan's power station's existing ash dump. This will avoid the need for the establishment of a new ash dump, helping minimise the operation's footprint. We are also installing a modernised dust suppression system, as well as a new water collection and return system around the dump perimeter.

Furthermore, ERG Recycling conducts a number of value-adding projects focused on ash, including the production and sale of microspheres from EEC's and Aluminium of Kazakhstan's ash dumps.

Performance

The ramping up of production at Metalkol RTR meant that we reprocessed a total of 5,154 kt of legacy tailings in 2019 (2018: 1,328 kt), prior to their relocation to our centralised, modern tailings dam.

In Kazakhstan, we sold around 177kt of waste to third parties (2018: 158kt) worth around US\$10.8 million (2018: US\$9 million). The two largest contributors in this regard included ferrous and nonferrous scrap, as well as dry ash. In addition, these sales reduced our waste disposal costs by around US\$1.4 million (2018: US\$0.8 million).

Planning for the future

In 2020, we plan to continue work on the third-party audits of our tailings storage (and similar) facilities in Kazakhstan and at Metalkol RTR. We will also investigate opportunities for the future rehabilitation of those areas around the Musonoi River that will gradually be cleaned up by Metalkol RTR in the DRC.

In addition, ERG Recycling is planning to further its activities in Kazakhstan, including:

- The construction of a fine slag enrichment facility at Aksu Ferroalloys Plant, which (once operational in 2021) will enable the processing of 748,000 tonnes of fine slag per year to produce more than 70,000 tonnes of concentrate with at least 60% metal content
- The launch of a workshop at Aktobe Ferroalloys Plant to produce building materials using slag and create chromium briquettes by vibro-pressing pulverised ferroalloy dust captured in the plant's gas filters. This is planned for commissioning in 2020.
- The use of unique polymer technology at EEC to produce building materials from fly ash
- The construction of an enrichment facility at the Vostochny Kamys mine. Once fully operational, the facility is expected to produce around 80,000 tonnes of manganese ore concentrate per year
- The identification of further recycling opportunities at our other operations in Kazakhstan

In addition, ERG Recycling – in collaboration with ERG's R&D team – will continue to examine opportunities for the production and marketing of new products from waste, including:

- Cement and mineral powders from ferrochrome slag (Kazchrome)
- Rare earths from ash (EEC)
- Fertilisers and sorbents from weathered coal and rare earths from fly ash (EEC)
- Construction materials from waste (KAS)



OUR RELATIONSHIP WITH BROADER SOCIETY

SECTION 5: OUR RELATIONSHIP WITH BROADER SOCIETY

2019 HIGHLIGHTS

US\$4,183M

distributed to our
stakeholders

Adoption of our first
**Group Supplier Code
of Conduct**

**First independent,
third-party
assurance of
our Clean Cobalt
Framework at
Metalkol RTR
in the DRC**

MATERIAL ISSUES INCLUDE

VALUE GENERATION AND DISTRIBUTION

→ Read more on p. 72

COMPLIANCE

→ Read more on p. 78

RESPONSIBLE SUPPLY CHAINS

→ Read more on p. 82

GOVERNMENT RELATIONS AND POLICY

→ Read more on p. 86

Our generation and distribution of economic value represents one of the most important benefits we deliver to our host societies. It is in this context that we have made **financial stability** a Group priority under our 2025 Strategy.¹

We have also prioritised the **sustainable development of our host regions** – including through community social investment, employment generation, tax payments and the promotion of local content.

In this context, we are committed to nurturing relations of trust and respect with our partners, including our host governments.

¹ Please note that our 2025 Strategy is currently under review as we address the immediate impact of the 2020 COVID-19 outbreak and the longer-term implications for the Group.



SECTION 5: OUR RELATIONSHIP WITH BROADER SOCIETY

VALUE GENERATION AND DISTRIBUTION





Sustainable development of our host regions:

Under our 2025 Strategy, we have prioritised our contribution to the socio-economic development of communities in our regions of operation. This includes our distribution of economic value, locally, regionally and – more broadly – nationally.



Relevant UN Sustainable Development Goals

UN SDG Associated UN Targets

	1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty
	8.1 Sustain per capita economic growth in accordance with national circumstances 8.5 By 2030, achieve full and productive employment and decent work for all women and men
	9.2 Promote inclusive and sustainable industrialisation and, by 2030, significantly raise industry's share of employment and gross domestic product
	10.2 By 2030, empower and promote the social, economic and political inclusion of all

Our long-term ability to generate shareholder value is ultimately contingent on our generation of shared economic benefits for our other stakeholders. This includes our host governments, host societies, contractors and suppliers, and employees.

Key issues and initiatives

Promotion of broader economic development

Our activities generate a range of benefits for our host economies – and beyond. The most important example of this is our production and sale of high-quality, responsibly sourced minerals and metals to industrial customers in China, Russia, the European Union and elsewhere. This supports a wide range of third-party activities, ranging from infrastructure development to the application of affordable battery technology in electric vehicles (p. 15).

Similarly, in Kazakhstan the power we generate, the rail services we provide and the machinery we manufacture are not only used by our own operations, but also benefit a range of domestic and industrial customers.

In terms of direct, measurable value distribution, our most important impacts include the:

- Delivery of wages and benefits to our workers (most of whom live in our local communities)
- Payments to our contractors and suppliers (many of which are based in our countries of operation)
- Payment of interest to finance providers and dividends to stakeholders
- Payment of taxes and royalties to our host governments
- Distribution of community social investment spending to our local communities and beyond

Tax and payment transparency

Amongst other things, our Group Tax Policy commits us to complying not only with the letter but also the spirit of all local laws. In terms of transfer pricing, we conduct all internal transactions on an arm's length basis and determine pricing in line with the nature of the economic functions performed by each company (including capital use). Furthermore, we follow the methods and principles set out in the OECD Transfer Pricing Guidelines. The Board of Managers has approved the Group Tax Policy. The Group Tax Department reviews the Tax Policy on an annual basis and re-approves it with the Board of Managers, if necessary.

In 2019, we rolled out a new ERG Group Tax Code of Conduct, aimed at ensuring proper implementation of our Group Tax Policy, legal compliance and the effective management of our risks. This includes detailed guidance with respect to tax reporting, transfer pricing, tax dispute resolution and tax risk management, amongst other issues. The Group Tax Code of Conduct also sets out the Group's tax assurance process.

The internal audit function will report any non-compliance with the Group Tax Code of Conduct to the Audit Committee and Board of Managers, as well as to the Group CFO, who will designate the appropriate course of remedial action.

We continue to engage with the Extractive Industries Transparency Initiative (EITI) processes in our main countries of operation (DRC, Kazakhstan and Zambia). Furthermore, we file the following with the Luxembourg authorities:

- Report on Payments to Governments under the EU Accounting Directive (2013/34/EU)¹
- OECD Country-by-Country Report under OECD BEPS Action 13

Supporting local economies through local content

In line with relevant local content requirements – and subject to our equal opportunities policies – we seek to employ and develop nationals and to purchase goods and services from companies in our host countries.²

Key categories of products and services that we currently source from suppliers in Kazakhstan include raw materials, fuel and industrial clothing as well as stripping, exploration, drilling and blasting.

¹ EU Directive 2013/34/EU: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013L0034>

² In Kazakhstan, for example, our guidelines note that when choosing between local (i.e. defined, in line with Kazakhstan's legislation, as Kazakhstan-based producers) and foreign producers, preference will be given (all other things being equal) to local producers. In addition, local law integrates measures to encourage the selection of local producers during tender processes, whilst our contracts and subsoil licences also incorporate local content requirements.

EXTRACTIVE INDUSTRIES TRANSPARENCY INITIATIVE (EITI) STATUS OF HOST COUNTRIES³

Actual/potential mining locations	EITI status (assessment)
Brazil	Non-participant
DRC	Participant (meaningful progress)
Kazakhstan	Participant (meaningful progress)
Mali	Participant (meaningful progress)
Mozambique	Participant (meaningful progress) ⁴
South Africa	Non-participant
Zambia	Participant (meaningful progress)
Zimbabwe	Non-participant

³ Extractive Industries Transparency Initiative, Countries: eti.org/countries.

⁴ As of June 2020.

We recognise that some local companies need help in terms of achieving the requisite capacity and competitiveness to access commercial opportunities at ERG. In 2019, we continued to:

- Work with the Ministry of Industrial Development, the National Chamber of Entrepreneurs of Kazakhstan 'Atameken' and National Centre for Industry and Export 'QazIndustry' to promote the development of new local businesses to support our activities
- Implement the Student Entrepreneurship Ecosystem Programme (p. 51)

- Support local entrepreneurship via our community social investment (p. 50)
- Engage with local manufacturers to help them navigate our procurement processes

In addition, in 2019 we partnered with the Digital Ventures fund, through which we support innovative start-ups (p. 52).



SECTION 5: OUR RELATIONSHIP WITH BROADER SOCIETY

VALUE GENERATION AND DISTRIBUTION CONTINUED

Performance

In 2019, we generated US\$4,872 million in revenues (2018: US\$5,353 million) and distributed a total of US\$4,183 million to our stakeholders (2018: US\$4,381 million).

Lower revenues reflected reduced prices for our high margin products, most notably for ferroalloys and aluminum (p. 14). Our performance was also impacted by the placing of Boss Mining into care and maintenance, as well as reduced production at Chambishi Metals – with resulting reductions in revenue and royalties. Nonetheless, this was partially offset by the ramp-up of Metalkol RTR.

In 2019, we paid US\$812 million to governments in taxes and duties (2018: US\$827 million). Our effective corporate income tax rate reflects the statutory corporate income tax rates in the countries where we have our mining and processing operations, and where we pay more than 94% of our Group taxes (2018: more than 93%).

A total of 46% of the goods, works and services we buy for our operations in Kazakhstan originate from within the country (2018: 47%). In 2019, we purchased 13%⁵ of our goods, works and services from local producers operating in our local mining towns (2018: 15%).⁶ Whilst our spending on local producers fell slightly in 2019, this was reflective of exchange rate fluctuations.

Where appropriate, we involve local producers from disadvantaged groups in our value chain, such as the Society of the Blind in Kostanay, Aktobe and Pavlodar regions.

In the DRC and Zambia, our procurement spending with locally registered companies was around 63% of our overall procurement spend in 2019. Local suppliers were contracted for the supply of diesel and lubricants, as well as power and engineering services.

In Brazil, almost 100% (2018: 98%) of our procurement spend is on Brazilian suppliers and contractors, and around 28% (2018: 35%) is on companies located in the state of Bahia itself.

Planning for the future

Key portfolio development projects will continue to deliver benefits to our stakeholders. This includes, for example:

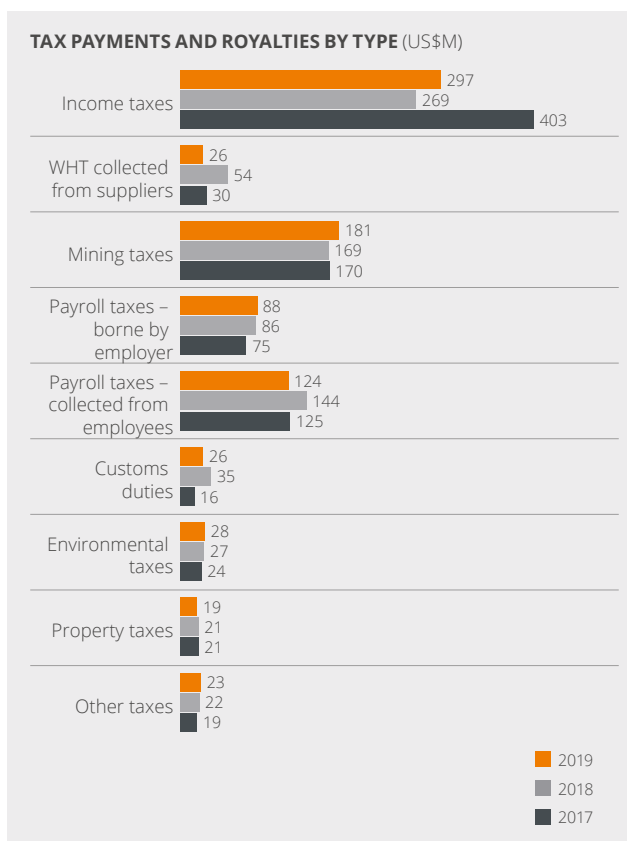
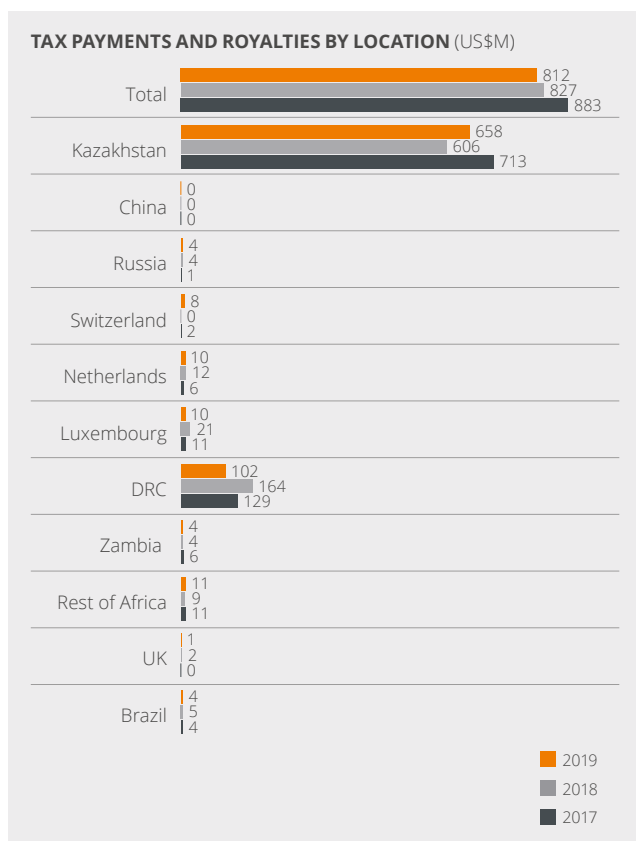
- Phase 2 of Metalkol RTR (p. 24–25)
- The ongoing expansion of production at Kazchrome (p. 25)
- The construction of a new aluminium smelter in Kazakhstan under the KAS-2 project (p. 25)
- The development of the BAMIN iron ore project in Brazil (p. 26)

For further details on these and other portfolio development projects, please see the 'Portfolio development' section on p. 24.

In 2020, we will also seek to better understand how the COVID-19 outbreak (and its economic consequences) is likely to affect our ability to generate and distribute value – and what action we need to take in response.

⁵ Including intra-Group purchases.

⁶ The following mining towns are included in calculations: Aksu, Ekibastuz, Arkalyk, Lisakovsk, Rudnyi and Khromtau.



ECONOMIC VALUE GENERATED AND DISTRIBUTED (US\$M)

Type	Detail	2019 ⁷					2018 Total	2017 Total
		Kazakhstan	Africa	Brazil	Other	Total		
Economic value generated	Revenue	3,915	776	–	181	4,872	5,353	5,048
Economic value distributed	Payments to suppliers (operating costs)	(1,302)	(527)	(2)	(252)	(2,083)	(2,155)	(1,791)
	Employee wages and benefits	(547)	(203)	(1)	(83)	(834)	(857)	(754)
	Payments to providers of capital	(273)	(11)	–	(259)	(543)	(665)	(628)
	Tax expenses ⁸	(492)	(95)	–	(18)	(605)	(589)	(660)
	Community investment spending	(110)	(8)	–	–	(118)	(115)	(111)
	TOTAL	(2,724)	(844)	(3)	(612)	(4,183)	(4,381)	(3,944)
Economic value retained		1,191	(68)	(3)	(431)	689	972	1,104

7 For 2019, the margin of ERG's marketing companies is allocated to 'Other' due to the nature of these operations while the sales value (including sales to internal marketing companies) is allocated to the country of products' origin.

8 This line excludes capitalised costs and employee taxes borne by employees.

LOCAL CONTENT SPENDING IN KAZAKHSTAN (US\$M)

Procurement spend type	2019	2018	2017
Total volume of purchases from local producers (including intercompany procurement)	1,541 (-1.2%)	1,559	1,183
Total volume of purchases from local producers (excluding intercompany procurement)	867 (-5.5%)	918	574
Share of local procurement in overall procurement ⁹	46% (-1%)	47%	39%

9 Includes goods, works and services.



Supporting socio-economic development in Kazakhstan

In 2019, we commissioned EY to undertake a study of ERG's impact at both a national level and within our four key operating regions.¹

The study analysed ERG's economic impact across five categories, including its contribution to:

- The production of goods and services
- Gross Domestic Product (GDP) and Gross Regional Product (GRP)
- Employment
- Personal income
- Tax revenues

ERG was evaluated in terms of its direct impacts as well as its indirect (i.e. the impact of our spending on local suppliers and contractors) and induced impacts (i.e. the impact of spending by our employees, as well as our contractors and suppliers).

In addition, the study focused on ERG's social investment programmes, including more than 1,400 regional projects focused on social services and utilities, infrastructure and education.

Our national impact

2%

Approximate contribution to Kazakhstan's GDP (2013–2018)

5th

5th highest taxpayer in Kazakhstan (2018)

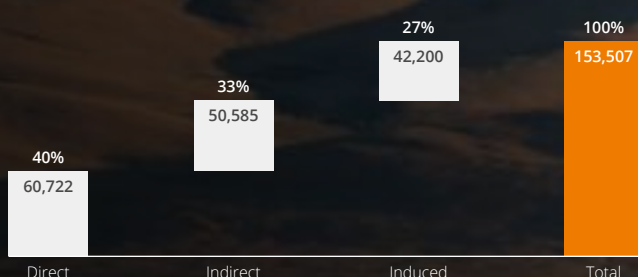
1.53

Each job in ERG corresponds to an additional 1.53 jobs in other economic sectors in Kazakhstan (2018)

US\$88M

National-level social investment projects (2019)

BREAKDOWN OF ERG'S TOTAL CONTRIBUTION TO EMPLOYMENT (2018)



TOTAL SHARE IN REGIONAL PRODUCTION OUTPUT (2018)

Region	%	Key products
Pavlodar	31	Ferroalloys, Aluminium, Alumina, Energy, Coal
Aktobe	14	Ferroalloys, Chrome ore
Kostanay	16	Iron ore, Bauxite
Karaganda	2	Coal, Manganese ore

¹ Please note that this study did not focus on Nur-Sultan and the Turkistan region. The latter is due to the acquisition of 3-Energoortalyk in 2018.



KOSTANAY REGION

- **US\$400 million** total impact² on GRP in 2018 (or 9% of the regional total)
- **46,000** jobs maintained² in 2018 (or 9% of the regional total)
- **US\$209 million** paid in taxes in 2019 (or 50% of the regional total)
- **US\$3.3 million** in community social investment in 2019

PAVLODAR REGION

- **US\$1.4 billion** total impact² on GRP in 2018 (or 24% of the regional total)
- **40,000** jobs maintained² in 2018 (or 10% of the regional total)
- **US\$118 million** paid in taxes in 2019 (or 20% of the regional total)
- **US\$8.7 million** in community social investment in 2019



AKTOBE REGION

- **US\$455 million** total impact² on GRP in 2018 (or 7% of the regional total)
- **24,000** jobs maintained² in 2018 (or 6% of the regional total)
- **US\$234 million** paid in taxes in 2019 (or 31% of the regional total)
- **US\$4.9 million** in community social investment in 2019

KARAGANDA REGION

- **US\$125 million** total impact² on GRP in 2018 (or 1% of the regional total)
- **6,000** jobs maintained² in 2018 (or 1% of the regional total)
- **US\$50 million** paid in taxes in 2019 (or 6% of the regional total)
- **US\$0.1 million** in community social investment in 2019

² Direct, indirect and induced.

COMPLIANCE

Compliance with the laws of our host countries – and the application of strong ethical standards – underpins all that we do. Any failure in this regard not only has serious legal implications, but has the potential to damage our reputation, undermine our business relationships and impact the achievement of our long-term business objectives. This, and the cross-cutting nature of our compliance requirements, makes it a key area of business focus.



Selected UN Sustainable Development Goals

UN SDG

Associated UN Targets



10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status



16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all

16.5 Substantially reduce corruption and bribery in all their forms

16.6 Develop effective, accountable and transparent institutions at all levels

Compliance approach

ERG is committed to operating in a manner compliant with all applicable regulatory requirements and to applying high ethical standards of business conduct. The Board of Managers' Compliance Committee drives our compliance efforts, including:

- Oversight and approval of our Group Compliance Programme, policies, systems and controls
- Monitoring of the effectiveness of our Compliance function

Our executive-level Risk and Compliance Committee supports the Board of Managers' Compliance Committee, including with respect to the analysis of compliance trends, risks and specific cases, as well as the linking of compliance issues and activities to the Group's 2025 Strategy.

In 2019, our Compliance function continued to develop real-time monitoring of dynamic compliance risks and to align our evolving compliance practices with the ISO 19600 compliance management systems standard and ISO 37001 anti-bribery management systems standard.

Other key projects undertaken in 2019 included:

- A review of our Code of Conduct¹ (p. 93)
- Development and approval of the Group Supplier Code of Conduct² (p. 82–83)
- The updating of our Group Compliance Programme (p. 79–80)

We also enhanced our compliance risk management capabilities through the development of a risk-based Sanctions Compliance Programme

Overview of our risks

Risk-based management sits at the heart of our Group Compliance Programme. Key risks include those relating to:

- **Sanctions regimes:** We operate in more than 15 countries (including Kazakhstan, DRC, Brazil, the Netherlands, Luxembourg, Russia, Switzerland, etc.), which creates a complex landscape in terms of:
 - Local sanctions programmes
 - The extraterritorial application of certain sanctions programmes, including those applied by the United States (US). For example, key areas of compliance risk in this regard include:
 - The selling of raw materials to parties on US sanctions lists and to US-sanctioned countries
 - Transactions in US Dollars carried out through the US clearing system, including contractual obligations with third parties (e.g. banks) to comply with US sanctions and the application of secondary sanctions

- Transactions in US Dollars carried out through the US clearing system, including contractual obligations with third parties (e.g. banks) to comply with US sanctions and the application of secondary sanctions

The realisation of these sanctions risks may result in the placing of restrictions on some of ERG's economic activities and its relationships with existing vendors, customers and creditors.

■ Personal data protection requirements:

This includes compliance with the European Union's (EU) General Data Protection Regulation (GDPR), which came into force on 25 May 2018. Amongst other things, this requires us to implement appropriate and effective measures, demonstrate the effectiveness of these measures, balance the rights and freedoms of data subjects with the nature, scope, context and purpose of any data processing, and conduct objective risk assessments. The GDPR applies to anyone who handles relevant EU data and carries significant penalties in the case of non-compliance – including fines representing up to 4% of global turnover.

¹ See: <https://www.eurasianresources.lu/en/pages/group-compliance/erg-code-of-conduct>

² See: <https://www.eurasianresources.lu/en/pages/group-compliance/supplier-code-of-conduct>

■ **Human rights infringements:** Potential areas of risk in this regard relate mainly to ERG's responsible mining commitments and the presence of artisanal and small-scale mining in the vicinity of its sites in Africa (particularly with respect to cobalt mining in the DRC). Responsible cobalt mining remains a top priority for ERG – further details can be found in the 'Responsible supply chains' section on p. 84.

■ **Anti-bribery and corruption.** This remains a priority risk due to the fact that:

- A number of jurisdictions in which we operate are assessed by Transparency International as posing relatively high levels of exposure to corruption
- Related regulatory requirements are being systematically tightened
- We actively develop relationships with new business partners on an ongoing basis

Areas that are more exposed to this risk (together with potential conflicts of interest) include community social investment (CSI) activities, giving/receiving gifts, business travel and entertainment.

■ **Anti-money laundering (AML):**

This represents a risk to ERG as:

- A number of jurisdictions in which we operate have (according to the Basel Institute on Governance) relatively high AML risks
- EU Directive 2018/843 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing (AML 5) came into force in January 2020, which (amongst other things) introduces new ultimate beneficial ownership-related measures that will be transposed by Member States by December 2020
- Our business relationships and international partnerships are highly sensitive to negative reputational exposure

How we manage our risks

Our Group Compliance Programme is maintained and implemented by dedicated professionals at Group-, regional- and asset-levels. In 2019, we continued to enhance our competencies through internal and external training, a review and restructuring of roles and responsibilities, and the recruitment of specialists focused on (for example) data protection and third party diligence. The Group Head of Compliance reports to the CEO and the Board of Managers' Compliance Committee (p. 88). Key elements of our Compliance framework include:

■ **Tone at the top:** The Chair of the Compliance Committee continues to participate in the Partnering Against Corruption Initiative's (PACI) The Future of Trust and Integrity project, which aims to identify and develop practical solutions that promote trust and integrity. This includes a focus on behavioural change, organisational innovation and the adoption of technology.

■ **Policies and procedures:** Our Code of Conduct, new Group Supplier Code of Conduct (see below) and supporting policies and procedures are subject to regular review. Our Code of Conduct is binding on all our employees, managers and Board members.

In 2019, we:

- Updated our existing compliance risk management procedure to drive compliance risk assessment at an

asset- and process-level, and established more frequent compliance monitoring including the testing of existing compliance controls

- Revised our Agents Policy to highlight intermediary-driven compliance risks
- Adopted a new Group Supplier Code of Conduct addressing responsible sourcing matters and supply chain risks (see p. 82–83)

■ **Training and communication:** In 2019, we communicated our compliance policies and procedures to business partners, governance body members and employees via e-learning, face-to-face engagement and onboarding assessments. Individuals who frequently interact with third parties (including clients, vendors, regulators) receive additional training hours. Our senior management was frequently informed on key risk areas.

Training was delivered to two key groups of employees:

- General employees, who were provided with a basic awareness course focused on the Code of Conduct
- Subject matter experts involved in processes with a higher level of risk exposure (including CSI, procurement, sales and finance), with training focused on – amongst other things – third-party due diligence, personal data protection, human rights and sanctions regimes



SECTION 5: OUR RELATIONSHIP WITH BROADER SOCIETY

COMPLIANCE CONTINUED

■ Sanctions Compliance Programme:

We have implemented a comprehensive Sanctions Compliance Programme, which consolidates our existing sanctions management efforts and principles (including those in our International Economic Sanctions Compliance Policy). The programme is aligned with the US Office of Foreign Assets Control (OFAC) Framework for Compliance Commitments (2019) and the Guidelines on Implementation and Evaluation of Restrictive Measures (Sanctions) in the Framework of the EU Common Foreign and Security Policy (2018), and has been reviewed by external legal advisors.

Key elements of the programme include:

- Ongoing risk assessment and monitoring
- The development and application of risk management strategies
- Training on sanctions compliance
- Ongoing sanction checks against our Counter-Party Due Diligence (CPDD) database
- Scenario-planning to support business continuity

It is the first in a series of upcoming programmes aimed at addressing key compliance risks and was prioritised due to the inherently severe nature of risks associated with sanctions regimes.

■ Third party due diligence:

Dedicated compliance managers conduct CPDD reviews across the Group, using reputable information providers and professional compliance databases, covering such aspects as sanctions violations, conflicts of interest, money laundering, bribery and corruption, data leakage and the infringement of human rights. This allows us to assign risk ratings in each case and identify appropriate mitigation actions.

We are carrying out a complete review of our CPDD procedures (including those relating to risk assessment, escalation and contractual clauses), in a process that will continue into 2020. We have also started to develop additional electronic tools to optimise our CPDD process and updated our CPDD Manual to reflect evolving best practice and to integrate additional risk-based assessment processes.

In addition, we have progressively introduced a Group Supplier Code of Conduct, initially in ERG Africa and then (in 2019) across the whole Group (see p. 82–83). The Supplier Code of Conduct will be further integrated into the CPDD process in 2020.



■ Expense approvals:

Some types of 'high-risk' expenses (such as those associated with CSI, gifts and entertainment, as well as mergers and acquisitions) are subject to process-based compliance controls.

■ Whistleblowing:

We offer a confidential, anonymous Group Hotline operated by an independent third party (see <http://erg.ethicspoint.com>). This offers a safe and direct communication channel between ERG employees and our Compliance function. We are committed to protecting whistleblowers who report suspected violations in good faith and to maintaining confidentiality where requested.

SFO Investigation into ENRC

The Serious Fraud Office (SFO) launched an investigation into ENRC (the Company) on 25 April 2013 with a proclaimed focus on allegations of fraud, bribery and corruption relating to the acquisition of mineral assets in Africa. On 14 May 2015, the SFO confirmed that the Company's Kazakhstan operations are out of scope and on 23 October 2018 re-confirmed this scoping limitation. No further changes occurred in 2019. During the course of the investigation, the Company has complied with all statutory requests made by the SFO in addition to voluntarily providing a large volume of material at the request of the SFO.

HUMAN RIGHTS

Under our Human Rights Policy, we are committed to respecting universally recognised human rights and labour standards (p. 90). These requirements are also embedded in the Group Supplier Code of Conduct, which is being progressively rolled out across the Group as a legally binding commitment for suppliers. We do not employ bonded, forced or compulsory labour or child labour. We conduct ongoing risk assessments and monitoring, and have a robust action plan in place to prevent any form of these practices.

We do recognise, however, the risk that such practices could exist in some areas of our business, predominantly in Africa.

We assess this risk on an ongoing basis through supplier assessments undertaken during the CPDD process. Suppliers are selected based on their full compliance with our Human Rights Policy.

In addition, our regional compliance officers conduct office/asset human rights risk assessments at appropriate intervals, and identified risks (and associated controls) are recorded in our regional and Group compliance risk registers.

We conduct training amongst our employees on these expectations, and in 2019 we commenced targeted audits and training of suppliers based on our risk assessment process.

SFO investigations may take years due to their complexity. One of the possible outcomes to an SFO investigation is no charge being brought against any party. As of now, it is hard to make any predictions on how long the SFO's investigation into ENRC will last and what a resolution will be.

Performance

In 2019, we:

- Provided onboarding and annual Code of Conduct training to more than 7,000 employees. We also delivered additional training focused on third-party due diligence, personal data protection, human rights and sanctions to more than 800 employees
- Completed more than 16,000 third-party due diligence reviews (CPDD)
- Received 368 reports and queries from our employees and business partners via our Hotline (2018: 351). These were largely focused on procurement procedures, labour relations and fraud/theft.

Our compliance efforts ensured we were able to manage compliance risks appropriately across the business, despite an increasingly complex and volatile external environment. In this context, ERG was not subject to any:

- Material judicial findings or regulatory sanctions (including those linked to our social, economic and/or labour impacts)
- Investigations, legal actions or findings in relation to internationally applicable sanctions

Planning for the future

Key areas of focus in 2020 will include:

- The further development of our compliance training and awareness programme, with an ongoing focus on risk-based management. This will include the development of an internal 'Ambassador Institute' in partnership with ERG Academy. The Institute is aimed at ensuring that process owners consciously own compliance risks.
- The continued delivery of compliance initiatives that support our 2025 Strategy and that:
 - Are integrated into business workflows/ coordinated with related assurance activities
 - Deliver real-time insight into risk exposure – and associated data analytics






RESPONSIBLE SUPPLY CHAINS

Our commitment to contribute to the socio-economic development and well-being of communities in our regions of operation extends beyond our own activities. We also seek to promote responsible behaviours amongst our business partners, including our contractors and suppliers.

In addition, we want to deliver assurance to our own customers (and their own value chain partners) that the products we sell have been responsibly mined and processed, and are not associated with negative environmental, social or governance impacts. This is particularly the case with respect to the cobalt we produce in the DRC, given growing stakeholder demand for transparency and responsible performance around battery supply chains.



Relevant UN Sustainable Development Goals

UN SDG	Associated UN Targets
	<p>8.7 Eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour</p> <p>8.8 Protect labour rights and promote safe and secure working environments for all workers</p>
	<p>12.2 Achieve the sustainable management and efficient use of natural resources</p> <p>12.4 Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle</p> <p>12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices</p>
	<p>16.5 Substantially reduce corruption and bribery in all their forms</p>

In Kazakhstan, we rely on contractors (most of whom are based in Kazakhstan, see p. 75) to carry out construction, overburden works, exploration, drilling and blasting, reclamation, and equipment/ vehicle overhauls and maintenance.

Key products procured for our operations in Kazakhstan (a significant proportion of which are procured in-country, see p. 75) include:

- Mining equipment (trucks, excavators, drill rigs, etc.)
- Production equipment
- Explosives and blasting supplies
- Fuels and lubricants
- Natural gas
- Technical materials (such as caustic soda, electrode compound, filtering fabrics and other)

In Africa, key products and services include:

- Sulphuric acid
- Limestone and other reagents
- Power
- Engineering services

Key issues and initiatives

ERG Supplier Code of Conduct¹

In late 2019 we adopted a new ERG Supplier Code of Conduct (Group Supplier Code), which is in the process of being implemented. This follows the successful piloting of an earlier version of the code in Africa.

Responsible supply chain management in Kazakhstan

The new Group Supplier Code will supplement our existing responsible supply chain management practices in Kazakhstan. Prior to onboarding, each supplier and contractor is assessed in relation to its legal standing, commercial viability and compliance criteria, and is also subject to our Counter-Party Due Diligence (CPDD) process (p. 80).

In addition, our contracts with companies providing on-site services integrate a range of 'beyond compliance' health, safety and environment (HSE) elements, including those relating to:

- Compliance with relevant ERG policies
- The provision of certifications in relation to company qualifications and worker training
- The right for ERG to carry out occupational health and safety audits

¹ ERG Supplier Code of Conduct: https://www.eurasianresources.lu/uploads/1/files/Supplier%20Code%20of%20Conduct%20document_English.pdf

- The provision of occupational health and safety incident data to ERG
- Waste removal and disposal
- The use of low-energy equipment and technology

In 2019, we also:

- Defined penalties for any contractor safety violations
- Defined requirements to initial assessments, to ensure contractors are compliant with relevant safety regulations – and that they are qualified to perform the relevant works
- Developed a new type of agreement to be applied to contractors performing higher risk work types, which offers us higher levels of oversight and control

Responsible supply chain management in Africa

In 2018 and 2019, we piloted the contractually enforceable ERG Africa Supplier Code of Conduct (ERGA Supplier Code).² This was partly to support the Clean Cobalt Framework and to address the higher-risk nature of our supply chains in Africa.

As part of our risk-based CPDD process (p. 80), in 2019 we used an enhanced questionnaire at ERG Africa to screen new and existing suppliers and contractors (on-site, local, national and international) against the ERGA Supplier Code. We also incorporated these requirements into our contracts and standard terms and conditions.

² See <https://www.ergafrica.com/procurement/>

ERG SUPPLIER CODE OF CONDUCT

Under the Group Supplier Code, all suppliers are required (as a condition of doing business with ERG) to adhere to its requirements and to ensure that their subcontractors agree to do the same.

Amongst other things, the Group Supplier Code requires suppliers and contractors to:

- Provide their workers with a safe and healthy work environment consistent with the relevant ERG policies or procedures or applicable national and international standards, whichever is higher
- Have a zero tolerance of bribery and corruption, including any offering, paying, soliciting or accepting of bribes, kickbacks, or other prohibited payments or activities to or from any person
- Not engage in any use of forced or compulsory labour or child labour
- Comply with the ERG Human Rights Policy, UN Guiding Principles on Business and Human Rights, the OECD Due Diligence Guidance on Responsible Supply Chains of Minerals, and the Voluntary Principles on Security and Human Rights
- Cooperate with ERG's requests for due diligence information in relation to the supply of ore and mineral product



Driving value chain assurance through the Re|Source project

ERG is working with major cobalt industry players on the Re|Source project. Re|Source leverages blockchain technology to deliver 'mine to market' traceability in the cobalt value chain.

This project supports ERG's vision of driving industry-wide collaboration in the field of sustainable cobalt sourcing.

Re|Source is currently extending the application of the prototype solution (built in 2018-2019) further upstream and is engaging with electric vehicle producers to test its applicability.

SECTION 5: OUR RELATIONSHIP WITH BROADER SOCIETY

RESPONSIBLE SUPPLY CHAINS CONTINUED

In addition, we commenced supplier auditing and training with respect to the ERGA Supplier Code, with a focus on Metalkol RTR's larger, higher-risk and site-based suppliers and contractors. This included DRC, South African and Zambian companies with a strong on-site presence, which recruit significant numbers of local people or nationals, transport hazardous materials, use labour brokers or provide security services.

In this context, if any issue of concern is identified with respect to a supplier, we will work with them to remediate it or, failing that, would take steps to terminate the contract as per the terms of the ERGA Supplier Code. We are keen to apply an approach that does not automatically exclude the majority of local suppliers and are willing to work with them constructively so they can meet our requirements.

Delivering customer assurance through our Clean Cobalt Framework

In addition to ensuring responsible practices in our own supply chain, our Clean Cobalt Framework (developed in 2018) will help satisfy customer demand for assurance regarding the ethical provenance and production of our responsibly produced cobalt – whilst also helping improve conditions for local people.

This is particularly important given that Metalkol RTR in the DRC is expected to become one of the major global sources of cobalt, helping drive the electric vehicle revolution.

At the core of the Framework is Metalkol RTR's compliance with the requirements of the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (OECD Guidance) – in addition to supplementary measures to support environmental protection and social development. The seven goals are as follows:

- We comply with the OECD Due Diligence Guidance
- Our Clean Cobalt is free of child labour
- Our Clean Cobalt is traceable
- Our Clean Cobalt does not come from artisanal and small-scale mining
- We restore the environment
- We collaborate to promote sustainable community development
- We lead our industry towards more sustainable cobalt value chains

Risk Categories	Risk Area
Environment	Air/water/soil environmental impacts
	Biodiversity impacts
Occupational health	OHS and working conditions
Human rights (as defined in Annex II of the OECD DDG) ⁴	Conflict and financial crime
	Serious human right abuses
	Worst form of child labour
Community	Artisanal and small-scale mining
	Livelihoods
	Resettlement

4 Annex II of the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, Third Edition.

In 2019, we implemented the Framework in practice and published our inaugural Clean Cobalt Performance Report,³ which has been independently assured by PwC. This found that as of 1 March 2019, Metalkol RTR had established and implemented systems and procedures aligned with the Clean Cobalt Framework and that conform with the OECD Guidance.

Enhancing risk management through the Cobalt Industry Responsible Assessment Framework

As a leading member of the Cobalt Institute, ERG supported the development of the Cobalt Industry Responsible Assessment Framework (CIRAF). CIRAF is a management framework to support enhanced risk management and reporting focused on the responsible sourcing and production of cobalt.

CIRAF provides guidance on how to identify and respond to nine priority Risk Areas in the cobalt supply chain, which are listed in the table above.

Amongst other things, each member is required to annually assess these risks and demonstrate that they are being managed – whilst also obtaining third-party assurance of their relevant management systems against the OECD Guidance.

Application

Metalkol RTR has already undertaken a risk assessment and identified all nine Risk Areas below as material. It has also implemented policies and management systems to manage all of these Risk Areas and any other human rights risks beyond those referenced in Annex II of the OECD Guidance.

Performance

All contractors and suppliers in Kazakhstan were subject to initial onboarding checks. Similarly, ERG carried out more than 16,000 CPDD checks over the course of 2019.

At ERG Africa, we screened 100% of suppliers involved in contracts of more than US\$25,000 against the terms of the ERGA Supplier Code. In 2019, our audits of a number of Metalkol RTR's suppliers and contractors against these requirements did not identify any material issues that required remediation or the termination of contracts.

In addition, we received independent, third-party assurance regarding the application of our Clean Cobalt Framework at Metalkol RTR – the first time we have applied this process. Plans to publish a second third-party-assured Clean Cobalt Performance Report have been temporarily delayed due to the ongoing impact of the COVID-19 pandemic.

We expect to have initial performance data regarding the implementation of the Group Supplier Code for our 2020 Sustainable Development Report.

3 <https://www.eurasianresources.lu/uploads/1/files/Metalkol%20Performance%20report.pdf>



Photo courtesy of World Economic Forum

ERG endorses 10 Principles developed by the Global Battery Alliance

ERG joined 42 other organisations at the 50th Annual Meeting of the World Economic Forum in Davos (in early 2020) to endorse the 10 Principles developed by the Global Battery Alliance⁵ (of which ERG is a founding member) to support the development of a sustainable battery value chain. Other endorsees of the 10 Principles include Volvo, BASF, BMW, Enel, Groupe Renault, Honda, Trafigura, Umicore, Volkswagen Group.

⁵ For more information on the Global Battery Alliance, see <https://www.weforum.org/global-battery-alliance/home> and http://www3.weforum.org/docs/WEF_A_Vision_for_a_Sustainable_Battery_Value_Chain_in_2030_Report.pdf

The Global Battery Alliance's 10 Principles are organised around three key pillars:

- Establish a circular battery value chain as a major driver to achieve the Paris Agreement
- Establish a low-carbon economy in the value chain, create new jobs and additional economic value
- Safeguard human rights and economic development in line with the UN Sustainable Development Goals

Planning for the future

In 2020, we plan to:

- Complete the rollout of the Group Supplier Code
- Continue to roll out supplier monitoring and auditing against the Group Supplier Code
- Continue implementing and embedding the Clean Cobalt Framework at Metalkol RTR, with a particular focus on establishing chain of custody/traceability through the value chain
- Continue implementing the Cobalt Industry Responsible Assessment Framework
- Continue working with the Global Battery Alliance to promote a sustainable battery value chain

GOVERNMENT RELATIONS AND POLICY

Our host governments count amongst our most important stakeholders. This reflects the actual and potential impact of public policy, legislation, regulation and the awarding of new licences on our business. Furthermore, the Government of the Republic of Kazakhstan's significant shareholding in ERG makes this a particularly important relationship.



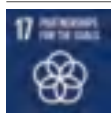
Relevant UN Sustainable Development Goals

UN SDG

Associated UN Targets



16.5 Substantially reduce corruption and bribery in all their forms



17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships

17.17 Encourage and promote effective public, public-private and civil society partnerships

ERG adheres to the highest principles of ethical business conduct with respect to its relationships with its host (and other) governments. These are set out in our Code of Conduct (Code) and compliance policies (p. 93).

Key issues and initiatives

Relationship with the Government of the Republic of Kazakhstan

The Government of the Republic of Kazakhstan holds a 40% interest in ERG and is represented on our Board of Managers. Furthermore, our business plays a strategic role in Kazakhstan's economy, particularly in relation to mining and metals, power generation and logistics.

In this context, we engage constructively with the Government with respect to our business plans, corporate strategy and support (where it fits with our business objectives) of the Government's broader national vision and strategy.

Key areas of ongoing engagement include:

- Efforts to boost economic growth and national capabilities, including the pursuit of digital innovation (p. 28)

- Alignment with – and support of – the Government's 'Green Economy' concept, as well as its climate change commitments under the Paris Agreement and the forthcoming update of the Environmental Code (which will align the country with international good practice and EU regulatory standards) (p. 63)
- The promotion of social development in our regions of operation – including through our memoranda of understanding with regional authorities (Regional MoUs) – and beyond (p. 49–52)
- Participation in China's Belt and Road Initiative (p. 14)

More specific areas of engagement in 2019 included participation in Government working groups focused on:

- Ensuring the new Environmental Code strikes an effective balance between requiring companies to apply best available environmental technologies (p. 63), whilst maintaining the commercial sustainability of their operations
- The creation of a tax residency programme to promote foreign direct investment into Kazakhstan. This would deliver tax benefits to foreign investors to encourage them to make investments through the Astana International Financial Center (AIFC)
- Amendments to the Code on Subsoil and Subsoil Use that will support a shift towards a licence-based model for mining activities

Furthermore, in 2019 we have been working with the Ministry of Labour and Social Protection and the Ministry of Education and Science of the Republic of Kazakhstan to develop a national 'Atlas of the Professions'. This aims to identify and help guide young people towards promising future employment roles in the mining and metals sector (p. 38).

Belt and Road Initiative

ERG participates in China's strategic Belt and Road Initiative (BRI), which is focused on improving trade links with a wide range of countries in Eurasia and Africa, and promoting economic growth. Kazakhstan's location, logistical infrastructure, natural resources and trade networks makes it an important player in the initiative.

In 2019, we attended the Second Belt and Road Forum for International Cooperation, chaired by President Xi Jinping, as well as the Second China International Import Expo. At the latter event, we signed a memorandum of understanding with state-owned bank ICBC to strengthen our strategic partnership with respect to the financing of ERG's assets in the DRC, Kazakhstan and Mozambique.

Government relations in Africa

We are continuing to engage constructively (via the Chamber of Commerce) with the DRC Government in relation to how the updated 2018 Mining Code is applied to ERG.

Other key focus areas for our engagement with the DRC Government include:

- Our delivery of benefits to local communities, including utilities, healthcare, education, housing and infrastructure. This includes ongoing government oversight of our community Commitments Register and CSI plans (p. 53), as well as the consideration of new, government-proposed projects
- Our employment and development of local community members and DRC nationals, in line with the requirements of the Labour Code. This includes the prioritised employment of local community members where possible
- The implementation of our Clean Cobalt Framework at Metalkol RTR (p. 84)

We are committed to investing in the DRC – and to ensuring that the country and its people, along with ERG, benefit from our operations there.

Boss Mining in the DRC

In February 2019, we announced that we were placing Boss Mining (in which state mining company Gécamines has a 49% interest) into care and maintenance. We are working on commercially feasible ways to recommence and enhance operations at Boss Mining in future.

Elections in the DRC

In 2018, there was concern about the potential for political tensions over the DRC's delayed presidential elections to result in serious disruption. Nonetheless, stability was maintained and an orderly transition of power took place in January 2019.

Performance

In 2019, ERG did not make any contributions (financial or in-kind) to political parties.

We continue to work with regional governments in Kazakhstan to support socio-economic development in our areas of operation. These include:

- Community projects implemented in partnership with regional governments (p. 49–52)
- Mandatory socio-economic and infrastructure development contributions in the regions, as required under our operating licences

Planning for the future

In 2020, we plan to:

- Continue working with Gécamines to explore options that could support the commercial sustainability of Boss Mining
- Continue participating in working groups focused on the development of Kazakhstan's new Environmental Code



APPENDIX

GOVERNANCE, MANAGEMENT STRUCTURES AND RISK MANAGEMENT

Corporate governance

ERG is guided by its Board of Managers (the Board), comprised of three founding shareholders and two representatives of the Government of the Republic of Kazakhstan.

The Board is committed to ensuring that the Group strives to meet the highest business and ethical standards, and complies with local and international laws wherever ERG operates. The Board approved our Code of Conduct and Group Compliance Policies.

The Board has established four committees to help it discharge its responsibilities in key governance areas. All Board committees have clearly defined terms of reference, which describe in detail their duties and the extent of their authority:

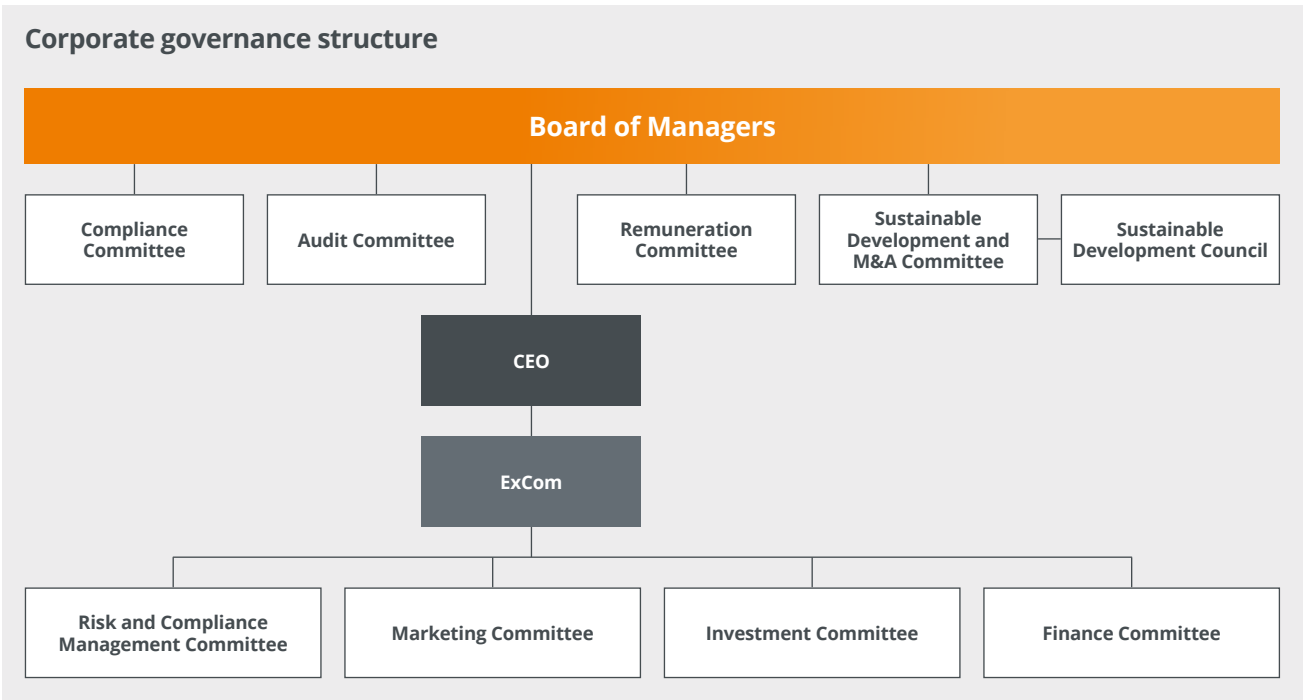
- **Audit Committee:** Responsible for overseeing the integrity of ERG's financial reporting, the effectiveness of its internal

controls and risk mitigation actions, the effectiveness of its Internal Audit function and the engagement of external auditors

- **Compliance Committee:** Responsible for review, oversight and approval of the Group compliance systems, policies and controls – and for monitoring the effectiveness of the Group compliance function
- **Remuneration Committee:** Responsible for overseeing the remuneration of ERG's senior managers and monitoring the Group remuneration system
- **Sustainable Development and Mergers and Acquisitions (M&A) Committee:** Responsible for overseeing M&A activity (including due diligence, the assessment and mitigation of related risks, structuring and implementation of projects, and post-acquisition integration), as well as the integration of Sustainable Development principles into our business (through the Sustainable Development Council)

Executive Committee (ExCom)

ExCom is a permanent, collegial management body, which operates at Group-level. It is authorised to pass resolutions on matters within its competence and to provide consultations and recommendations in relation to matters pertaining to the Group's business. Its resolutions, consultations and recommendations are necessary for the coordination of the Group's business and the provision of assistance to the management bodies of relevant Group Companies.



ExCom's strategic function is to:

- Guide the overall performance of the Group
- Act in line with targets and strategies approved by the Board
- Approve a long-term financial plan and key performance indicators
- Appoint key managers
- Implement standards and policies for key processes, including their communication to regional level
- Identify and allocate key resources for the Group to fulfil its key obligations and tasks

Business Sustainability leadership

Our Sustainable Development Council (SDC) acts as the working body of the Board's Sustainable Development and M&A Committee. Reflecting our more integrated approach to Sustainable Development, the SDC is responsible for considering key issues and initiatives in the following areas, all of which are aimed at supporting our business sustainability:

- Strategy development and strategic planning
- Architecture improvement and innovation
- Leadership programmes
- Financial and non-financial key performance indicators
- Business transformation

Regional Health, Safety, Environment and Communities Management

Kazakhstan

We have established the following committees, which are made up of senior regional management and the CEOs of our business units:

- Environmental Protection Committee
- Industrial and Occupational Safety Committee

These committees:

- Define our environmental and safety strategy
- Review relevant policies, procedures and initiatives
- Receive regular progress reports on the implementation and improvement of controls

In 2019, our Environmental Protection Committee oversaw a range of issues, including the introduction of best available technologies, the obtaining of complex environmental permits, alignment with European Union environmental regulation, anticipated legislative changes in Russia, cross-Regional audit results and internal waste management practices.

Similarly, the Industrial and Occupational Safety Committee examined issues in relation to the investigation of fatalities, performance indicators, hazard identification, transportation safety, working at height procedures, and building safety. The Committee also integrated safety performance indicators into the remuneration framework for the general managers of our business units.

Africa

In Africa, our Safety, Health and Sustainability (SHS) performance is reported on a monthly basis to regional Executive Committee members, including ERG Africa's CEO; site General Managers; site SHS managers; and selected senior employees. Participants in this process meet to analyse and discuss the cause of serious incidents, as well as preventative measures.

Specific attention is given to:

- The causes of incidents
- Environmental compliance
- Progress against internal/external audit reports
- Corporate social responsibility
- Artisanal and small-scale mining
- Human rights

At our operations in the DRC, we operate a formal Safety and Hygiene Committee as required under local law.

RISK MANAGEMENT

Our risk management framework defines the oversight responsibilities of the Board and the ExCom. They are supported in this role by our Risk and Compliance Management Committee, as well as our Risk Management, Internal Control and Internal Audit teams. Our risk management system is designed to help ERG to identify, assess and manage risks affecting our business sustainability – as well as our most material Sustainable Development issues – in accordance with our approved levels of risk appetite. Our Group Risk Management Policy is informed by the International Standard for Risk Management (ISO 31000).

Our ongoing efforts to identify and manage risks are critical for the successful achievement of our objectives. Our key risks are regularly reviewed by our Risk and Compliance Management Committee, ExCom and Board to ensure visibility of our overall risk exposure and to support the prioritisation of our mitigation actions. The risk management function helps to implement these actions in a timely manner, thus ensuring the proactive mitigation of our key risks in accordance with approved levels of risk appetite.

In 2019, we advanced our management of risk through:

- The approval of our Business Continuity Management methodology. We launched the trial application of business continuity plans in Africa (at Metalkol RTR), Kazakhstan (at Aktobe Ferroalloys Plant) and at our Amsterdam corporate office

- The implementation of our Risk Management Information System at business unit-, Regional- and Group-levels
- The implementation of our Group Internal Control methodology
- The initiation of our HAZID project in Kazakhstan. The objective is to create a 'live' database of hazards, risks and associated mitigation actions, to assign personal responsibilities and to assign resources (budgets) needed to manage risks
- The development of capital project risk analysis approaches, including project risk analysis tools
- The certification of most risk managers in Kazakhstan as Certified Risk Management Professionals by Russia's Risk Management Association

APPENDIX

MANAGEMENT APPROACH

OUR VALUES

Our Values reflect how we want to do business and guide us on our journey towards true business sustainability. We apply our Values in every decision we make, at all levels of our business – from the most senior manager to the most junior employee:



Safety

- We put safety first
- We ensure safe labour conditions for all our employees and contractors, continuously working to prevent any injuries occurring in the workplace



Unity

- We work together as a team of passionate people aiming to achieve our set goals
- We respect the cultural and regional traditions where we operate



Efficiency

- We do not work for the sake of it – we are focused on delivering results
- We manage our resources carefully to achieve results
- We prioritise the most relevant issues
- We minimise tasks that do not add value



Development

- We appreciate our employees and create conditions for their development
- We efficiently implement new technologies and develop as a company
- We ensure the sustainable development of the Group



Responsibility

- We fulfil our obligations to our employees, their families, customers, partners, shareholders and society
- We carefully manage the resources and the environment entrusted to us
- We build a culture of mutual confidence and respect in the Group, as well as with partners and customers

Key external management system standards applied by ERG in Kazakhstan

- OHSAS 18001 Occupational health and safety management system standard
- ISO 50001/EN 16001 Energy management system standard¹
- ISO 14001 Environmental management system standard
- ISO 9001 Quality management system standard
- ISO/IEC 27001-2015 Information security management standard

¹ Energy generating assets only (i.e. Kazchrome, SSGPO, EEC and Aluminium of Kazakhstan) with the exception of 3-Energoortalyk.

The sections below outline our approach to managing each of the thematic areas set out in this report.

How we manage our people

See 'Helping our people thrive' on p. 30

Our commitment

We are committed to delivering a safe, attractive, productive and stable working environment for all our employees and contractors. Our commitments in this regard are supported by the requirements of our Health, Safety and Environment (HSE) Policy Statement, Human Rights Policy and our Code of Conduct.

Our HSE Policy Statement commits us to:

- Continually improving our performance
- Assessing and managing our risks
- Carrying out training, communication and reporting
- Implementing audit and review processes

Under our Human Rights Policy, we are committed to respecting universally recognised human rights and labour standards. The policy includes commitments in relation to:

- The provision of safe and healthy work conditions
- Respect for employees' rights to freedom of association and collective bargaining
- The provision of a secure work place
- The prevention of forced and child labour
- Respect for equality, diversity and non-discrimination

These commitments are supported by the terms of our Code of Conduct, as well as our collective bargaining agreements.

Implementation of our commitments

In Kazakhstan, our overall approach to employee management is defined by our business units' human resource policies and frameworks. Our Staff and Remuneration Committee in Kazakhstan, which meets on a monthly basis, supports regional-level coordination in relation to a range of areas, including: organisational planning; recruitment; employee motivation; remuneration; talent management; and social benefits.

Furthermore, our operations in Kazakhstan are certified to the OHSAS 18001 occupational health and safety management system standard.

In 2019, we completed a comprehensive audit of our existing safety management system in Kazakhstan (p. 32). This will inform the development of our integrated, risk-based occupational and process safety management system in Kazakhstan.

We apply a Safety, Health and Sustainability (SHS) management system at our African operations that is informed by OHSAS 18001.

At our BAMIN iron ore project in Brazil, we have established health and safety procedures that apply to both our employees and contractors.

We respect the right of our employees to join trade unions and bargain on a collective basis. More than 90% of our employees across the Group are trade union members.

Emergency preparedness

Emergency preparedness plans have been rolled out across our operations in Kazakhstan. We conduct regular emergency scenario exercises in line with these plans, as well as periodic risk assessments. This helps ensure the competency of our emergency response teams, identify additional training needs and ensure our response equipment is fit for purpose.

In Africa, we maintain an emergency management system procedure that forms part of our integrated SHS management system.

Emergency response plans will also be developed prior to the execution phase of our BAMIN iron ore project in Brazil.

How we manage community development and well-being

See 'Community development and well-being' on p. 44

Our commitments

We are committed to supporting community social investment (CSI) programmes that maximise our positive socio-economic impacts. In line with our Group Corporate Social Responsibility (CSR) Projects and Sponsorship Policy, we focus on a range of issues including:

- Healthcare
- Safety and environmental programmes
- Infrastructure and social welfare
- Education and support for youth initiatives
- Sports and promotion of healthy lifestyles
- Preservation of cultural heritage
- Economic development, as well as community training and development programmes
- Support for our Human Rights Policy (e.g. external programmes focused on the elimination of child labour)

This is underpinned by close, ongoing community engagement to help us align our programmes with community concerns, needs and aspirations (p. 46–48).

We are equally committed to minimising our negative impacts on host communities. In line with our Human Rights Policy, this includes:

- Respecting the rights, cultural heritage and customs of local communities
- Engaging with local communities to assess the potential impact of our activities – including a focus on risks, impacts, remediation, mitigation and monitoring
- Integrating engagement feedback into project planning and community investment activities
- Seeking to avoid involuntary resettlements, and, where this is unavoidable, constructively engaging with local communities in line with relevant laws and international standards

We manage artisanal and small-scale mining (ASM) activity at our operations² in the DRC through an integrated SHS Management System, which includes:

- A dedicated ASM Policy
- Related ASM procedures, including those concerning:
 - Engagement with ASM communities and relevant governmental authorities
 - The responsible management of ASM activities on our concessions (where it takes place). This includes procedures to ensure our operations do not purchase or profit from ASM-sourced ore

Implementation of our commitments

In Kazakhstan, we implement our Group CSR Projects and Sponsorship Policy through a systematic process framework. This ensures a comprehensive, well-targeted approach to the identification, implementation, monitoring and review of our CSI spending.

In Kazakhstan, our CSI takes place through two channels:

- **Direct social investment:** Targeted at maximising our positive impacts and minimising our negative impacts on local communities
- **Regional memoranda of understanding:** Negotiated strategic partnerships with regional authorities targeted at broader socio-economic development of local communities (some of which are undertaken as part of our licensing obligations).

In Africa, we implement an SHS management system. Amongst other things, this provides a systematic framework to:

- Identify, assess and manage negative impacts on communities
- Manage, monitor and control community grievances and issues
- Maintain open and enduring relationships with community leaders
- Proactively engage and consult with communities through the project lifecycle
- Recognise the value of cultural heritage and cultural diversity, and protect cultural sites
- Identify and support the development of sustainable social projects, with a focus on education, health, alternative livelihoods and the prevention of child labour

² ASM activity is present in the vicinity of all our DRC sites, with the exception of Frontier.

APPENDIX

MANAGEMENT APPROACH CONTINUED

How we manage our environmental stewardship

See 'Environmental stewardship' on p. 58

Our commitment

We are committed to preserving and maintaining healthy, natural environments through the application of sustainable practices wherever we operate. Our commitment is supported by the requirements of our HSE Policy Statement, which, amongst other things, requires us to:

- Develop, implement and improve HSE management systems and programmes that are consistent with international best practice
- Ensure the accountability of senior ERG managers at all sites for improving HSE performance through risk assessment
- Ensure that all personnel understand their HSE responsibilities
- Ensure HSE issues are taken into account in business planning and decision-making

Our Group policy is supplemented by ERG Africa's SHS Policy, under which we have committed to:

- Systematically identify, assess and manage all negative environmental impacts
- Strive for continuous improvement in environmental performance through the 'plan, implement, check and review' steps
- Minimise the pollution, disturbance and/or degradation of ecosystems

- Comply with and, where appropriate, exceed applicable laws and regulations in the countries in which we operate. This includes working towards full compliance with applicable international good practice guidelines, such as the IFC Performance Standards and the relevant SHS components of the OECD Guidelines for Multinational Enterprises.

In 2019, BAMIN started to implement an Environmental Management System designed to manage the environmental aspects of both its mining and port operations. The system supports the proactive management of all environmental licence requirements, as well as relevant environmental and social management plans. The system also integrates a Geographic Information Systems platform, which enhances BAMIN's management effectiveness by visualising spatial data.

Implementation of our commitments

The majority of our operations in Kazakhstan are certified to the ISO 14001 environmental management system standard. In 2019, we started a process to centralise, homogenise and automate the collection of our environmental management data – including data relating to discharges, emissions, events, and monitoring results. This process is currently ongoing.

In Africa, we are committed to striving to continuously improve our environmental performance and to work towards compliance with relevant international standards. Our existing SHS Management System (embodied in our SHS Management Manual and associated procedures) is informed by the ISO 14001 environmental management system standard.

In 2019, Metalkol RTR conducted a gap analysis against the ISO14001 environmental management system standard, the results of which are informing our management efforts.

Community engagement

We recognise the close link between our environmental performance and our social licence to operate, and thus the need for us to engage with our community stakeholders and civil society organisations in a transparent and constructive manner. For example, in Pavlodar (one of our main operating regions in Kazakhstan), we work closely with a range of local community representatives and NGOs on environmental management issues. This includes, for example, multiple community engagement events, such as those relating to biodiversity, conservation, planting and awareness-raising with respect to our environmental management programmes.

Since 2016, we have submitted our environmental monitoring results to the national authorities for publishing via Kazakhstan's National Pollutant Release and Transfer Register, a structured database that provides transparency and facilitates public scrutiny.

In both Kazakhstan and Africa, we also carry out community consultations focused on the environment in the context of our impact assessment activity.

How we manage our relationship with broader society

See 'Our relationship with broader society' on p. 70

Our policy framework is based on our Values, Code of Conduct and all our policies and procedures, and are subject to regular review.

Relevant Group policies include, but are not limited to, the following:

- **Anti-bribery and Corruption Policy:** This commits us to always acting responsibly, honestly and with integrity, and to not engaging in or tolerating any form of bribery or corruption
- **Agents Compliance Policy:** This requires agents acting on our behalf to comply with applicable laws and regulations, as well as our policies and Code of Conduct
- **Anti-Money Laundering Policy:** This commits us to not knowingly engaging in transactions involving money laundering or terrorism financing
- **Human Rights Policy:** This requires ERG and its employees and contractors to abide by human rights norms. For further information on how we manage human rights and responsible supply chains, please see p. 80 and p. 83

■ **Competition Compliance Policy:**

This commits us to not engaging in or tolerating any form of conduct that fails to comply with applicable competition laws

■ **CSR Projects and Sponsorship Policy:**

This sets out the process, criteria and approvals necessary for ERG to commit to and manage corporate social responsibility (CSR) projects or sponsorship arrangements

■ **International Economic Sanctions Compliance Policy:**

This commits us to avoiding breaching international economic sanctions imposed by relevant governments, as well as supranational or international organisations

■ **Data Protection Policy:**

This commits us to complying with all data protection and privacy legislation and regulations applicable to the jurisdictions in which we operate

These are in addition to our Code of Conduct, which is binding on all our employees, managers and Board members. It applies a range of obligations with respect to:

- Compliance with laws, rules and regulations
- Anti-bribery and corruption
- International trade, export controls and financial and political sanctions
- Human rights
- Political and non-political contributions, donations and sponsorships by ERG

We have also adopted a Group Supplier Code of Conduct, which sets out our expectations in relation to our suppliers and contractors, as set out in more detail on p 82–83.

Our compliance policies and guidelines are implemented by our Group, regional and local Compliance managers, with assurance oversight provided at Group level. Compliance managers are full-time compliance employees who provide professional, dedicated compliance support to the business.






Our Group Tax Policy commits us to:

- Complying with all applicable laws, rules and regulations
- Taking account of the spirit as well as the letter of relevant tax laws and regulations
- In the context of transfer pricing:
 - Conducting all transactions between Group companies on an arm's length basis
 - Determining pricing in accordance with the nature of the economic functions performed by each company (including the use of capital) and following the specific methods and principles outlined in the OECD Transfer Pricing Guidelines and/or local transfer pricing laws
 - Retaining adequate documentation for each intercompany transaction to establish the terms and conditions of the transaction and to demonstrate that the company has complied with the transfer pricing principles set out above

Our Group Tax Policy is supported by our new ERG Group Tax Code of Conduct, which supports policy implementation, legal compliance and the effective management of our risks.

APPENDIX

WHAT ARE ERG'S MOST MATERIAL ISSUES AND WHY?

THEME	ISSUE	RELEVANCE TO ERG
Preparing our business for the future 	Organisational transformation	<ul style="list-style-type: none"> Support of medium- and long-term business sustainability – including through enhanced resilience, effectiveness and decision-making
	Portfolio development	<ul style="list-style-type: none"> Replacement and growth of Mineral Resources and Ore Reserves, maintenance/renewal of existing projects and access to new commercial opportunities
	Technology and efficiency	<ul style="list-style-type: none"> Support of medium- and long-term business sustainability – including through reduced costs, enhanced competitiveness and higher levels of productivity
	Financial resilience	<ul style="list-style-type: none"> Ongoing ability of the business to successfully navigate external shocks and continue as a successful growing concern
Helping our people thrive 	Health and safety	<ul style="list-style-type: none"> The right thing to do – as well as the maintenance of our operational continuity, efficiency and the motivation of our employees
	Skills, capabilities and development	<ul style="list-style-type: none"> Maintenance of our ability to generate value and to transform our business (see above) by attracting, developing, motivating and retaining high-quality, skilled employees
	Labour relations	<ul style="list-style-type: none"> Nurturing of a productive, positive workplace culture that directly supports our productivity, efficiency and profitability
Community development and well-being 	Community impacts	<ul style="list-style-type: none"> Responsible management of ERG's impacts, as well as the maintenance of constructive stakeholder relations
	Community social investment	<ul style="list-style-type: none"> Maintenance of our social licence to operate and the delivery of positive living standards for our workers in our local communities – many of which have historically grown around our operations. This is in addition to the fulfilment of legal obligations relating to mandatory socio-economic development contributions required under our operating licences
	Artisanal and small-scale mining	<ul style="list-style-type: none"> Delivery of assurance to our customers regarding the provenance and conditions of extraction of our cobalt and copper. This is in addition to the need to address the potentially negative impacts that can be associated with ASM activity on our operating environment
Environmental stewardship 	Managing impacts on air and water	<ul style="list-style-type: none"> Legal compliance and the maintenance of our social licence to operate through the avoidance/minimisation of our negative environmental impacts
	Energy and climate change	<ul style="list-style-type: none"> Compliance with current and/or future emissions regulations, minimisation of future carbon tax liabilities, reduced costs (associated with energy consumption) and the maintenance of our broader social licence to operate
	Waste management	<ul style="list-style-type: none"> Compliance and operational continuity requirements around the physical and environmental management of large volumes of waste (including waste rock, tailings, sludges and industrial waste) – plus potential commercial opportunities around waste processing
Our relationship with broader society 	Value generation and distribution	<ul style="list-style-type: none"> The need to generate revenue and profits in order to sustain ERG as a going concern – and achieve future growth
	Compliance	<ul style="list-style-type: none"> Compliance with relevant law, the maintenance of the trust of our partners and the protection of our reputation – as well as the enhancement of our operating environments
	Responsible supply chains	<ul style="list-style-type: none"> The avoidance of reputational harm as a result of any indirect negative impacts that may take place in ERG's supply chain – plus the delivery of assurance to customers and other downstream actors that its own products are responsibly sourced
	Government relations and policy	<ul style="list-style-type: none"> The potential impact of governments on ERG's revenue generation and profitability via public policy, taxation legislation and regulation – as well as the awarding of new licences. In addition, the status of the Government of the Republic of Kazakhstan as a 40% shareholder in ERG

RELEVANCE TO STAKEHOLDERS	RELEVANT 2025 STRATEGY GOAL	RELEVANT UN SDGS
<ul style="list-style-type: none"> Impact on returns, the protection of shareholder/finance provider value and the sustainability of economic value distribution (see below) 	Efficiency in all that we do	N/A
<ul style="list-style-type: none"> Establishment of new projects (with all attendant positive and/or negative impacts), the continued commercial viability of existing projects and the maintenance of long-term value generation and distribution. 	Balanced portfolio growth	 
<ul style="list-style-type: none"> Impact on returns, the protection of shareholder/finance provider value and the sustainability of economic value distribution (see below) 	Efficiency in all that we do	 
<ul style="list-style-type: none"> Continued ability to generate and distribute value, as well as the settlement of debts and payment of other financial liabilities and commitments 	Financial stability	N/A
<ul style="list-style-type: none"> Protection of employees and contractors from occupational injury, as well as occupational illnesses 	Happy and professional team	 
<ul style="list-style-type: none"> The professional advancement of employees – and their ability to reach their full socio-economic, technical and personal potential 	Happy and professional team	 
<ul style="list-style-type: none"> Delivery of positive working conditions, fair pay and benefits, and a responsive management culture – as well as the meeting of the social needs and living standards of our employees and their families (many of whom reside in remote communities in Kazakhstan that are highly reliant on ERG's activities) 	Happy and professional team	 
<ul style="list-style-type: none"> The delivery of positive impacts by ERG's operations, as well as the need to ensure mining does not undermine the interests of local people 	Sustainable development of our host regions	   
<ul style="list-style-type: none"> The addressing of socio-economic challenges in local communities in Kazakhstan (which are remote, economically undiversified and rely on ERG for employment and public services) and Africa (which lack formal employment opportunities and suffer from high levels of poverty) 	Sustainable development of our host regions	     
<ul style="list-style-type: none"> The addressing of the potentially negative social and environmental impacts that can be linked to ASM activity – on artisanal miners, local communities and the environment. This is in addition to the need for customers to demonstrate high levels of due diligence. 	Sustainable development of our host regions	  
<ul style="list-style-type: none"> The potential for ERG activities (including mining, smelting, refining, power generation and the operation of railway systems) to result in discharges to the environment that result in possible human and ecological harm 	Sustainable development of our host regions	    
<ul style="list-style-type: none"> The potential for ERG activities to contribute (over the long term) to climate change and its associated negative environmental and socio-economic impacts 	Sustainable development of our host regions	    
<ul style="list-style-type: none"> The need to responsibly manage waste that could otherwise result in ground, water or air contamination – and/or serious physical impacts with human and/or environmental consequences. 	Sustainable development of our host regions	 
<ul style="list-style-type: none"> The positive impact of direct payments to suppliers, employees, capital providers, government and communities – as well as associated indirect and induced economic impacts 	Sustainable development of our host regions	   
<ul style="list-style-type: none"> The potential undermining of legitimate economic, social, political and business interests – as well as the undermining of the broader governance environment. In addition, the avoidance of association with such behaviour and related reputational harm 	Compliance is a cross-cutting issue that is relevant to all aspects of our 2025 Strategy	 
<ul style="list-style-type: none"> The need to ensure workers and other stakeholders in the supply chain are not negatively impacted – plus the need to avoid reputational harm as a result of any indirect negative impacts (including those relating to human rights) that may take place as a result of company activities and/or relationships 	Sustainable development of our host regions	  
<ul style="list-style-type: none"> The need for transparent and constructive interactions between business and government to avoid the undermining of the legitimate interests of other stakeholders – and to support balanced, well-informed public policy 	Government relations and policy is a cross-cutting issue that is relevant to all aspects of our 2025 Strategy	 

APPENDIX

STAKEHOLDER ENGAGEMENT OVERVIEW

Stakeholder engagement

We select stakeholders for engagement on the basis of:

- Their actual/potential impact on ERG's achievement of its business objectives
- ERG's actual/potential impact (positive and negative) on them

The identification, prioritisation and engagement of our stakeholders helps us:

- Understand the impact we have on others
- Minimise our negative impacts and maximise our positive impacts
- Monitor the effectiveness of our management activities
- Understand the risks and opportunities that our stakeholders represent to our business – and how these are influenced by our own activities and impacts
- Identify and support partnerships

Engagement takes place at the following levels:

- Corporate (i.e. strategic issues)
- Regional (i.e. strategic/operational issues)
- Site (i.e. operational issues)

CATEGORY	STAKEHOLDER GROUP
Commercial	Customers
	Suppliers, business partners and contractors
Financial	Shareholders
	Lenders
Government	National governments
	Regional governments
	Regulatory bodies
Society	Local communities
	NGOs, civil society organisations and media
	Broader society
Workforce	Employees and their representatives
	Senior managers

ENGAGEMENT CHANNEL	ISSUES OF INTEREST	RELEVANT REPORT SECTION
<ul style="list-style-type: none"> Interaction relating to product development Responding to customer surveys 	<ul style="list-style-type: none"> Supply stability/predictability Product quality/price Responsible production of cobalt 	Introduction, 1, 5
<ul style="list-style-type: none"> Engagement through business associations and initiatives Ongoing dialogue in relation to health and safety, training and auditing of performance 	<ul style="list-style-type: none"> Contract stability Predictable payments 	Introduction, 5
<ul style="list-style-type: none"> Updates to website, posting news, statements and operational reports Meetings and road shows Engagements focusing on financial services, their structure, volumes and value 	<ul style="list-style-type: none"> Sustainable business development Dividend generation Corporate reputation Cost performance 	Introduction, 1
	<ul style="list-style-type: none"> Business performance Successful project execution Borrower risks Interest payments and principal debt 	Introduction, 1
<ul style="list-style-type: none"> Engagement regarding the issuing of permits, compliance with regulations and supervision of activities Development of regulations and public policy Development of business/government partnerships (e.g. Regional memoranda of understanding in Kazakhstan) Implementation of projects for socio-economic development 	<ul style="list-style-type: none"> Development of domestic skills and capabilities Innovative production approaches Legal/fiscal regime for mining in the DRC 	1, 2, 3, 5
	<ul style="list-style-type: none"> Regional socio-economic development 	Introduction, 3
	<ul style="list-style-type: none"> Environmental impacts, including emissions to air Workplace fatalities and injuries 	2, 4
<ul style="list-style-type: none"> Public hearings and meetings Socio-economic surveys Community social investment projects Information in local media Participatory Rural Appraisals 	<ul style="list-style-type: none"> Quality of life Employment generation Emissions to air Access to water Security and artisanal and small-scale mining in the DRC 	Introduction, 2, 3, 4, 5
<ul style="list-style-type: none"> Membership in industry sector initiatives Multi-stakeholder initiatives and partnerships Implementation of CSI projects Press releases and other publications on CSI projects, financial information, information on project development 	<ul style="list-style-type: none"> Conservation, biodiversity and environmental education Information access and transparency Business ethics ENRC legacy impacts in the DRC (Kisankala and Lenge) 	3, 5
	<ul style="list-style-type: none"> Environmental impacts Employment generation 	Introduction, 2, 4
<ul style="list-style-type: none"> Ongoing dialogue between management and teams Internal communication channels (intranet, corporate publications, internal events, etc.) Suggestions for ideas to improve productivity Meetings and surveys 	<ul style="list-style-type: none"> Conditions of employment Training and development Occupational health and safety External living conditions for employees and families 	Introduction, 2
<ul style="list-style-type: none"> Ongoing dialogue through established industrial relations channels Collective bargaining agreements Accident investigations 	<ul style="list-style-type: none"> Skills development Professional development 	2

APPENDIX

KEY EXAMPLES OF GROUP- AND REGIONAL-LEVEL PARTICIPATION IN MULTI-STAKEHOLDER ORGANISATIONS

Level of participation	Organisation
Group-level	<ul style="list-style-type: none">■ World Economic Forum (Strategic Partner Associate), including:<ul style="list-style-type: none">– Global Battery Alliance (founding member)– Partnering Against Corruption Initiative– Platform for Shaping the Future of New Economy and Society– Mining and Metals Blockchain Initiative (founding member)– Mining and Metals Governors■ International Chromium Development Association■ UN Global Compact
Kazakhstan	<ul style="list-style-type: none">■ Eurasian Industrial Association■ Association of Mining and Metallurgical Enterprises■ National Chamber of Entrepreneurs of Kazakhstan 'Atameken'■ Association of Taxpayers of Kazakhstan■ Kazakhstan Foreign Investors' Council■ Kazakhstan Business Council for Sustainable Development
DRC and Zambia	<ul style="list-style-type: none">■ Cobalt Institute (UK – Board representation)■ Chamber of Mines of the DRC■ Zambia Chamber of Mines■ Zambia Institute of Human Resource Management
Brazil	<ul style="list-style-type: none">■ Brazilian Mining Institute■ Bahia Ports User Association■ Federation of Industries of the State of Bahia■ Agency for Technological Development of the Brazilian Mining Industry■ Brazilian Center For International Relations■ Brazil China Business Council

KEY OPERATIONAL ASSETS

Commodity/division	Number of key operational assets	Name of key operational asset	Principal activity	Country of operation
Ferroalloys	4	Aksu Ferroalloys Plant (TNC Kazchrome JSC)	Metals processing	Kazakhstan
		Aktobe Ferroalloys Plant (TNC Kazchrome JSC)	Metals processing	Kazakhstan
		Donskoy Gornoobogatitely plant ¹ (TNC Kazchrome JSC)	Mining and processing	Kazakhstan
		Kazmarganets (TNC Kazchrome JSC)	Mining and processing	Kazakhstan
Iron ore	1	Sokolovsko Sarbaiskoye Ore Mining and Processing Association JSC ²	Mining and processing	Kazakhstan
Alumina and Aluminium	4	Torgayskoye Mining Unit (Aluminium of Kazakhstan JSC)	Mining and processing	Kazakhstan
		Krasno-Oktyabrskoye Mining Unit (Aluminium of Kazakhstan JSC)	Mining and processing	Kazakhstan
		Pavlodar Aluminium Plant (Aluminium of Kazakhstan JSC)	Metals processing	Kazakhstan
		Kazakhstan Aluminium Smelter JSC ³	Metals processing	Kazakhstan
Other Non-ferrous	5	Boss Mining SAS	Mining and processing	DRC
		Frontier SA	Mining and processing	DRC
		Chambishi Metals PLC	Metals processing	Zambia
		Metalkol SA ⁴	Mining and processing	DRC
		Sabot Management Limited	Transportation	Seychelles
Energy	4	Vostochny Open Pit Coal Mine (Eurasian Energy Corporation JSC) ⁵	Mining and processing	Kazakhstan
		Aksu Power Plant (Eurasian Energy Corporation JSC)	Power generation	Kazakhstan
		Shubarkol Komir JSC	Mining and processing	Kazakhstan
		3-Energoortalyk JSC	Power generation	Kazakhstan
Logistics	1	TransCom LLP	Transportation	Kazakhstan

¹ Referred to as 'Donskoy GOK' throughout the report.

² Referred to as 'SSGPO' throughout the report.

³ Referred to as 'KAS' throughout the report.

⁴ Referred to as 'Metalkol RTR' throughout the report.

⁵ Referred to as 'EEC' throughout the report.

APPENDIX

GRI CONTENT INDEX

The following table presents the GRI Standards Disclosures and the GRI G4 Mining and Metals Sector Supplement Disclosures that were used to guide the contents of ERG's 2019 Sustainability Report.

GRI STANDARDS 102: GENERAL DISCLOSURES

Disclosure No.	Disclosure description	Page(s)	Comment
Organisational profile			
102-1	Name of the organisation		Front and back cover; throughout the report.
102-2	Activities, brands products and services	2-3, 6-7	
102-3	Location of headquarters		ERG's headquarters are in Luxembourg.
102-4	Location of operations	2-3	
102-5	Ownership and legal form	86, 88-89	
102-6	Markets served	2-3, 6-7	
102-7	Scale of the organization	Inside front cover, 2-3, 6-7, 10-11, 24-26, 99	
102-8	Information on employees and other workers	Inside front cover, 31, 43	
102-9	Supply chain	6-7, 16, 82-85	
102-10	Significant changes to the organization and its supply chain	13, 82-85	
102-11	Precautionary Principle or approach	8-9, 17, 59, 60-62, 64, 90, 92	
102-12	External initiatives	12, 38, 51, 56-57, 66, 82-85, 90	
102-13	Membership of associations	98	
Strategy			
102-14	Statement from senior decision-maker	4-5	
102-15	Key impacts, risks and opportunities	6-7, 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 46-48	
Ethics and integrity			
102-16	Values, principles, standards, and norms of behaviour	5, 90-93	
102-17	Mechanisms for advice and concerns about ethics	17, 80, 81	
Governance			
102-18	Governance structure	88-89	
102-19	Delegating authority	88-89	
102-21	Consulting stakeholders on economic, environmental and social topics	18-19, 88-89, 96-97	
102-29	Identifying and managing economic, environmental, and social impacts	18-19, 88-89	
102-30	Effectiveness of risk management processes	16-17, 89	
102-31	Review of economic, environmental, and social topics	18-19, 88-89	
Stakeholder engagement			
102-40	List of stakeholder groups	96	
102-41	Collective bargaining agreements	41, 43, 90-91	
102-42	Identifying and selecting stakeholders	96	
102-43	Approach to stakeholder engagement	18, 46-48, 50, 52, 53, 92, 96-97	
102-44	Key topics and concerns raised	18, 46-48, 50, 53, 97	
Reporting practice			
102-46	Defining report content and topic boundaries	Inside front cover	
102-47	List of material topics	19, 94-95	
102-48	Restatements of information		None
102-49	Changes in reporting	18-19	
102-50	Reporting period		1 Jan 2019 – 31 Dec 2019
102-51	Date of most recent report		October 2019

Disclosure No.	Disclosure description	Page(s)	Comment
102-52	Reporting cycle		Annual
102-53	Contact point for questions regarding the report		sd.report@erg.net
102-54	Claims of reporting in accordance with the GRI Standards		This report is guided by the GRI Standards and the GRI G4 Mining and Metals Sector Disclosures. It does not make a 'GRI-referenced' claim, nor an 'in accordance' claim.
102-55	GRI content index		This GRI content index
102-56	External assurance	Inside front cover	This report has not been subject to third-party assurance.

GRI STANDARDS 200: ECONOMIC DISCLOSURES

Disclosure No.	Disclosure description	Page(s)	Comment
Management approach			
103-1	Explanation of the material topic and its boundary	18–19, 94–95	
103-2	The management approach and its components	8–9, 10–11, 13, 14, 16–17, 72–74, 78–81, 89, 91, 93	
103-3	Evaluation of the management approach	16–17, 72–73, 76–77, 78–81, 88–89, 96–97	
Economic performance			
201-1	Direct economic value generated and distributed	74–75	
Indirect economic impacts			
203-1	Infrastructure investments and services supported	41–42, 49–54, 76–77, 86–87, 91	
203-2	Significant indirect economic impacts	49–54, 72–75, 76–77, 91	
Procurement practices			
204-1	Proportion of spending on local suppliers	74–75, 76–77	
Anti-corruption			
205-1	Operations assessed for risks related to corruption		During the year, we assessed 100% of our processes and transactions subject to relevant compliance procedures requirements in Africa, Brazil and Kazakhstan for corruption-related risks as part of the regional and Group-level application of our Group-wide risk management system (2018: 100%).
205-2	Communication and training about anti-corruption policies and procedures	79–81	
205-3	Confirmed incidents of corruption and actions taken		None
Anti-competitive behaviour			
206-1	Legal actions for anti-competitive behaviour, antitrust, and monopoly practices		None
Tax			
207-1	Approach to tax	72–75, 76–77, 93	
207-2	Tax governance, control, and risk management	17, 72–73, 93	
207-3	Stakeholder engagement and management of concerns related to tax	73, 86, 87, 98	

GRI STANDARDS 300: ENVIRONMENTAL DISCLOSURES

Disclosure No.	Disclosure description	Page(s)	Comment
Management approach			
103-1	Explanation of the material topic and its boundary	18–19, 94–95	
103-2	The management approach and its components	8–9, 15, 17, 59, 60–63, 64–66, 67–69, 90, 92	
103-3	Evaluation of the management approach	17, 61, 63, 65, 67, 69, 84–85, 96–97	
Energy			
302-1	Energy consumption within the organization	66	
302-2	Energy consumption outside of the organization	66	
302-4	Reduction of energy consumption	25, 28, 61, 66	

APPENDIX

GRI CONTENT INDEX CONTINUED

Water and effluents

303-1	Interactions with water as a shared resource	47, 50, 53, 54, 56–57, 96–97
303-2	Management of water discharge-related impacts	8–9, 34, 60–63, 67–69, 84
303-3	Water withdrawal	7

Emissions

305-1	Direct (Scope 1) GHG emissions	66
305-2	Energy indirect (Scope 2) GHG emissions	66
305-5	Reduction of GHG emissions	61, 66

Waste

306-1	Waste generation and significant waste-related impacts	67–69
306-2	Management of significant waste-related impacts	67–69

Supplier environmental assessment

308-1	New suppliers that were screened using environmental criteria	78–79, 82–85
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GRI STANDARDS 400: SOCIAL DISCLOSURES

Disclosure No.	Disclosure description	Page(s)	Comment
Management approach			
103-1	Explanation of the material topic and its boundary	18–19, 94–95	
103-2	The management approach and its components	8–9, 12, 16–17, 32–36, 37–39, 41, 43, 46–48, 49–50, 53, 54, 55–56, 80, 82–85, 86, 89–91	
103-3	Evaluation of the management approach	17, 32–36, 41–43, 46–48, 50, 53, 54, 80, 82, 84–85, 89, 90–91, 92, 96–97	
Employment			
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	34	
Occupational health and safety			
403-1	Occupational health and safety management system	17, 32–33, 90–91	
403-2	Hazard identification, risk assessment, and incident investigation	17, 32–33, 35, 36, 89	
403-3	Occupational health services	17, 32, 34, 90–91	
403-4	Worker participation, consultation, and communication on occupational health and safety	33, 89, 96–97	
403-5	Worker training on occupational health and safety	33, 36	
403-6	Promotion of worker health	12, 34, 36, 42	
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	82–83	
403-9	Work-related injuries	35	
403-10	Work-related ill health	34	
Training and education			
404-2	Programs for upgrading employee skills and transition assistance programs	22, 23, 37–40, 46–47	
404-3	Percentage of employees receiving regular performance and career development reviews	39	
Non-discrimination			
406-1	Incidents of discrimination and corrective actions taken	43	None
Freedom of association and collective bargaining			
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	43	None
Child labour			
408-1	Operations and suppliers at significant risk for incidents of child labour	80	
Forced or compulsory labour			
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labour	80	

Security practices

410-1	Security personnel trained in human rights policies or procedures	47, 56, 83-84
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Human rights assessment

412-1	Operations that have been subject to human rights reviews or impact assessments	80, 84
412-2	Employee training on human rights policies or procedures	80-81
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	80

Local communities

413-1	Operations with local community engagement, impact assessments, and development programs	46-48, 49-54, 76-77
413-2	Operations with significant actual and potential negative impacts on local communities	46-48

Supplier social assessment

414-1	New suppliers that were screened using social criteria	82-85
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Public policy

415-1	Political contributions	87	None
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Socio-economic compliance

419-1	Non-compliance with laws and regulations in the social and economic area	81	None
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GRI G4 MINING AND METALS SECTOR SUPPLEMENT DISCLOSURES

Indicator	Indicator description	Page(s)	Comment
Labour/management relations			
MM4	Number of strikes and lock-outs exceeding one week's duration, by country		None
Local communities			
MM6	Number and percentage of significant disputes relating to land use, customary rights of local communities and indigenous peoples		None (for details on the 2013 legacy complaint made against ENRC and how we are addressing the subsequent recommendations of the UK National Contact Point for the OECD Guidelines for Multinational Enterprises, see p. 47).
MM7	The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and indigenous peoples, and the outcomes	47-48	
Emergency preparedness*			
DMA	Report on the existence of emergency plans, how they are prepared (consultation, rehearsal, regular review and modification), and their content (arrangements for the management of crises should they arise)	67, 91	
Artisanal and small-scale mining*			
MM8	Number and percentage of company operating sites where artisanal and small-scale mining (ASM) take place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks	55-57, 84-85	
Resettlement*			
MM9	Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process	47	
Closure planning*			
DMA	Report the scope of closure planning: its associated financial provision, and its coverage of health, safety, social, environmental, legal, governance and human resource aspects.	46-47	
Materials stewardship*			
DMA	Report on programs and progress relating to materials stewardship	28, 63, 66, 84-85	

DMA: Disclosure on management approach

* Represents sector-specific aspects, which may or may not contain indicators

APPENDIX

UN GLOBAL COMPACT REFERENCE TABLE

Category	Principle	Page(s)
Human rights	1: Businesses should support and respect the protection of internationally proclaimed human rights	80, 90, 93
Human rights	2: Businesses should make sure that they are not complicit in human rights abuses	17, 47, 56–57, 78–81, 82–85, 89, 91
Labour	3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	41, 43, 90–91
Labour	4: Businesses should uphold the elimination of all forms of forced and compulsory labour	80, 82–85, 90
Labour	5: Businesses should uphold the effective abolition of child labour	56–57, 80, 82–85, 90–91
Labour	6: Businesses should uphold the elimination of discrimination in respect of employment and occupation	41, 43, 90
Environment	7: Businesses should support a precautionary approach to environmental challenges	8–9, 17, 59, 60–62, 64, 90, 92
Environment	8: Businesses should undertake initiatives to promote greater environmental responsibility	8–9, 15, 17, 60–63, 64–66, 67–69
Environment	9: Businesses should encourage the development and diffusion of environmentally friendly technologies	15, 24, 28–29, 61–63, 64–66, 68–69, 83, 84
Anti-corruption	10: Businesses should work against corruption in all its forms, including extortion and bribery	17, 78–81, 82–85, 93

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