



# EGA 2019 Sustainability Report

Making modern life possible



CELEBRATING 40 YEARS OF  
MAKING MODERN LIFE POSSIBLE

1979 - 2019

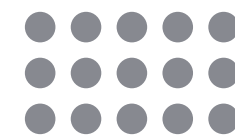


## Making modern life possible

Aluminium makes modern life possible. It is used in products and infrastructure we all rely on every day, including in applications that contribute to a more sustainable society from wind farms to electric vehicles, and mass-transit to solar panels.

But we do not only make modern life possible with our metal. We also contribute to economic diversification, innovation, and to creating opportunities for our employees, customers, suppliers and the communities in which we operate.

Most of all, modern life is dependent on environmental and social responsibility.

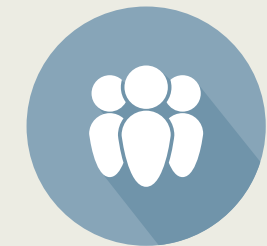


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# 01



## Introduction





# Introduction

## About this report

Welcome to Emirates Global Aluminium's annual sustainability report, which details facts and provides the latest updates on EGA's 2019 Sustainability Performance.

All 2019 disclosures have been prepared in accordance with:

- The Global Reporting Initiative Standards Core option<sup>1</sup>
- The Global Reporting Initiative mining and metal sector supplement<sup>2</sup>
- Reporting and disclosure requirements set by the Aluminium Stewardship Initiative Performance Standards<sup>3</sup>

Although 2019 is the focus of this report, we have also included data pertaining to key aspects of our business from 2016-2018 to illustrate trends in performance.

In 2019, EGA marked 40 years of production in the United Arab Emirates. On pages 16-17 of this report, we narrate our growth and development over this time.

To ensure appropriate content and data quality, the professional auditing firm KPMG has independently assured our disclosures in selected key performance areas, including material sustainability topics. For more on KPMG's assurance statement, please refer to pages 138-139 of this report.

**Our report covers the five areas that we consider vital to a successful and sustainable business:**

Quality products	
Economic value generated and distributed	
Environmental and social responsibility	
Creating opportunities for people	
Technology and innovation	

For any questions or further information related to the information herein, please contact: [sustainability@ega.ae](mailto:sustainability@ega.ae).

<sup>1</sup> Global Reporting Initiative Standards (GRI) provide a framework and international benchmark for public disclosure of economic, environmental and societal performance.  
<sup>2</sup> GRI provides sector guidance for all reporting organisations in the mining and metals sector.  
<sup>3</sup> The ASI Performance Standards define environmental, social and governance performance standards for sustainability issues specific to the aluminium value chain.







## Managing Director and Chief Executive Officer's statements

**Our metal is used in electric vehicles, energy-efficient buildings and in other applications that contribute to a more sustainable society. And as aluminium is infinitely recyclable, the metal we make today could be making modern life possible for generations to come.**

As a major industrial company, we recognise that expectations regarding sustainability performance are increasing every year and rightfully so.

In 2019, EGA reached a major milestone on our sustainability journey, certifying our metal production facilities in Al Taweelah to the Aluminium Stewardship Initiative's Performance Standards. We were the first organisation in the Middle East to receive ASI certification. ASI is the benchmark of sustainable business practice tailored specifically for our industry.

We are not in the business of hurting people and safety has always been our first priority.

In 2019, our safety performance was good compared to global benchmarks, even with the implicit challenges of beginning production at both our new alumina refinery and our new mining operation. Across our operations in the UAE, we achieved for the first time, zero heat-related incidents during the summer, a major achievement for our 'Beat the Heat' health and safety programme. Nevertheless, zero harm remains the only acceptable target across our business and there is still more we must do.

The start-up of our Al Taweelah alumina refinery and Guinea Alumina Corporation subsidiary also brought new environmental challenges. Our plan for the responsible storage of bauxite residue from our alumina refinery moved into implementation smoothly. Our research to develop economically-viable uses for bauxite residue is on track, and success would create a solution for what the industry for decades has seen as a problematic waste stream. In the Republic of Guinea, we continued our conservation work and upheld our commitment to no net biodiversity loss. In the UAE we once again welcomed critically endangered, hawksbill turtles to the beach next to our Al Taweelah facilities.

Also in Guinea, we continued to work closely with local communities, doing all we can to ensure that people's lives are not adversely affected by our operations and to understand how we can help improve quality of life. Our work so far has included the provision of new schools, health facilities, improved access to clean water, increasing agricultural yields, upskilling young people and improving their career opportunities. In 2019, 80 per cent of our employees in Guinea were Guinean nationals.

EGA has a heritage of more than four decades. Over the past 40 years, we have grown our company from a small regional smelter into the world's largest 'premium-aluminium' producer, passing the baton from generation to generation.

As part of the latest, carefully planned generational transition at the top of our company, the Board split the roles of Managing Director and Chief Executive Officer at the start of 2020. I was thus appointed Managing Director, and charged with devoting my full attention to our strategic direction. Our new Chief Executive Officer, Abdunasser Bin Kalban, has since led EGA on a day-to-day basis, focusing on delivering exceptional operational and business performance. Abdunasser is well known to many of us at EGA, having worked at DUBAL from 1996 to 2014. I am grateful to have Abdunasser back with us again and am sure that he will be a keystone in our future success.

**Abdulla Kalban**  
Managing Director





## Managing Director and Chief Executive Officer's statements

**I am honoured to return to EGA as Chief Executive Officer. We have a rich and pioneering heritage to build on, and I look forward to ensuring EGA maintains a leading position in the global aluminium industry for decades to come.**

EGA is committed to securing a more sustainable future for our world. In support of that future, we anticipate that the demand for responsibly sourced aluminium will only grow.

Diligence in our environmental performance, meticulous safety standards, positive contributions to society and accountable corporate governance have always been part of our culture at EGA.

It is inevitable and right that these aspects of our performance will become even more important than they are today and we are encouraged to see the industry attributing importance to how aluminium is made, as well as its end use.

The greenhouse gas emissions intensity associated with EGA's metal is already 38 per cent lower than the global industry average. Unfortunately, in 2019, EGA experienced a marginal increase in our greenhouse gas emissions intensity associated with metal production. Although this increase was just 1.1 per cent, it is not consistent with EGA's core commitments, nor is it representative of the efforts we have made previously to reduce emissions.

During 2019, the team reviewed plans for future greenhouse gas emissions reductions, and we anticipate a significant decrease in our greenhouse gas emissions intensity in the not-too-distant future.

But greenhouse gas emissions are only one of many issues that the aluminium industry must consider, others include:

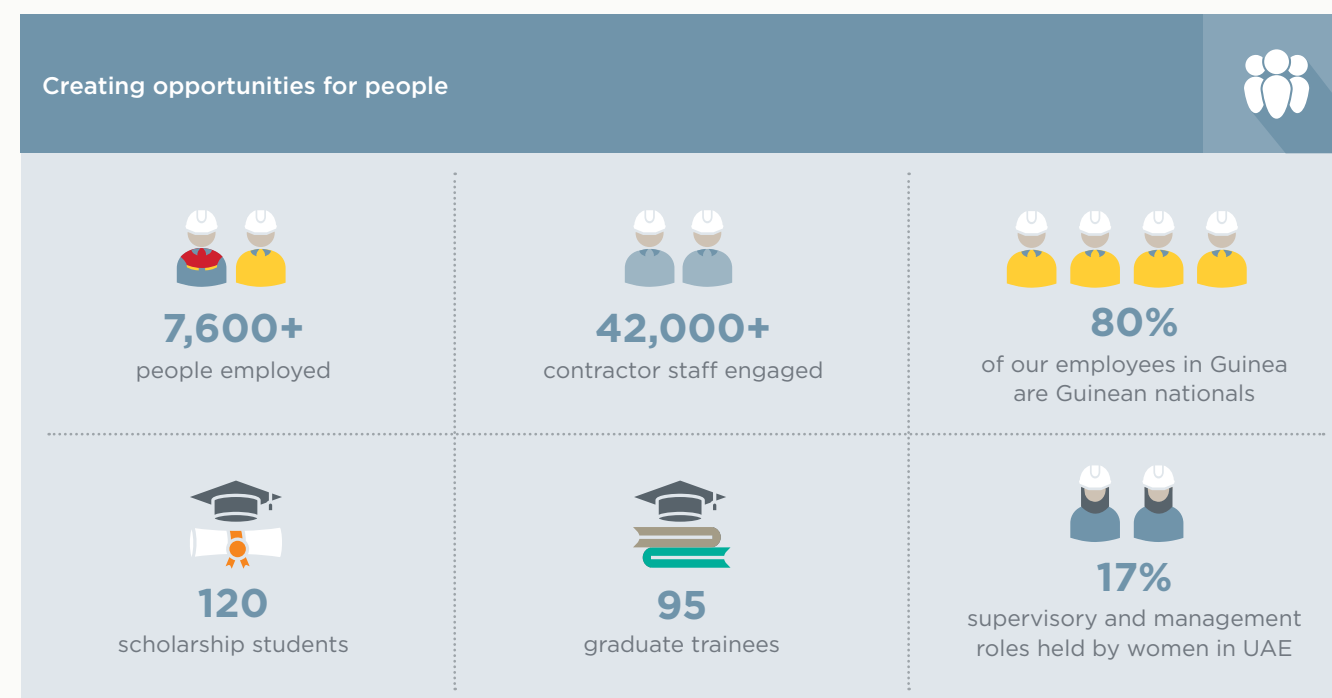
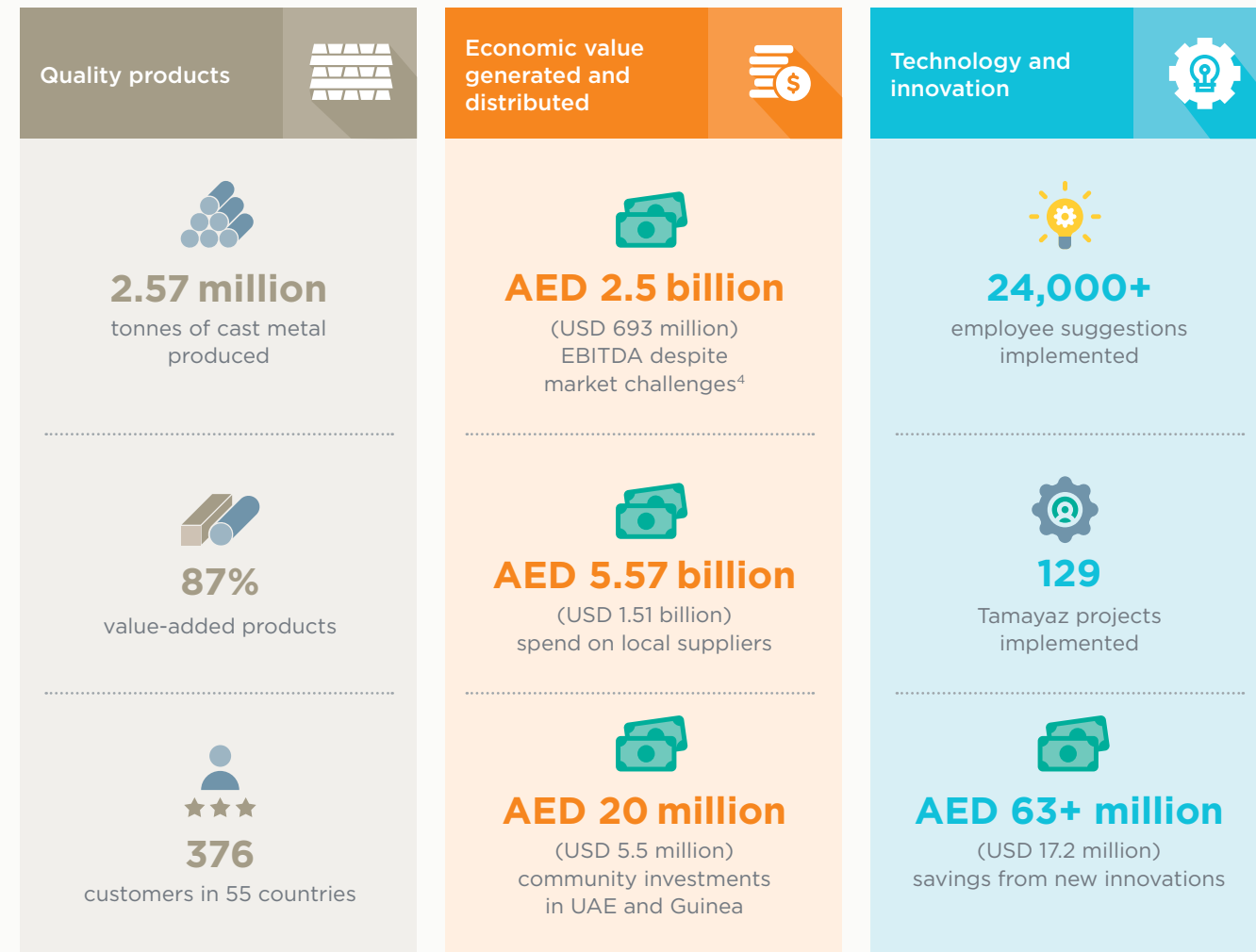
- Biodiversity
- Human rights
- Waste management
- Water stewardship
- The rights of the community
- Cultural heritage
- Air quality and
- Health and safety to name a few, are all essential criteria in order to be considered a responsible supplier of aluminium.

With these priorities in mind, we have built our sustainability strategy around the Aluminium Stewardship Initiative, becoming in 2019 the first industry in the Middle East to receive facility-level ASI certification. In the future, we will be seeking certification for all of our operational facilities with intentions to supply our customers with ASI certified metal.

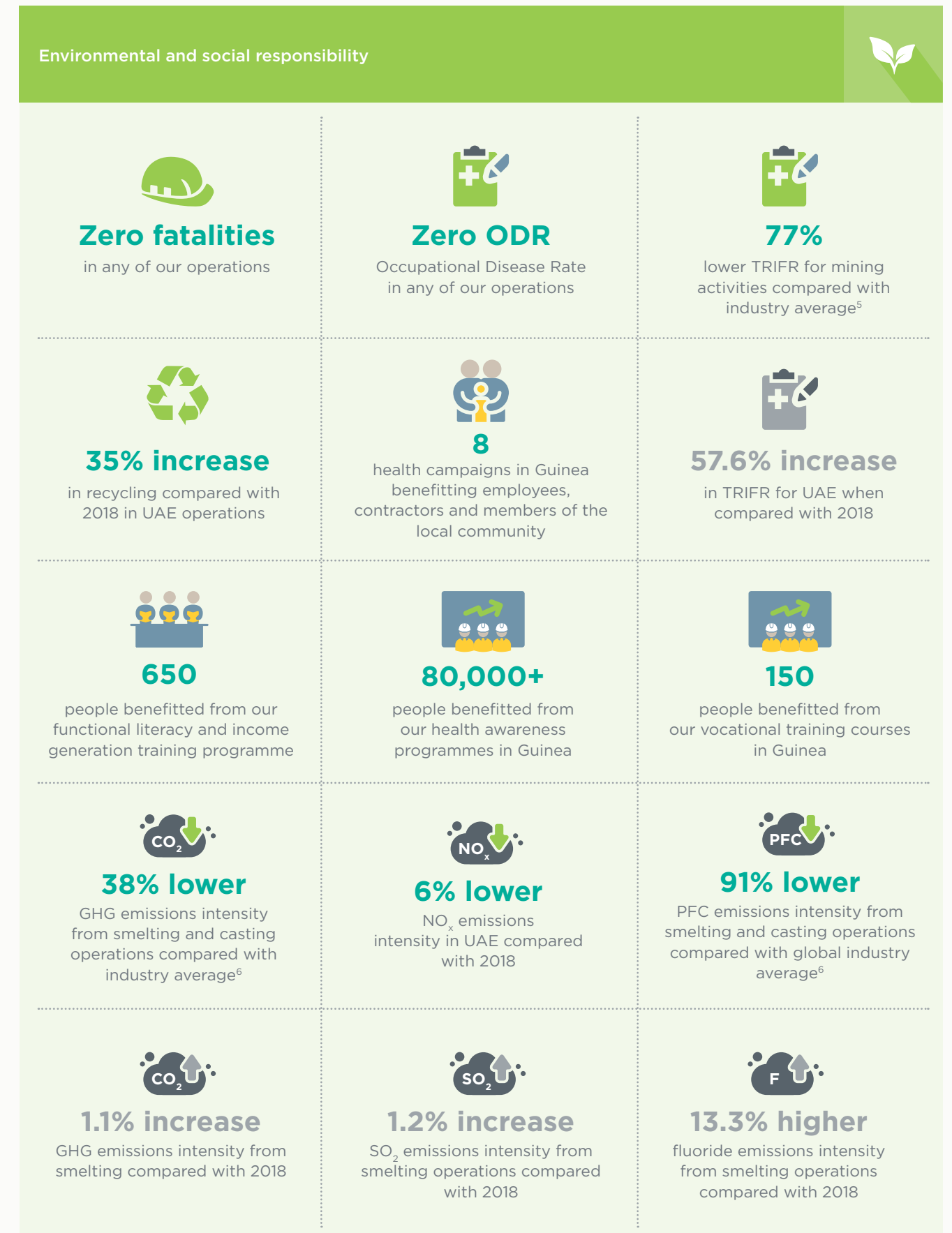
**Abdunasser Kalban**  
Chief Executive Officer



2019 key statistics



<sup>4</sup> Earnings before interest, taxes, depreciation, and amortization (EBITDA).



<sup>5</sup> International Council of Metals and Mining (ICMM) referenced for the industry average.

<sup>6</sup> International Aluminium Institute (IAI) referenced for the global industry average.



## About Emirates Global Aluminium

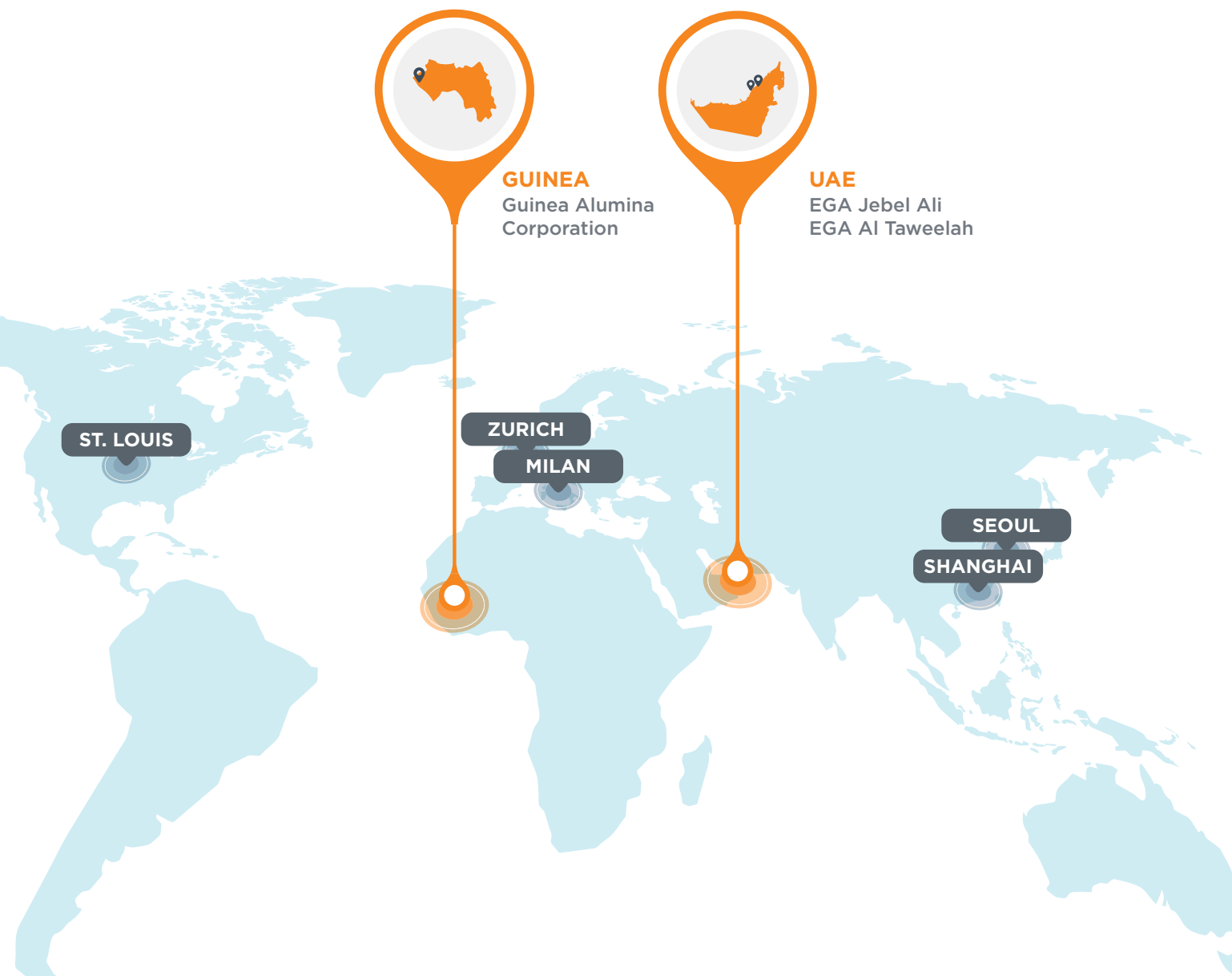
**EGA is the world's largest 'premium-aluminium' producer and the biggest industrial company in the UAE outside oil and gas.**

We directly employ over 7,200 people in the UAE and 421 in Guinea. We supply 376 customers in 55 countries.

EGA was formed in 2014 through the merger of Emirates Aluminium and Dubai Aluminium but our history dates back to the 1970s, when Dubai Aluminium was founded. Our aluminium production began in 1979, and we marked the 40<sup>th</sup> anniversary of this economic milestone for the UAE this year. We are owned equally by Mubadala Investment Company of Abu Dhabi and Investment Corporation of Dubai.

### Where we are located

● EGA operations ● EGA regional offices



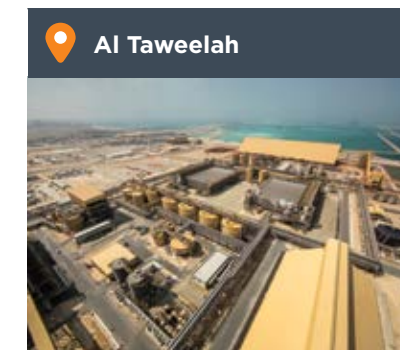
EGA operates two aluminium smelters, one in Abu Dhabi and one in Dubai. In 2019, we completed the construction and commissioning of the UAE's first alumina refinery and a bauxite mine with associated export facilities in Guinea. All of these facilities are included within the scope this report.



**Guinea Alumina Corporation (GAC)**

### Bauxite mine and export facilities

- 12 million tonnes of bauxite per year production once steady state operations achieved
- Includes mine, rail infrastructure (much shared with existing operators) and export port
- One of the largest greenfield investments in Guinea in the last 40 years



**Al Taweelah**

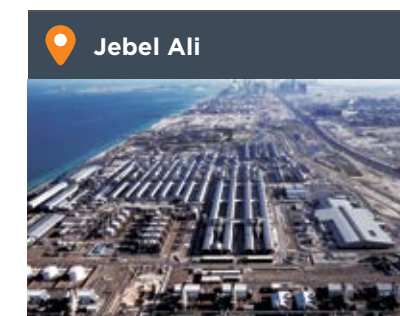
### Al Taweelah alumina refinery

- A USD 3.3 billion development making alumina refining a new industrial activity for the UAE
- Nameplate capacity of two million tonnes of alumina per year, enough to meet 40 per cent of EGA's alumina requirements, replacing some imports
- The site is the size of 200 football fields



### Smelting, casting, anode production, power and water

- Commissioned in 2009, second phase in 2013
- 1,200 reduction cells in three potlines
- Nine casting stations producing more than 1.5 million tonnes of aluminium in 2019
- 3,100MW natural gas power plant
- 3.75 million gallons per day capacity desalination plant
- The site is the size of 555 football fields
- Site includes our head office
- In 2019, Al Taweelah became the first facility in the Middle East to be certified to the ASI Performance Standards



**Jebel Ali**

### Smelting, casting, anode production, power and water

- Commissioned in 1979, with eight separate expansions since then
- 1,577 reduction cells in seven potlines
- 12 casting stations producing more than 1.1 million tonnes of aluminium in 2019
- 2,350MW power plant
- 30 million gallons per day capacity desalination plant
- The site is the size of 250 football fields



## 40 YEARS OF MAKING MODERN LIFE POSSIBLE



CELEBRATING 40 YEARS OF  
MAKING MODERN LIFE POSSIBLE  
1979 - 2019

EGA is built on the proud heritage of two aluminium pioneers, Dubai Aluminium and Emirates Aluminium. We have been producing metal and developing our business for the past four decades. Today our aluminium is used to create products that touch lives around the world. Our founder the late Sheikh Rashid bin Saeed Al Maktoum signed a decree in 1975 establishing DUBAL, laying the foundation of a national industrial champion. Since then, EGA has grown from a single-site smelter with a capacity of 135,000 tonnes of cast metal per year, into a global integrated aluminium giant. Our metal production makes the UAE the fifth largest aluminium-producing nation, accounting for four per cent of global supply.



### 1990

- Start-up of Potline 4 at DUBAL, increasing the number of pots from 139 to 499 and annual production capacity to 175,475 tonnes of aluminium.



### 1985

- DUBAL began exporting internationally and increased production up to 150,252 tonnes of aluminium per year of which 28 per cent went to Japan, 23 per cent to the US, 13 per cent to China and 12 per cent to Korea.
- Besides aluminium production, DUBAL's desalination plant was supplying Dubai with an average of 10 million gallons of water per day. At the time, DUBAL's slogan was 'Metal for the world, and water for Dubai'.



### 1992

- DUBAL's production increased to more than 250,000 tonnes of aluminium per year.

### 1996

- Start-up of Potline 5 expansion known as 'Project Falcon'. The project increased the company's annual production capacity by 50 per cent - reaching more than 390,000 tonnes of aluminium per year.



### 2000

- Start-up of Potline 6, known as 'Project Condor'. Production capacity increased to over 550,000 tonnes of aluminium per year.
- DUBAL entered the US market, shipping pre-sold 'premium aluminium' to customers in the food packing and electrical cable industries.

### 2003

- Start-up of Potline 9, known as 'Project Kestrel', which increased production to over 618,000 tonnes of aluminium per year.



### 2007

- EMAL was founded by His Highness Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE, in Khalifa Industrial Zone, Abu Dhabi.



### 2010

- EMAL phase I fully commissioned, making the annual production of more than 310,000 tonnes of aluminium possible.



### 2013

- EMAL phase II fully commissioned. Annual production capacity increased to over 820,000 tonnes of aluminium, making EMAL the largest single-site aluminium smelter in the world.



### 2014

- EGA formed through the merger of DUBAL and EMAL, creating a UAE industrial champion.
- EGA built the world's highest single-line capacity green anode manufacturing plant.



### 2016

- Having used our own technology in every expansion since the 1990s, EGA became the first UAE industrial company to license its core process technology internationally.
- EGA announced plans for its first bauxite mining project, Guinea Alumina Corporation.



### 2017

- EGA became the first Middle East-headquartered aluminium producer to become a member of the Aluminium Stewardship Initiative.
- We further enhanced production lines with our latest UAE-developed technology, boosting production capacity and reducing costs and emissions.



### 2019

- EGA became the first Middle East-headquartered company, at Al Taweelah, to achieve facility-level certification to the ASI Performance Standards.
- EGA commissioned the UAE's first alumina refinery, capable of producing two million tonnes of alumina a year.
- GAC received approval for project financing from a consortium of international financial institutions following an extensive due diligence process that covered technical, commercial, environmental and social performance.
- Guinea Alumina Corporation started bauxite exports from Guinea.

## Our vision, mission and values

At EGA, our vision is to provide the global economy with sustainable material of the highest quality.

Our vision is underpinned by a three-part mission statement:

### 01

We help shape the future by delivering high-performance aluminium to our customers, for use in a range of cutting-edge applications.

### 02

We operate with a deep commitment to sustainability and to the well-being and development of our people.

### 03

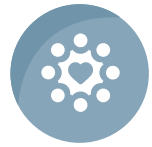
We focus on innovation, performance and profitability, and provide support for a broader aluminium cluster, ensuring a lasting contribution to the UAE and global economies.

In addition, we have identified three core values that underpin our vision:



## PROTECT

- Safety first and always
- Act with integrity, transparency and fairness to safeguard our business
- Protect the environment wherever we operate



## PROVIDE

- Ensure rewarding career and development opportunities for all our people
- Sustain relationships with our customers, suppliers, and partners built on mutual trust
- Contribute meaningfully to the communities in which we operate



## PERFORM

- Promote a performance-based work culture where individuals are empowered through ownership, accountability and team support
- Excel in operations through continuous improvement and innovation
- Grow profitably across the globe

## Memberships

- Aluminium Stewardship Initiative
- International Aluminium Institute
- Gulf Aluminium Council
- Abu Dhabi Sustainability Group
- Emirates Environmental Group
- Dubai Quality Group
- Middle East Public Relations Association
- US-UAE Business Council





## Our sustainability approach

It is both how aluminium is used and how it is made that define its sustainability credentials.

Aluminium has an essential role to play in our society's future. It is used in renewable energy solutions, improving transport and energy efficiency, increasing product longevity and reducing demand on natural resources.

But the production of aluminium is not without challenges, all of which require rigorous and in some cases innovative management for an aluminium producer to be a true contributor towards a sustainable society. Among others these challenges include land-use change associated with mining activities, the production of high volumes of by-products during alumina refining, the energy intensity of the smelting process and the generation of industrial emissions, discharges and potentially hazardous wastes.

Strong corporate governance, a focus on environmental performance, and a commitment to making positive contributions to society are all part of our culture at EGA. But we are always looking for improvements that we can make.

In 2019, EGA became the first organisation in the Middle East to receive certification to the Aluminium Stewardship Initiative's Performance Standards for our smelting and casting facilities at Al Taweelah. ASI provides a global consensus on what constitutes responsibility in the aluminium sector and enables independent, credible assurance of performance.

The ASI Performance Standards have been developed through a global, multi-stakeholder standard-setting process with input from companies operating throughout the aluminium value chain, civil society and public consultation. The standards address sustainability issues all the way from bauxite mining to the production of consumer products made with aluminium.

By aligning our sustainability strategy with the ASI Performance Standards, we are addressing the challenges of our industry, not only as identified by EGA, but also as identified by our customers, international non-governmental organisations, industrial associations, our peers and broader society.

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**Our ethos is not to just be measured against the expectations of today. At EGA, we want to leave a legacy that will enable future generations to be proud of what we did.**



**SALMAN ABDULLA**  
Executive Vice President  
HSSEQ and Business Transformation

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**We are immensely proud at EGA to be the first in the Middle East to receive certification to the ASI Performance Standards, but this is just the beginning. Our long-term goal is to certify all our facilities against this global standard and to supply to the world ASI-certified aluminium.**



**STEVEN BATER**  
Manager  
Sustainability

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**EGA was the first aluminium producer in the GCC to join ASI and in 2019 we became the first organisation in the region to achieve facility-level certification.**

**The ASI Performance Standards set requirements for numerous sustainability topics applicable to EGA, including:**

- ✓ Business integrity
- ✓ Policy and management
- ✓ Transparency
- ✓ Material stewardship
- ✓ Greenhouse gas emissions
- ✓ Emissions, effluents and waste
- ✓ Water stewardship
- ✓ Biodiversity
- ✓ Human rights
- ✓ Labour rights
- ✓ Occupational health and safety

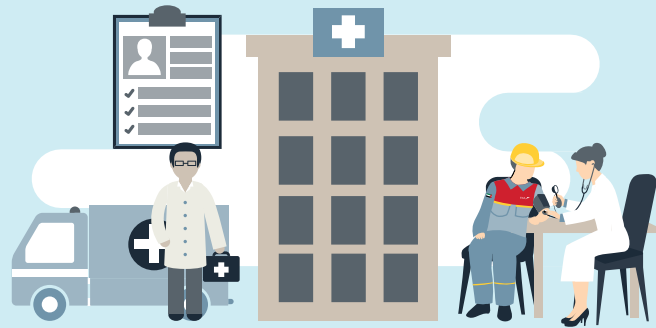
## 2019 alignment with the United Nations Sustainable Development Goals

There are numerous synergies between the ASI Performance Standards and the United Nations Sustainable Development Goals (SDGs). Alignment with ASI places us in a good position to contribute towards the SDGs most relevant to our industry. However, we do not rely solely on this synergy and are also making a further concerted effort to align our sustainability approach with the SDGs directly.



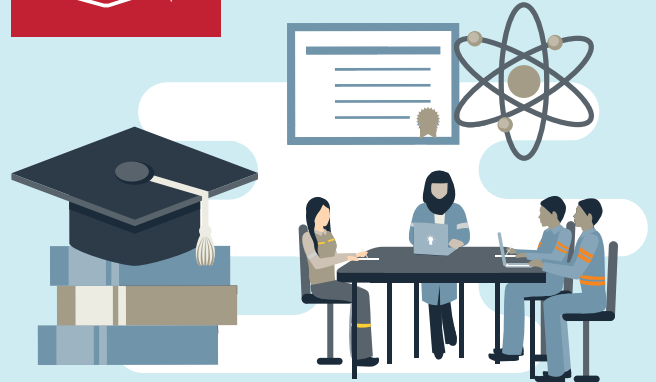
### Ensure healthy lives and promote well-being for all at all ages.

- We continue to provide health care for our employees. This includes providing medical insurance and operating clinics staffed by qualified doctors and nurses.
- In the UAE, our medical team ran a blood donation programme in association with the Dubai Health Authority and SEHA in Abu Dhabi.
- In 2019, we also ran a series of awareness campaigns for employees and contractors covering emotional health, nutrition, prostate and breast cancer awareness.
- In Guinea, we distributed more than 23,000 mosquito nets and arranged awareness sessions as our contribution towards the fight against malaria in the local region.



### Ensure inclusive and equal education opportunities for all in order to promote lifelong learning.

- Education remains a key focus for our community engagement and development projects.
- In Guinea we continue to run vocational training programmes aimed at supporting learning and the career development of young people from the local community.
- In the UAE we have continued successful partnerships with the Ministry of Education and INJAZ UAE. We continue to collaborate with undergraduate students through knowledge exchange sessions, and research projects. Also in 2019, we also continued to support several members of staff in their pursuit of higher education, including two of our staff currently seeking doctorates.



### Promote inclusive and sustainable economic growth, employment and decent work for all.

- In both Guinea and the UAE, EGA is focused on localising our workforce. Some 80 per cent of our employees in Guinea are Guinean nationals.
- We prioritise the local sourcing of goods and services in an effort to boost local economies. Our 2019 spend included USD 81.39 million on local suppliers in Guinea.



### Build resilient infrastructure, promote sustainable industrialisation and foster innovation.

- EGA's in-house research and development division develops technological advancements in the aluminium smelting process intended to increase productivity, reduce resource consumption and minimise our environmental impact.
- In 2019 we made significant progress in our plans to transform one of the industry's largest waste streams, bauxite residue, into a usable product.



### Ensure sustainable consumption and production patterns.

- In 2019, we recycled 46,696 tonnes of SPL. This included 87 per cent of our SPL generation in 2019 as well as previously stockpiled material. We were able to achieve this thanks to a decade of close collaboration with local cement manufacturers in the UAE.





13 CLIMATE ACTION



Take urgent action to combat climate change and its impacts.

- In 2019, our carbon emissions intensity associated with smelting was 38 per cent lower than the global industry average.



15 LIFE ON LAND



Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss.

- In Guinea we have continued our conservation work and our commitment to no net loss of biodiversity and a positive gain for critical habitats.
- In the UAE we continued to safeguard the critically endangered hawksbill turtle nesting site adjacent to our facility in Al Taweelah.



17 PARTNERSHIPS FOR THE GOALS



Strengthen the means of implementation and revitalise the global partnership for sustainable development.

- EGA has been involved in a multi-stakeholder engagement process looking into the future development and proposed updates to the ASI Performance Standards.
- Also, we regularly engage with universities and research institutions in order to address some of the key challenges associated with our industry.
- In 2019, our Sustainability Team worked as part of the ASI standards committee and we were active in all ASI working groups.



EGA's role in the value chain

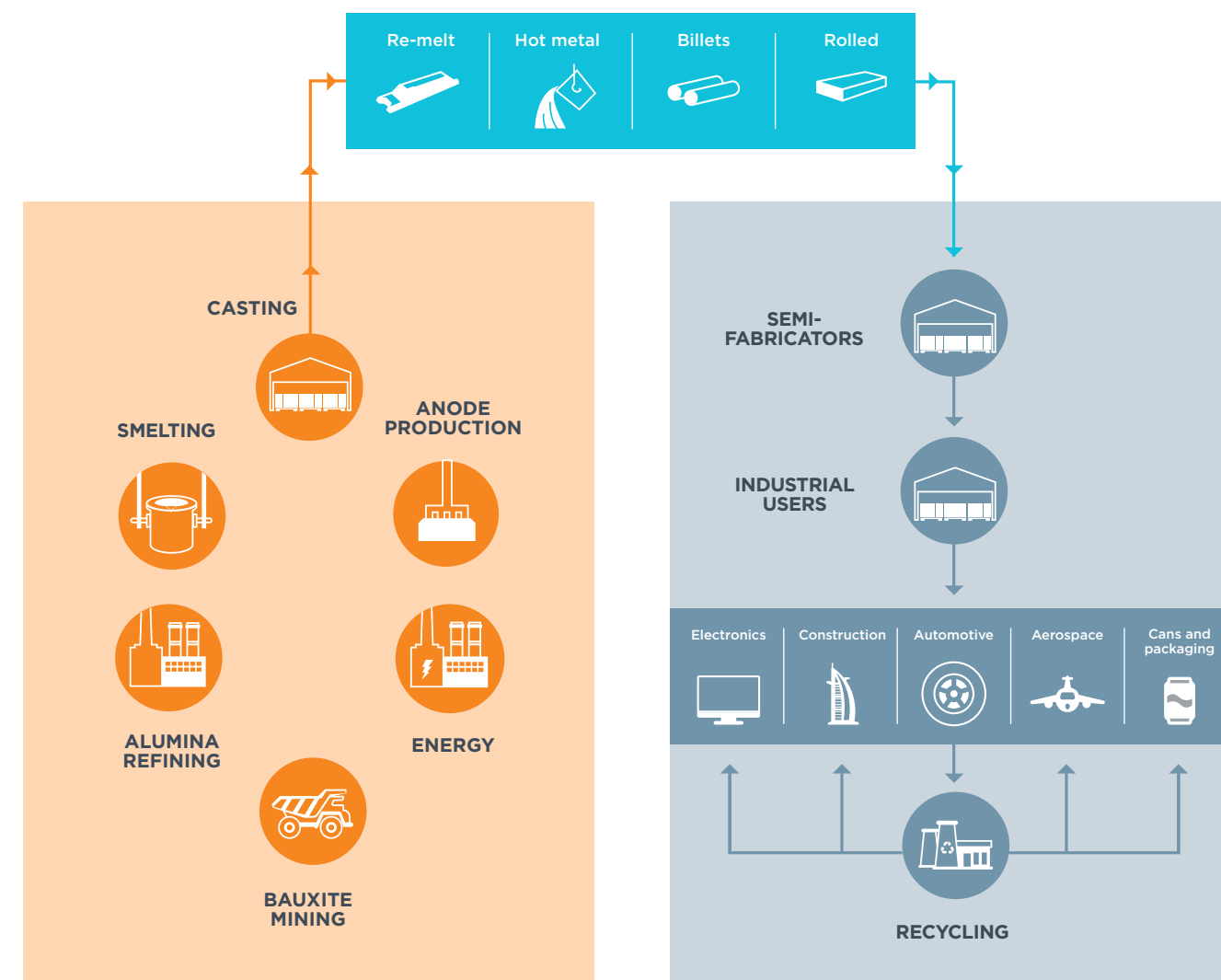
EGA operates two smelters in the UAE, each with their own captive power plant, anode production facilities and casthouses.

We provide primary aluminium to a wide variety of downstream users, the majority of which are semi-fabricators that make parts for use in industries including automotive, construction, electronics and packaging.

During the period covered by this report, EGA completed and commissioned two significant strategic upstream projects in the aluminium value chain: our bauxite mining and export operation in Guinea, and our alumina refinery in Abu Dhabi. These projects advance EGA's position in the global aluminium value chain from mine to metal.

EGA's role in the aluminium value chain in 2019

● EGA assets ● EGA products ● EGA customers and end users



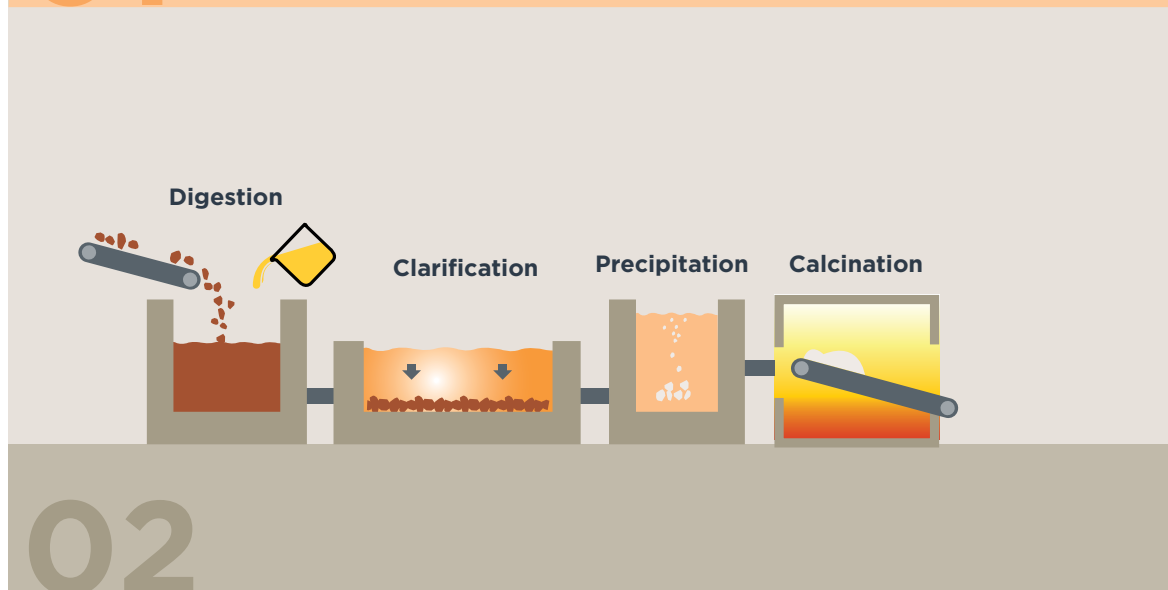
**01 Bauxite mining**

The aluminium production process starts with the mining of bauxite ore. Layers of bauxite are typically found near the surface, so it is generally extracted through open cast mining. Around 90 per cent of the world's bauxite resources are in tropical and sub-tropical regions.



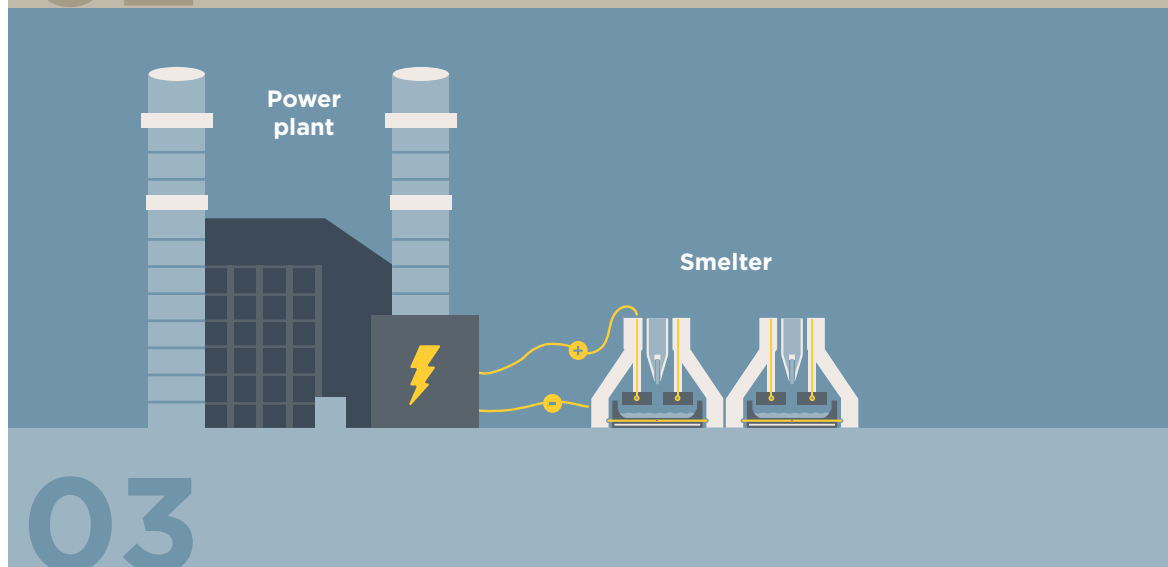
**02 Alumina refining**

Bauxite is refined into alumina using the Bayer process. Two to three tonnes of bauxite are required to produce one tonne of alumina. In the digestion stage, hot caustic soda is added to the bauxite to dissolve the aluminium-bearing minerals in the bauxite. Clarification separates bauxite solids from the pregnant liquor via sedimentations. In the precipitation stage, aluminium crystals are recovered from the liquor by crystallisation. Calcination is a roasting process to remove remaining water.



**03 Aluminium smelting**

Aluminium smelting is energy intensive. A significant amount of energy is required to break the chemical bond between aluminium and oxygen in alumina. It takes approximately two tonnes of alumina to produce one tonne of aluminium. In 2019, EGA used 4.80 million tonnes of alumina to produce 2.57 million tonnes of aluminium.



**04 Casting**

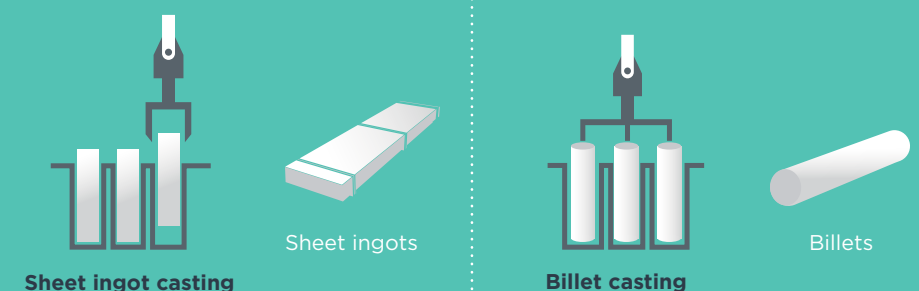
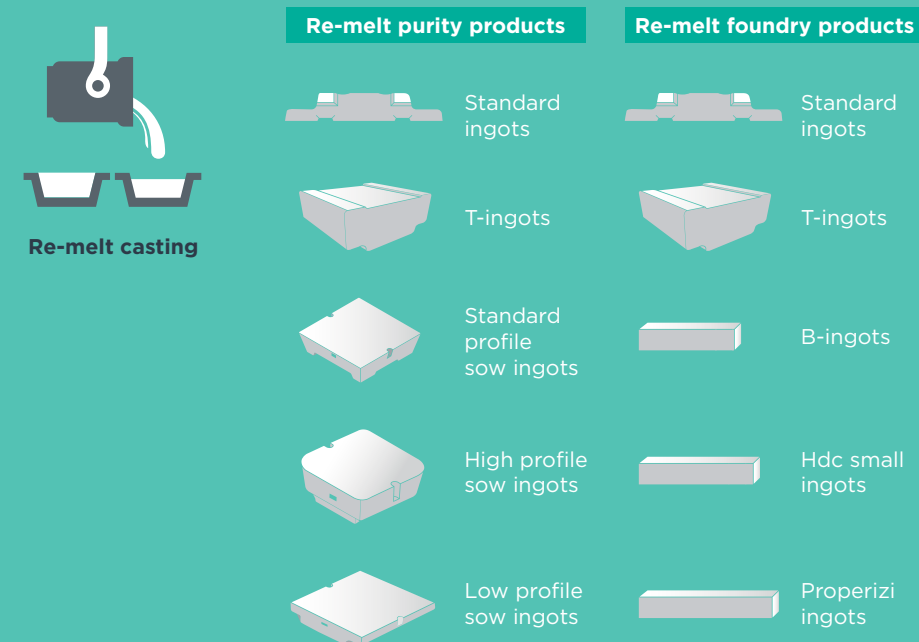
Aluminium is then transferred to the casthouse, where it is made into products using several different methods. Alloys are added in many of our products, according to customer specifications, before the solidification stage.

**In re-melt casting** liquid aluminium, at a temperature over 700°C, is poured into moulds. The moulds are cooled and the aluminium solidified before being packed and shipped to the customer.

**In sheet ingot casting** cast aluminium slabs are either: heated and passed through a sequence of rollers until the required plate thickness is obtained or until the metal is thin enough for cold rolling; or cut into plates.

**In billet casting** cast aluminium billets are heated and either: forced through a steel die by the extrusion process producing profiles; or forged, producing different products such as wheels and automotive parts.

EGA also supplies **molten metal** to nearby customers. Receiving aluminium in molten form eliminates the need to use high energy to re-melt it before use. We transfer molten metal by truck in preheated 14.5 tonne crucibles which can keep the metal liquid for up to 18 hours at temperatures of around 780°C.





## Our corporate governance

EGA's Board of Directors has 11 board members including our Chairman, Vice Chairman, Managing Director and Chief Executive Officer. The Board provides strategic direction and management supervision and ensures adequate controls are in place to achieve our vision and a long and prosperous future for EGA.

In 2019, EGA's Executive Committee consisted of 11 members, many of whom have extensive operational experience and have contributed to the growth of EGA over decades-long careers with the company. Several of our Executive Committee members originally joined EGA at the start of their working lives, either as fresh graduates or before tertiary studies sponsored by EGA. This committee is responsible for decision-making on economic, environmental and social aspects of the business.

In 2019, the committee consisted of the following:

- Managing Director and Chief Executive Officer
- Chief Financial Officer
- Chief Marketing Officer
- Executive Vice President, General Counsel and Company Secretary
- Executive Vice President, Health, Safety, Sustainability, Environment and Quality (HSSEQ) and Business Transformation
- Executive Vice President, Human Capital
- Executive Vice President, Midstream Operations
- Executive Vice President, Upstream Operations
- Executive Vice President, Supply Chain
- Senior Vice President, Government Relations
- Senior Vice President, Corporate Affairs

EGA has 10 departments under the CEO. Our Sustainability team is part of EGA's HSSEQ department and reports directly to the Executive Vice President, HSSEQ & Business Transformation.



## Our stakeholders

Engagement with our stakeholders is essential to our success. EGA has numerous stakeholders spread across several parts of the globe, who together have a diverse range of interests and expectations.



## Our material topics

Sustainability covers a broad range of topics. Identifying what should be reported and to what extent is an important component of the sustainability reporting process.

At EGA we adopt the Global Reporting Initiative's materiality principle whereby no one decision-maker or department decides on appropriate report content. Every year we engage with a broad range of internal and external stakeholders to help identify what we and the organisations we work with consider to be the most relevant sustainability topics for EGA.

In 2019, to help inform our reporting process, we conducted a stakeholder engagement exercise asking our stakeholders to rank 17 sustainability topics. The purpose of this exercise was to identify topics that were perceived by our stakeholders as having the most significant economic, environmental and social impacts and that also substantively influenced assessment and decision-making.

These 17 topics were selected to ensure coverage of all sustainability-related issues included in the Global Reporting Initiative, with the exception of 'Customer Privacy'<sup>7</sup>.

We also added two additional topics relevant to our industry, namely:

- **Technology and innovation** - given the role that technological development and innovation plays in energy efficiency, environmental preservation and climate change mitigation
- **Our metal** - given the importance of the quality, reliability and credentials of our end product for the long-term success of our organisation

Internal stakeholders consulted included key decision-makers and influencers within EGA. External stakeholders included international and local customers, government agencies, lenders' representatives, local communities, NGOs, industrial associations, certification bodies and suppliers. In 2019 we engaged with a total of 73 stakeholders.

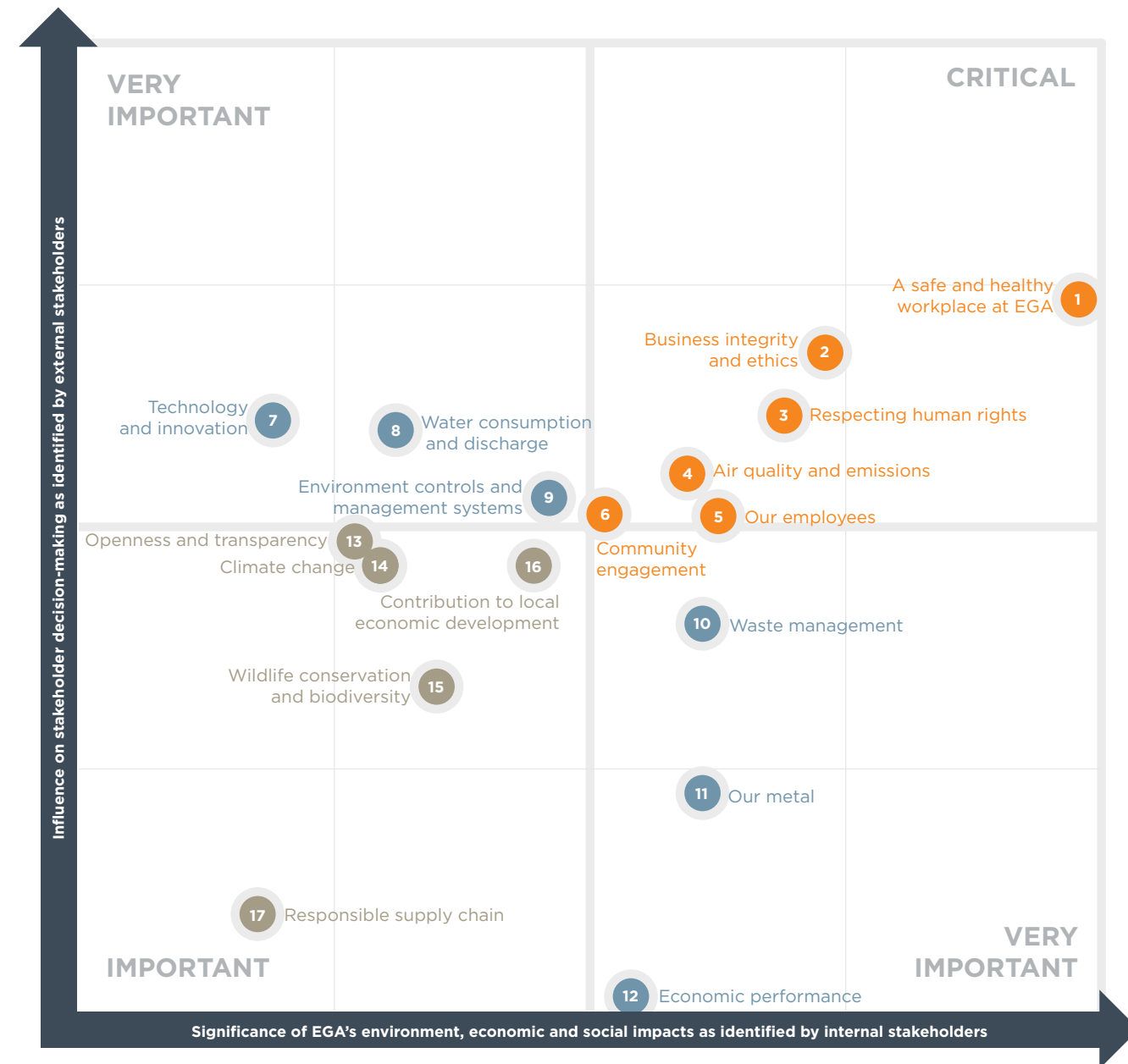
<sup>7</sup> EGA is not an organisation involved in the handling of large volumes of private customer data as might be the case for a bank or telecommunications firm.

## Results of the materiality analysis

The scores of respondents for each of the 17 topics were averaged and plotted as a 'materiality matrix'. Internal stakeholder results were plotted against the x-axis; external stakeholder results were plotted against the y-axis.

### Materiality matrix

● Critical topics ● Very important topics ● Important topics



While all 17 topics are considered important from the perspective of EGA's long-term sustainability performance, all topics scoring above the median value on both the x and y-axis were considered the 'most material' for 2019.

For each of the topics considered 'most material' we have fully disclosed our management approach and provided Global Reporting Initiative topic-specific disclosures.

While the stakeholder engagement process allowed us to rank topics in terms of level of perceived materiality, it was clear from the scores that none of the topics were considered irrelevant to EGA's operations. We have therefore also provided disclosure on topics identified as very important or important (with the level of detail provided in the disclosure determined by the level of importance attributed by our stakeholders).

Disclosure requirements specific to the aluminium industry are also identified by the ASI Performance Standards. These requirements have been defined through the multi-stakeholder development and

public consultation process involved in the generation of the standards. Our 2019 report covers all ASI Performance Standards disclosure requirements for EGA's operational facilities.

In 2019 we engaged with KPMG in order to perform independent, credible assurance and provide an objective and impartial opinion on the disclosures made within our report covering our three most material topics as identified through materiality analysis as well as our disclosures concerning climate change<sup>8</sup>. This external review helps to ensure consistent, objective and accurate reporting of our sustainability performance.

● Critical topics ● Very important topics ● Important topics ■ ASI disclosure requirements

No. <sup>9</sup>	Sustainability topic <sup>10</sup>	Disclosures	Alignment	Reporting boundary <sup>11</sup>	Page reference
1	A safe and healthy workplace at EGA	Occupational health and safety management approach	GRI	A	74-77
		Occupational health services	GRI	A	88-92
		Participation, consultation and communication on occupational health and safety	GRI	A	77, 116, 118, 132
		Safety performance figures	GRI	A	13, 78, 81-82, 87
		Health-related figures	GRI	A	76, 89, 92
		Occupational health and safety training	GRI	A	76-77
2	Business integrity and ethics	Compliance management including approach to anti-corruption and anti-competitive behaviour	GRI	A	102-105
		Significant fines, judgments, penalties and non-monetary sanctions for failure to comply with applicable law	GRI & ASI	A	105
		Communication and training related to EGA code of conduct and anti-corruption policies	GRI	A	104
		Any confirmed instances of corruption and actions taken	GRI	A	105
3	Respecting human rights	Respecting rights of our employees, those in our value chain and the communities in which we operate	GRI	A	47, 93-105, 116, 118, 120-121, 133-134
		Incidents of discrimination and corrective actions taken	GRI	A	105
		Controls and assessment of risks associated with forced or child labour	GRI	A	47
		Security personnel trained in human rights policies or procedures	GRI	C	97
		Respect of the rights of the community and any indigenous peoples	GRI	A	94, 98
		Operations that have been subject to human rights reviews or impact assessments	GRI	A	21, 74, 94

<sup>8</sup> For further information, please refer to external assurance report (pages 138-139).

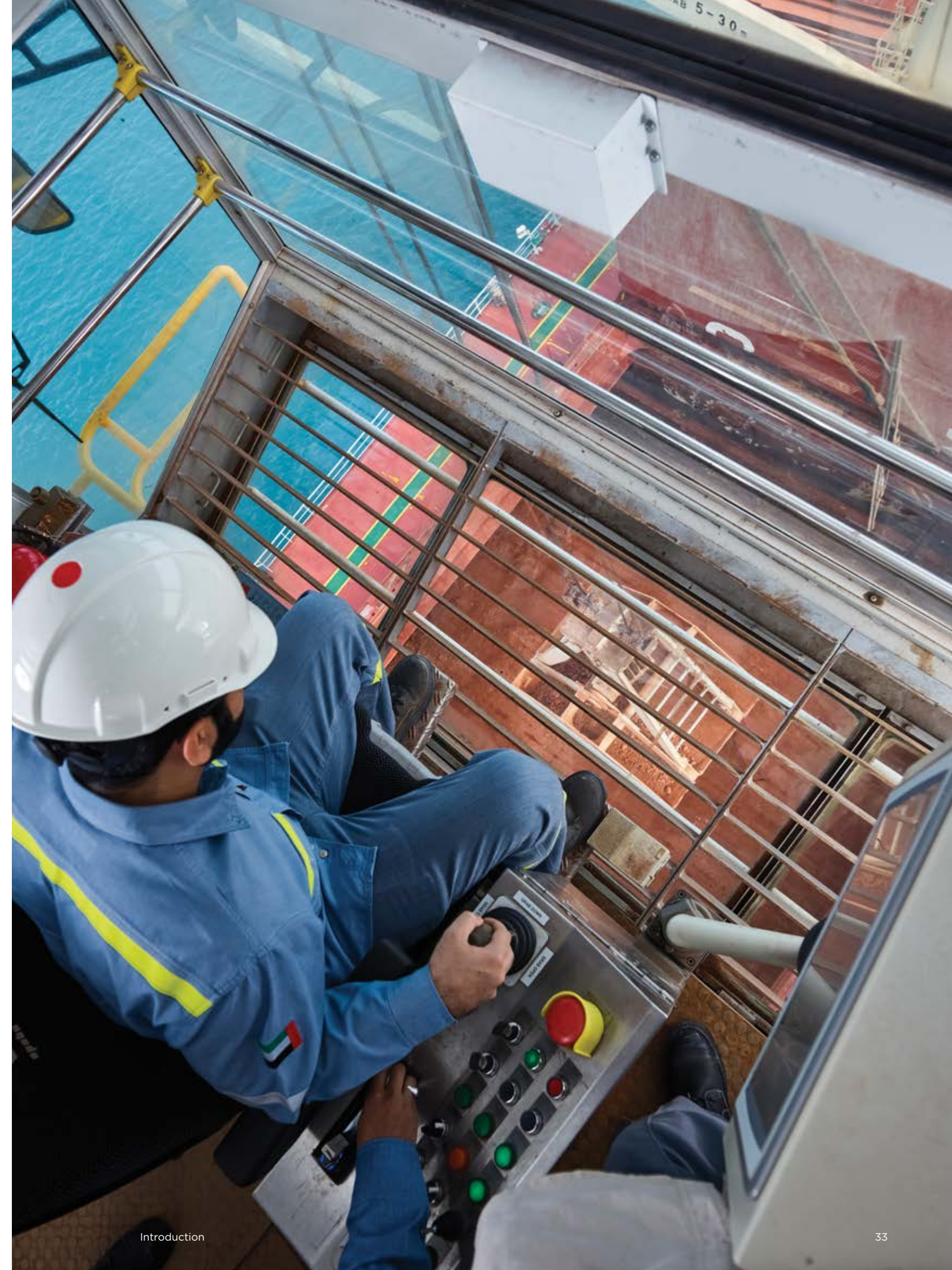
<sup>9</sup> Numbering is for reference purpose and does not indicate the ranking of material topics.

<sup>10</sup> For comparison against previous years' material topics, please refer to our published 2018 report available at <https://www.ega.ae/media/2089/ega-sustainability-report-2018.pdf>

<sup>11</sup> For the reporting boundary, 'A' covers all EGA activities (i.e. constructions and operations); 'B' covers EGA's activities in UAE; and 'C' covers activities in Guinea.



No. <sup>9</sup>	Sustainability topic <sup>10</sup>	Disclosures	Alignment	Reporting boundary <sup>11</sup>	Page reference
4	Air quality and emissions	Management approach for the control and monitoring of significant emissions that could have adverse environmental or human health impacts	GRI	A	52-54
		Performance figures for significant emissions to air that could have adverse environmental or human health impacts	GRI & ASI	A	54-59
		Actions taken or plans in place to minimise significant air emissions	GRI & ASI	A	54-59
5	Our employees	Employee relations, benefits and welfare	GRI	A	116-121, 133-134
		Training and development	GRI	A	116-117
		Diversity and affirmative employment	GRI	A	110-113
		Employee engagement	GRI	A	116, 118, 133-134
6	Community engagement	Management approach for impacts on people in local communities	GRI	A	93-101, 105
		Local community engagement	GRI	A	93-101
		Social and environmental impact assessment	GRI	A	21, 74, 94
		Community feedback and grievance management	GRI	A	101, 105
		Community development programmes including training and awareness	GRI	A	94-101
7	Technology and innovation	Research and development	EGA topic	A	124-131
		Innovation	EGA topic	A	132-134
8	Water consumption and discharge	Water withdrawal and use	GRI & ASI	A	66-67
		Discharges to water bodies	GRI & ASI	A	66-67
9	Environmental controls and management systems	Management approach to safeguarding the environment	GRI	A	52-53
		Our response to environmental incidents	GRI	A	68
		Details of any significant spills including associated impact assessments and remediation actions taken	GRI & ASI	A	68
		Any fines or non-monetary sanctions for non-compliance with environmental laws or regulations	GRI	A	68
		Stakeholder grievances regarding aspects of our environmental management practices	GRI	A	101
10	Waste management	Waste management approach	GRI	A	69, 71
		Hazardous and non-hazardous waste generated and associated waste disposal methods	ASI	B	71
11	Our metal	Product reliability, quality and feedback	EGA topic	A	36-40
		Material stewardship	GRI	A	26
12	Economic performance	Direct economic value generated and distributed	GRI	A	44-45
		Indirect economic benefits and contributions	GRI	A	46
13	Openness and transparency	Payments to governments and policy regarding political contributions	GRI & ASI	A	45, 103
		Any instance of non-compliance regarding marketing communications	GRI	A	39
14	Climate change	GHG emissions and energy use	GRI & ASI	A	60-64
		Time-bound GHG emissions reduction targets	GRI & ASI	A	65
15	Wildlife conservation and biodiversity	Significant impacts of activities on biodiversity	GRI	A	72-73
		Achieved outcomes from biodiversity management efforts	GRI & ASI	A	72-73
16	Contribution to local economic development	Proportion of spending on local suppliers and nationals hired in senior management	GRI	A	48, 109
		Infrastructure investments and services supported	GRI	A	94-100
17	A responsible supply chain	Management approach to ensuring appropriate governance, social and environmental performance within supply chain	GRI	A	47
		Suppliers screened according to environmental and social criteria and any negative impacts identified	GRI	A	47





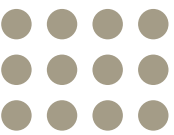
# 02



**Quality  
products**

Aluminium makes  
modern life possible





# Quality products

## Our products and our customers

Emirates Global Aluminium is the world's largest producer of premium-aluminium products made to customer specifications and tailored for the end application of the metal.

Value-added products include ingots, billets, sheets and other products that have been alloyed, enhanced or generated with exceedingly high grades of purity, according to the specific needs of our customers and end-use demands.

The end users of our metal include the automotive, electronics, construction, packaging and aerospace industries.

We not only produce the metal, but also help some of our customers determine what exactly they need. Our technical experts work with customers, at their request, in order to identify the best and most cost-effective alloys for their intended use.

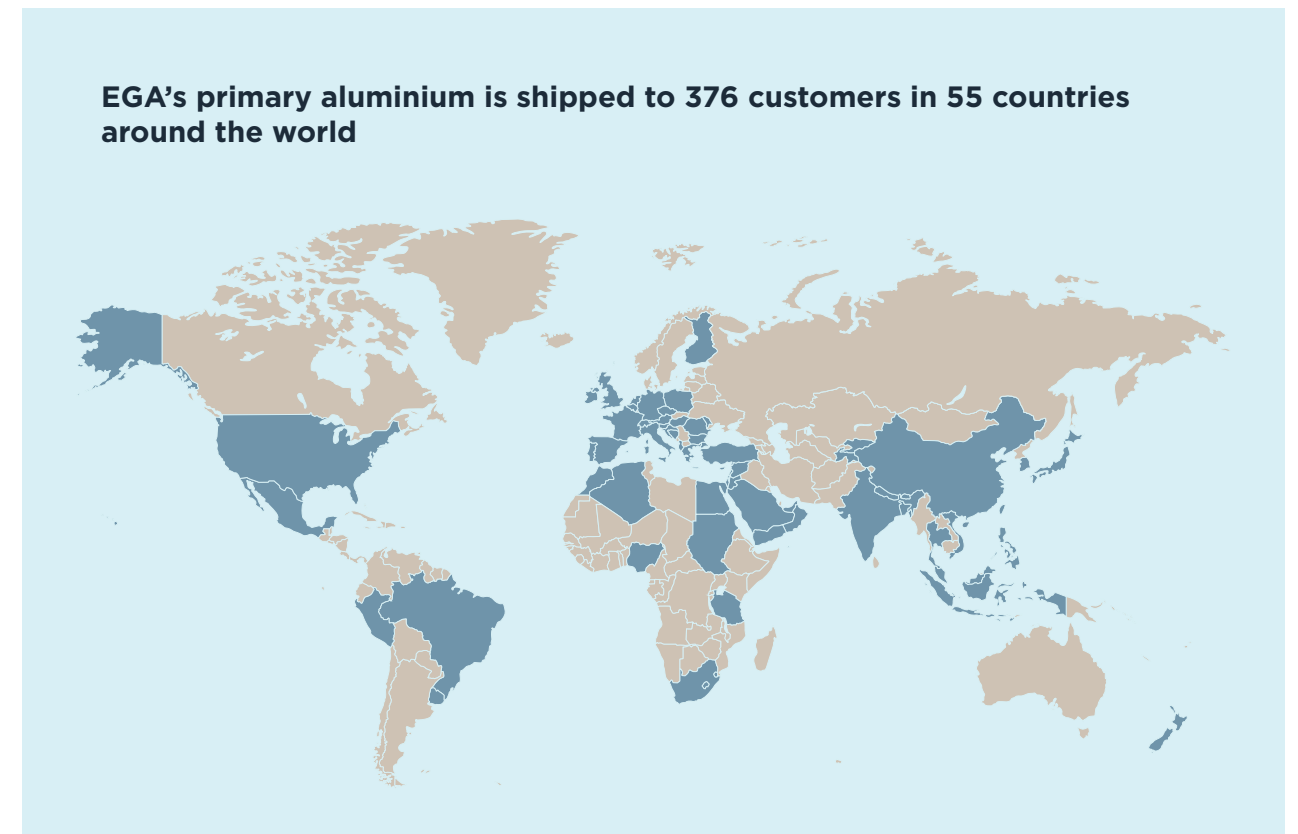
We supply metal to customers in the United Arab Emirates, the Middle East and North Africa, Europe, Asia, and the Americas. In 2019, we supplied 376 customers in a total of 55 countries.

“ EGA has been producing high-quality aluminium for more than four decades and this was well reflected in the long-term relationships that it has built with its customers, many of whom have been buying from us for more than 20 years.



**MOHAMMAD ALBALOOSHI**  
Senior Manager  
Sales Support and Governance

2019 production	
CAST METAL PRODUCED (million tonnes)	2.57
VALUE-ADDED PRODUCTS	87%
AVERAGE PURITY RATING	99.88%



In 2019, following the completion of our Guinea Alumina Corporation bauxite mine and export facilities, we began shipping high-quality bauxite ore to international customers.

In 2019, following the completion of our Al Taweelah alumina refinery, we also now have the capacity to produce some two million tonnes of alumina per year, meeting 40 per cent of the UAE's alumina requirements. In 2019, all our alumina production was utilised by our Al Taweelah smelter.

**In 2019, GAC produced 1.7 million tonnes of bauxite and is expected to produce 12 million tonnes per year at full design capacity**

**EGA products**

**Re-melt aluminium**



EGA's high-purity and foundry re-melt products are mainly supplied to electronic and aerospace manufacturers. They are also used in the production of computer hard drives, memory disks and other electronic components. In addition, our foundry alloys are largely supplied to the automotive industries.

**Rolled products**



EGA's rolled products are produced as sheet ingots for use in the packaging and printing industries, including to make foil and lithographic printing plates. Sheet ingots are also supplied to car-makers, making vehicles lighter and improving fuel efficiency.

**Billets**



EGA's billets are supplied to industries including transportation and automotive manufacturers, construction (windows and door frames), engineering and consumer durables.

**Molten metal**



EGA delivers liquid metal to nearby customers in Khalifa Industrial Zone Abu Dhabi (KIZAD), such as Ducab Aluminium Company, using sealed trucks and a dedicated Hot Metal Road. Direct delivery of molten metal significantly reduces these customers' requirements for energy that would otherwise be required to re-melt the metal.

**Bauxite ore**



GAC's bauxite has one of the highest ratios of alumina and silica and relatively low boehmite, which makes it suitable to be processed in low- or high-temperature refineries.

**Customer satisfaction and feedback**

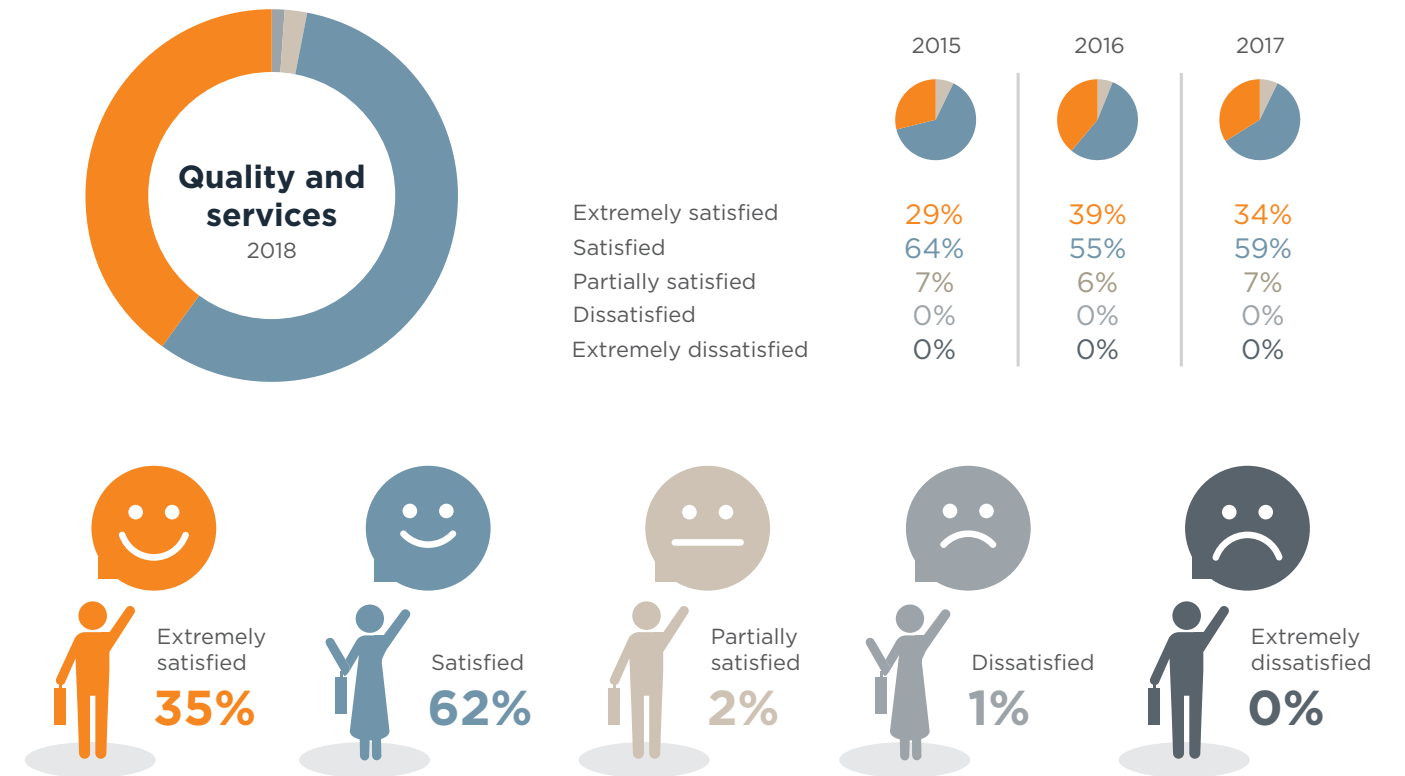
Our customers rely on us to provide consistently high-quality products on time and to specification.

EGA conducts an annual customer satisfaction survey which is an important feedback tool, enabling us to identify potential ways to further improve our products and associated services for our customers. Our survey is managed by a dedicated in-house team in our quality department, independent of EGA's marketing teams, in order to ensure the impartiality, confidentiality and effectiveness of the process.

The 2019 EGA Customer Satisfaction Survey is planned for completion in 2020 and results will be subsequently communicated to all relevant stakeholders.



Figure 1: Customer quality and services satisfaction<sup>12</sup>



<sup>12</sup> Quality refers to the quality of our products whereas services refer to the quality of services provided throughout the customer experience with EGA. In 2019 we did not identify any non-compliance with regulations and/or voluntary code concerning marketing communications.



## Meeting international quality standards

Our facilities in the UAE are certified to ISO 9001:2015 and the International Automotive Task Force standard, IATF 16949:2016. This standard combines requirements from the international automotive industry, detailing what is needed to achieve best practice when designing, developing, manufacturing, installing or servicing automotive products. It was developed by the International Automotive Task Force, a group of automotive trade associations and many of the world's leading automotive companies including BMW Group, General Motors, Ford and Volkswagen. IATF 16949:2016 certification is a requirement for EGA to be able to supply the automotive sector supply chain with our value-added products.

We also implement rigorous procedures that go beyond the requirements of international standards in order to ensure the quality of our products. EGA's metallurgy experts regularly meet with customers to provide advice and assistance to ensure their needs are met and associated efficiencies are maximised.

In 2019, all EGA's laboratories were accredited to the latest version of the laboratory accreditation standard ISO/IEC 17025:2017. This accreditation is the single most important standard for testing laboratories around the world, and demonstrates to our customers, regulators and other stakeholders that EGA's laboratories are technically proficient and able to produce precise and accurate test data. The accreditation process ensures that the laboratory quality management system at EGA is thoroughly evaluated on a regular basis to achieve continued technical competence and compliance with the standard requirements.

Our products also comply with the European Union's Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and Restriction of Hazardous Substances (ROHS) standards. In addition, we supply our customers with Material Safety Data Sheets that provide details on the specific chemical composition associated with each of our products.





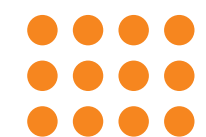
# 03



**Economic value  
generated and  
distributed**

Contributing to a modern,  
diversified economy





# Economic value generated and distributed

## Our economic contribution

The global aluminium industry faced many challenges throughout 2019, with low benchmark aluminium prices and proportionally high prices for raw materials. These challenges were in part driven by a global supply shortage of alumina due to the curtailment of a major refinery in Brazil.

EGA was not immune to these global pressures, but we were able to offset the economic impact through improved efficiencies and our position as a market leader in the supply of value-added products. Value-added products, or 'premium aluminium', attract higher premiums over benchmark prices thereby enabling EGA to maximise the value of primary aluminium production.

The average benchmark aluminium price in 2019 was 15 per cent lower than in 2018. In 2019, our EBITDA<sup>13</sup> was AED 2.5 billion (USD 693 million) and total revenue was AED 20.5 billion (USD 5.6 billion), only 12 per cent lower than in 2018.

Despite challenging market conditions, we met our community investment commitments in Guinea and our contributions towards scholarships in the UAE. In 2019 our total spend on community investments surpassed that of 2018.

Following our expansion upstream, 2019 has proven a landmark year for EGA. We now have direct control over raw material production, reducing our risk exposure to the associated price volatility that we have seen in recent years.



**ZOUHIR REGRAGUI MAZILI**  
Chief Financial Officer  
Finance, IT and Strategy



**USD 693 million in earnings<sup>13</sup> despite market challenges**



**More than USD 5 million spent on community investments in 2019**

<sup>13</sup> Earnings before interest, taxes, depreciation, and amortization (EBITDA).

Figure 2: Direct economic value generated

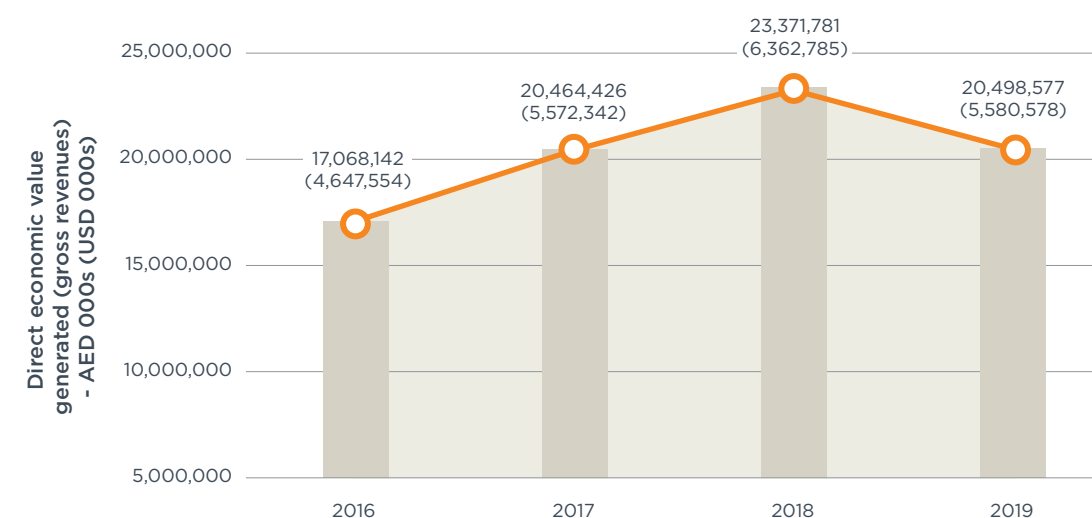
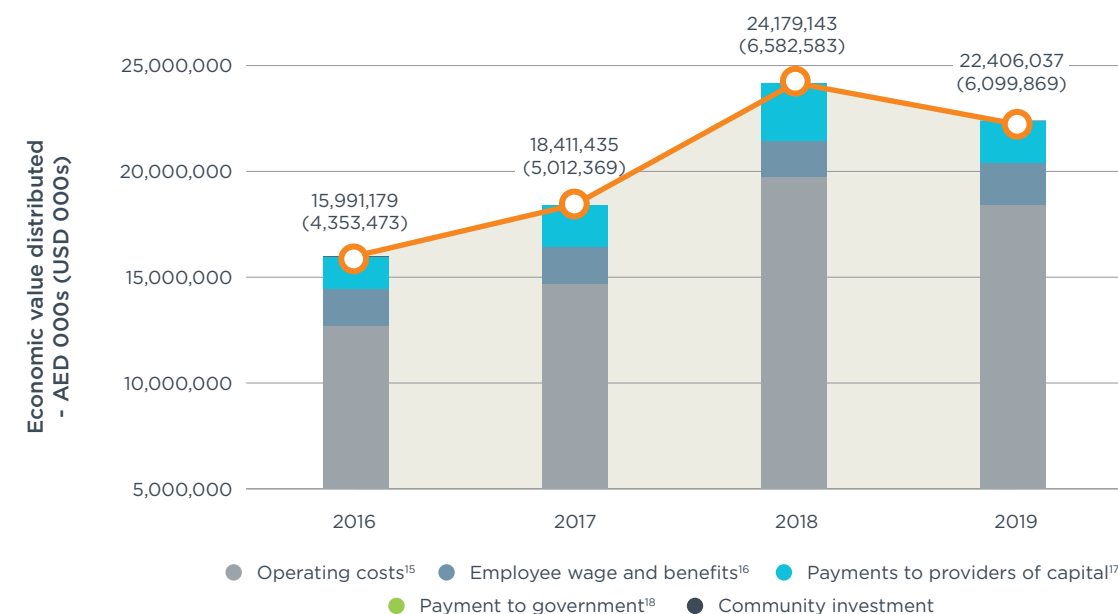


Figure 3: Economic value distributed<sup>14</sup>



<sup>14</sup> Operating costs for FY 2016, 2017 & 2018 have been re-calculated, as interest cost has been reported separately. Payment to a provider of capital for FY 2018 has been adjusted for the repayment of a loan, which has been considered in FY 2018. Employee wages and benefits and interest payments made to the provider of loans have been updated to be on an accrual basis.

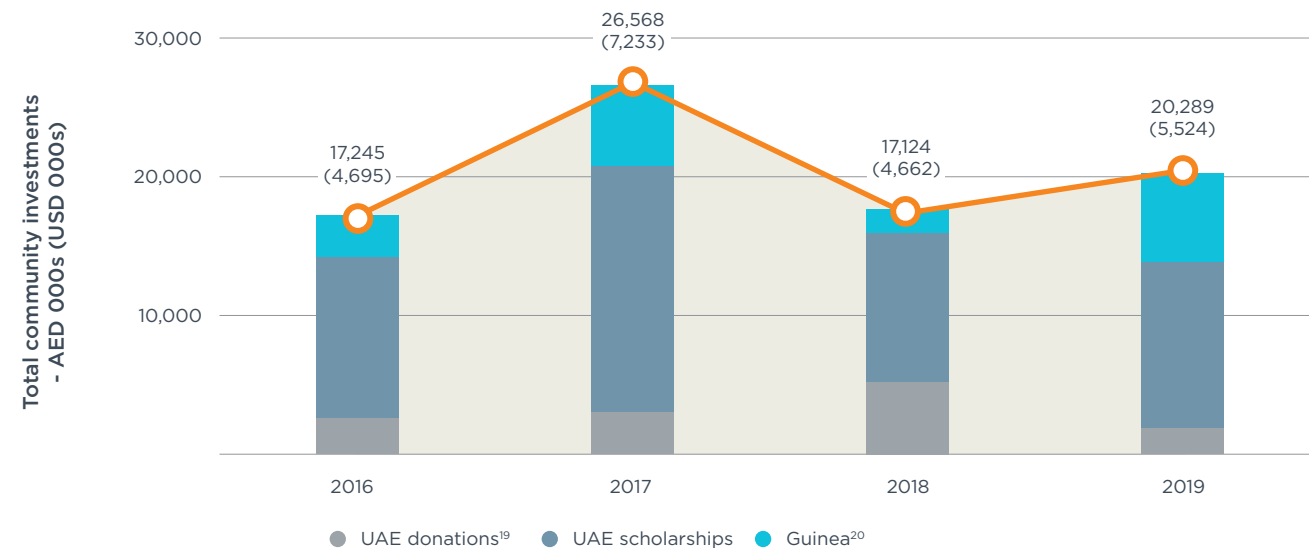
<sup>15</sup> Operating costs include cost of goods sold, sales and distribution cost, general and admin expenses.

<sup>16</sup> Employee wages and benefits include the total costs for EGA employees and staff directly contracted by EGA.

<sup>17</sup> Payments to providers of capital are the payments made to the EGA shareholders and lenders.

<sup>18</sup> Payments to government are tax expenses/returns paid by EGA's international subsidiaries. There were no payments to governments of UAE and Guinea in 2019.

Figure 4: Breakdown of community investments



EGA has a substantial role to play in the economic diversification of the UAE. Outside oil and gas, our aluminium is the biggest made-in-the-UAE export. Through our own research, development and technological advances, we contribute to the UAE's strategic drive to develop a knowledge-based economy, being the first industrial organisation in the UAE to license its core-process technology internationally.

In 2019, our alumina refinery brought a brand-new industrial activity to the UAE, providing more than 580 permanent jobs, developing new skills among the workforce and introducing new opportunities to the local supply chain.

In Guinea, GAC is expected to contribute significantly towards local and national economic development. GAC's current projections are an estimated total contribution of USD 700 million per year to the national economy (more than five per cent of Guinea's GDP). Our operations have created more than 1,000 permanent jobs and since first starting work in GAC, we have invested a total of USD 14 million in local community development and environmental projects.



**Total of USD 14 million spent on local community development and environmental projects in Guinea**

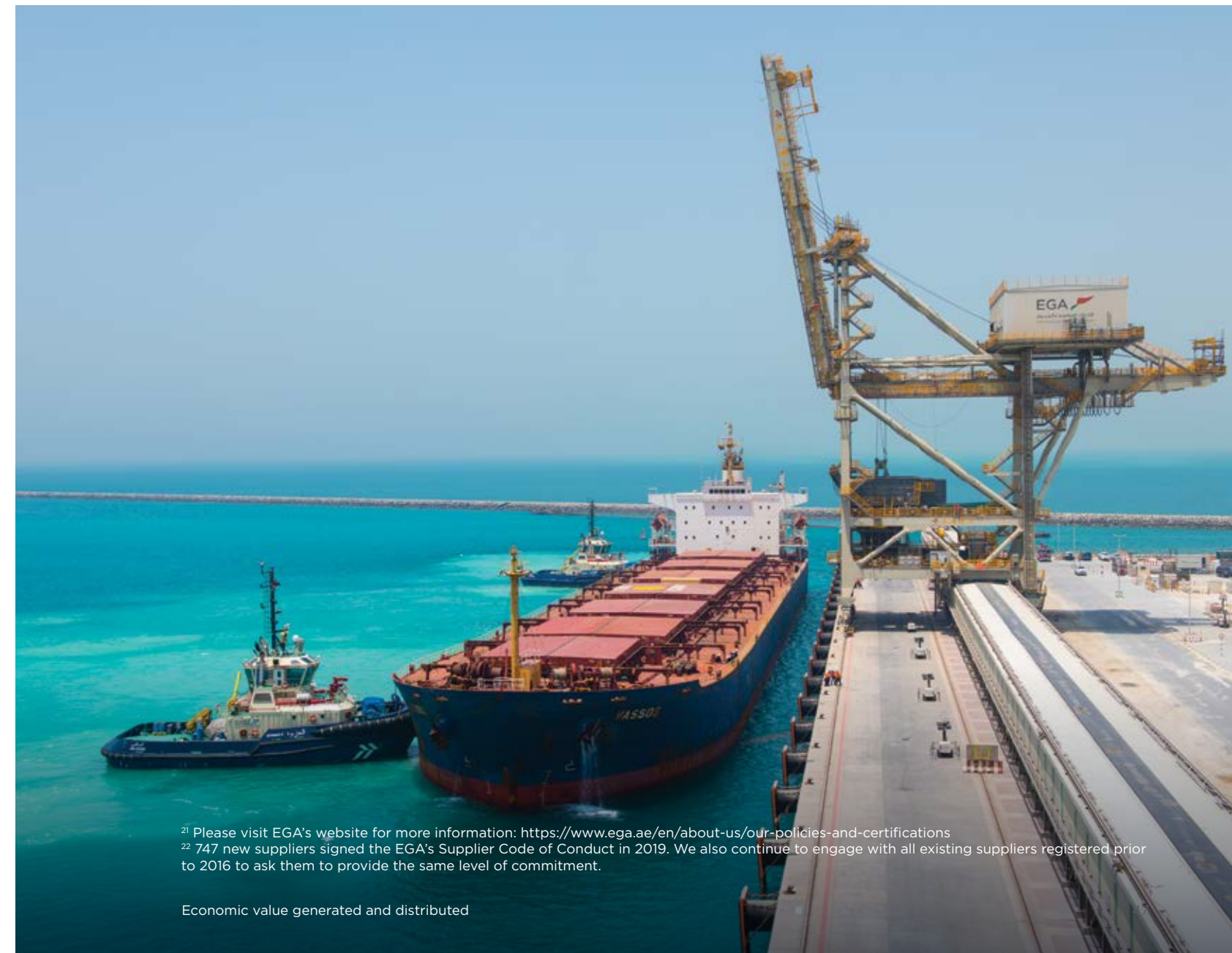
## Responsible sourcing and our supply chain

An effective supply chain is essential to the competitiveness of our business. Responsible sourcing is a key commitment of our core policy which directly references the requirement for EGA suppliers to adhere to EGA's values.

Established in 2016, our Supplier Code of Conduct<sup>21</sup> details the commitments we require from our business partners in relation to human rights, environmental performance, conflict-free minerals, health and safety, workplace integrity including anti-corruption and bribery, harassment, discrimination and worker welfare.

In 2019, as part of our on-boarding process, 100 per cent of new suppliers signed up to EGA's Supplier Code of Conduct (or provided comparable assurances)<sup>22</sup>.

In 2019, we inspected the premises of 19 international suppliers and 24 suppliers in the UAE to confirm their adherence to the requirements of our Supplier Code of Conduct. Our inspections did not identify any significant negative environmental or social impacts.



<sup>19</sup> Donations were made for community infrastructure developments, CSR activities, education and youth development programmes in the UAE.  
<sup>20</sup> Community investments in Guinea include infrastructure projects for development of livelihood, health care and agriculture programmes.

<sup>21</sup> Please visit EGA's website for more information: <https://www.ega.ae/en/about-us/our-policies-and-certifications>  
<sup>22</sup> 747 new suppliers signed the EGA's Supplier Code of Conduct in 2019. We also continue to engage with all existing suppliers registered prior to 2016 to ask them to provide the same level of commitment.



**Local procurement**

EGA recognises that procuring goods and services locally increases the economic benefit of our activities for the countries in which we operate. Wherever we can, we maximise the utilisation of the local supply chain.

In the UAE, we spent over AED 6.8 billion (USD 1.84 billion) in 2019 on goods and services procured locally. However, the production of aluminium requires some raw materials that are not available in the UAE. For example, there is no bauxite mined in the UAE, so we are entirely dependent on imports in order to meet our demands for this raw material.

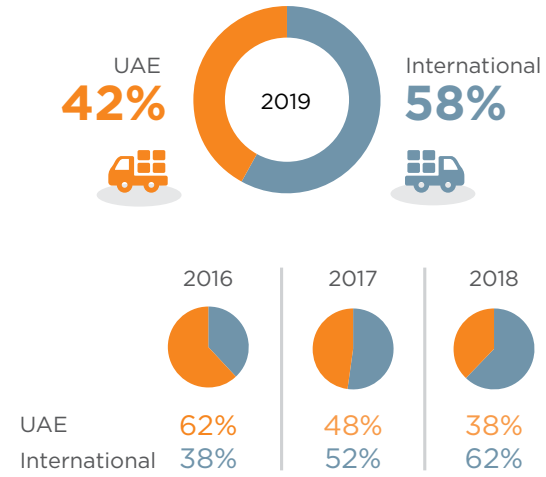
In Guinea, the mining industry has historically relied extensively on imported goods and services in the absence of competitive local suppliers. We believe that the development of a local supply chain is vital both for Guinea to realise the full economic benefits of its natural resources, and for the long-term success of mining businesses.

We prioritise the local sourcing of goods and services, choosing suppliers in Guinea before looking elsewhere in Africa and then outside the continent. To assist and encourage local business in Guinea to tender for contracts, we have developed a specialist training programme providing details related to our tender process, to help suppliers meet the quality and integrity standards we require.

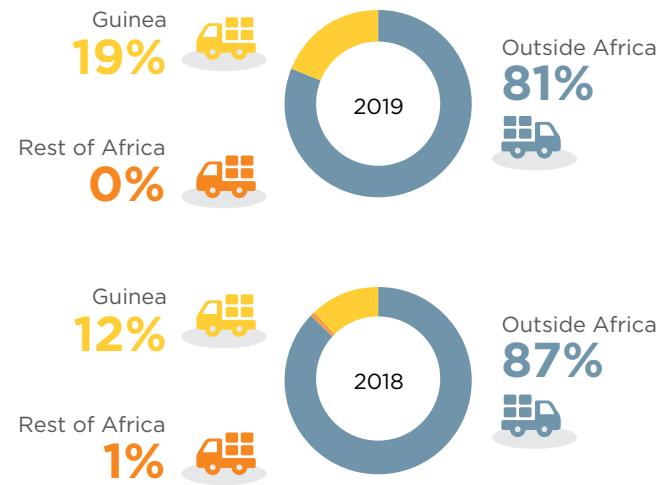


**USD 81.39 million spent on local suppliers in Guinea**

**Figure 5: Percentage of the procurement budget spent in UAE**



**Figure 6: Percentage of the procurement budget spent in Guinea**





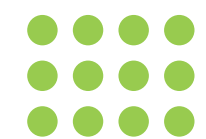
04



## Environmental and social responsibility

Modern life is sustainable  
only when companies are  
responsible





# Environmental and social responsibility

## Protection of the natural environment

Mining and industrial processes have the potential to cause significant environmental consequences if not managed responsibly. At EGA, activities with potential environmental impacts are overseen by a dedicated team of in-house environmental specialists. Working together, our environment and operations teams are responsible for managing all necessary controls, monitoring plans and audits plus finding opportunities for continuous improvement.

Across all operations and project sites, EGA actively identifies potential environmental risks and suitable controls. Our management plans establish requirements for impact identification, monitoring and controls in order to manage risk, avoid impacts and ensure an appropriate level of mitigation where necessary.

In the UAE, all of our operational facilities are managed through site-specific environmental management systems developed in accordance with regulatory requirements and technical guidelines issued by the relevant environmental regulators. All of our facilities in the UAE are also frequently audited by regulatory representatives to confirm the suitability of our environmental monitoring and controls.

All of our smelting and casting operations are also certified to ISO 14001:2015<sup>23</sup> with plans to certify our alumina refinery in the future.

### Environmental management systems and performance standards



#### Aluminium Stewardship Initiative

- Al Taweelah smelting and casting

#### ISO 14001:2015

- Jebel Ali smelting and casting
- Al Taweelah smelting and casting

#### IFC Performance Standards and World Bank Guidelines

- GAC bauxite mine and export facilities
- Al Taweelah smelting and casting

#### EAD Technical Guidelines

- Al Taweelah smelting and casting
- Al Taweelah alumina refinery



**For a healthy surrounding environment, here at EGA we ensure all our operational activities are aligned with local, national and international environmental laws and regulations.**



**EIMAN AL OBAIDLI**  
Gen. Superintendent - Environment, Environment and Waste Management

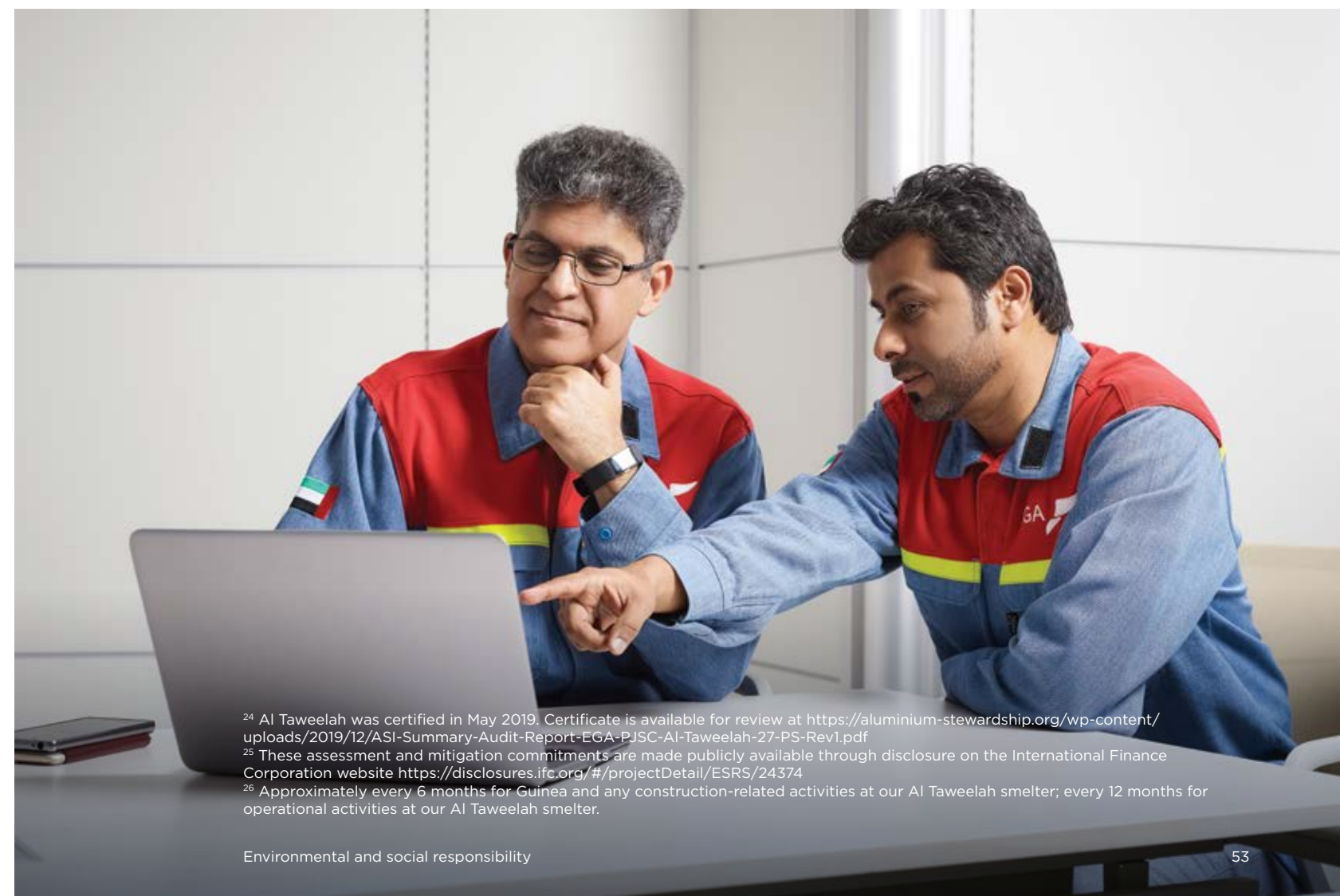


In Al Taweelah, the environmental performance of our smelting and casting has been confirmed as meeting ASI Performance Standards<sup>24</sup> with plans to certify all of our operational facilities in the future.

In Guinea, potential environmental impacts from the operation of our mining and export facilities were identified through a detailed environmental and social impact assessment. This was prepared in accordance with the Equator Principles, the International Finance Corporation Performance Standards and regulatory requirements of the Guinean government<sup>25</sup>. Operations in Guinea

are managed through a site-specific Social and Environmental Management Plan, which is complemented by a series of detailed plans for air quality, biodiversity, dredging, noise control, soil management, waste management, water management, rehabilitation and reforestation.

In Guinea, as well as in our smelting and casting operations in Al Taweelah, our activities are regularly monitored by an independent third party to ensure that we are meeting our commitments under the International Finance Corporations Performance Standards and Equator Principles<sup>26</sup>.



<sup>24</sup> Al Taweelah was certified in May 2019. Certificate is available for review at <https://aluminium-stewardship.org/wp-content/uploads/2019/12/ASI-Summary-Audit-Report-EGA-PJSC-Al-Taweelah-27-PS-Rev1.pdf>

<sup>25</sup> These assessment and mitigation commitments are made publicly available through disclosure on the International Finance Corporation website <https://disclosures.ifc.org/#/projectDetail/ESRS/24374>

<sup>26</sup> Approximately every 6 months for Guinea and any construction-related activities at our Al Taweelah smelter; every 12 months for operational activities at our Al Taweelah smelter.

<sup>23</sup> Certificate available at <https://www.ega.ae/en/about-us/our-policies-and-certifications>



## Protecting air quality

Power generation and industrial processes associated with aluminium smelting can adversely impact air quality if not adequately controlled. In the UAE, protecting air quality is a key focus area for our environmental management system. We monitor emissions and local ambient air quality to ensure the effectiveness of our controls and regularly communicate the results to relevant environmental regulators.

Potential air quality impacts from EGA's mining and export facilities in Guinea are predominantly associated with dust generation from the movement and the processing of large quantities of earth and rock, as well as emissions from mobile equipment and power generators. We have run simulated computer dispersion models in order to help us avoid potential local impacts associated with NO<sub>x</sub> and SO<sub>x</sub> emissions and identify suitable locations for air quality monitoring stations to ensure controls for dust suppression are sufficient.

### Nitrogen oxides from power production in the UAE

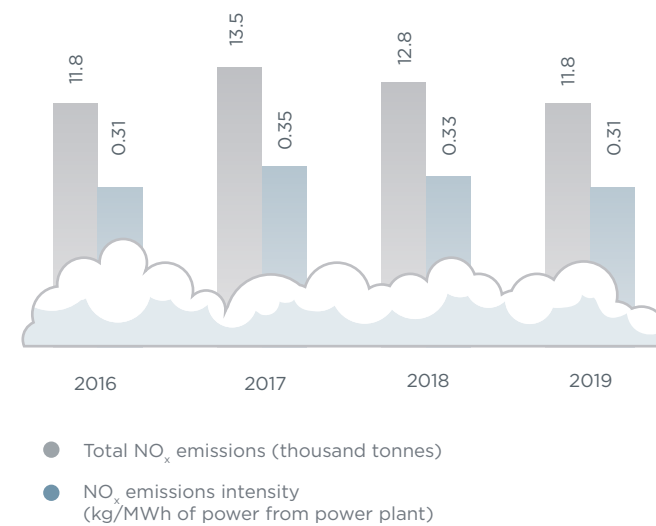
Nitrogen oxides (NO<sub>x</sub>) are produced from a reaction between nitrogen and oxygen in the air at high temperatures. EGA's NO<sub>x</sub> emissions are primarily a result of the combustion of natural gas at our power stations.




In 2019, we reduced our NO<sub>x</sub> intensity by 6 per cent compared to 2018 through minimising the use of older turbines at our power station in Jebel Ali.

Despite this reduction in emissions, the operation of older gas turbines at Jebel Ali meant that we did not meet the standards set by the environmental regulator in Dubai<sup>27</sup>. However, in 2019, we continued the construction of a new power block that, when completed, will enable us to place older gas turbines on emergency standby and utilise best available technology at our site in Jebel Ali<sup>28</sup>. The new power block will be the first in the UAE equipped with a highly efficient 'H class' gas turbine, significantly reducing our NO<sub>x</sub> emissions.

Figure 7: NO<sub>x</sub> emissions from power plant operations in UAE<sup>29</sup>



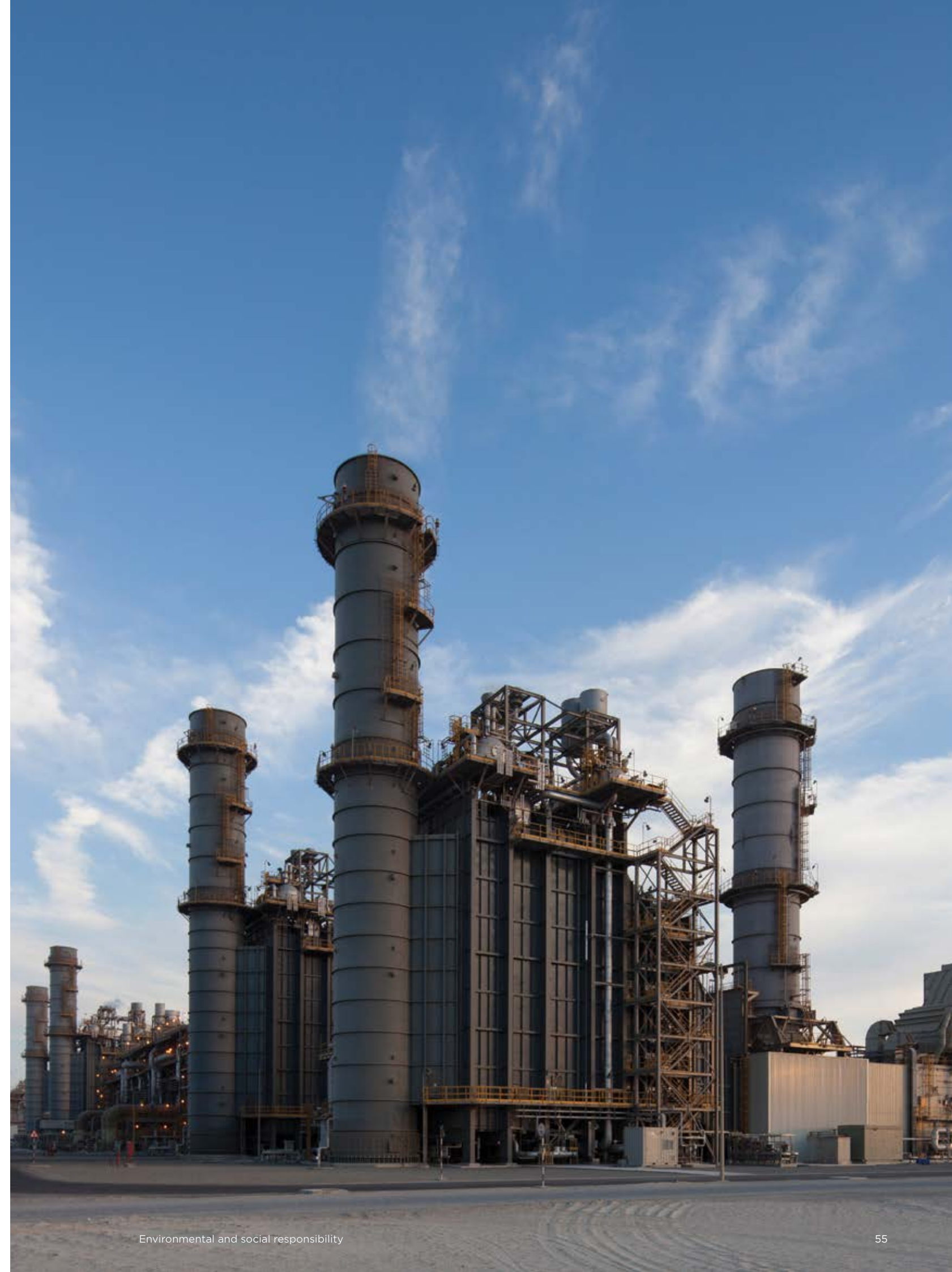


**6% reduction in NO<sub>x</sub> intensity**

<sup>27</sup> In 2016, we received a notice of violation from the environmental regulator, Dubai Municipality, regarding NO<sub>x</sub> emissions from our power plant at Jebel Ali. This violation was caused by our continuing use of older gas turbines that were installed prior to the implementation of relevant emission regulations in UAE.

<sup>28</sup> Instead of fully shutting down our old turbines, these will be maintained such that they could be made available in the event of an emergency power shortage.

<sup>29</sup> Emissions are direct readings from analysers or manual balance estimations. Total volume of NO<sub>x</sub> emissions depends mostly on how much electricity we are generating to meet our requirements for aluminium production.





### Sulphur dioxide from smelting and casting in the UAE

EGA manufactures its own anodes for use in the electrolytic process of aluminium smelting. The raw materials required to make anodes contain sulphur.

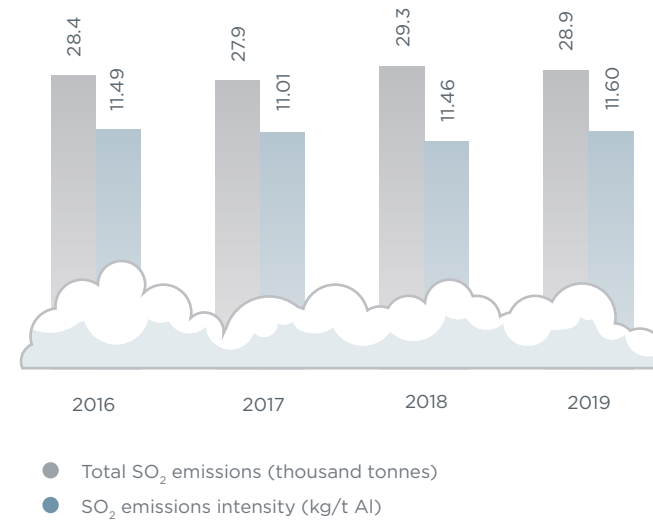
During manufacture, these raw materials are heated to very high temperatures resulting in the release of sulphur dioxide (SO<sub>2</sub>). SO<sub>2</sub> emissions are also generated in the electrolytic process, as anodes are consumed during the reduction of alumina to form aluminium.

We control our SO<sub>2</sub> emissions through specifications set for the sulphur content of the raw materials we use in anode production. In addition, our smelting technologies minimise anode consumption during the electrolysis process. We also treat our emissions from potlines 1 and 2 in Al Taweelah with a wet scrubbing system, which removes up to 95 per cent of the SO<sub>2</sub>.

In 2019, our SO<sub>2</sub> absolute emissions decreased, mainly due to a reduction in aluminium production. SO<sub>2</sub> emission intensity increased by 1.2 per cent, mainly due to slightly higher sulphur content in the

raw material used in anode production. Despite this slight increase, our emissions remained well within regulatory limits and internal thresholds.

**Figure 8: SO<sub>2</sub> emissions from smelters in UAE<sup>30</sup>**



<sup>30</sup> Emissions are direct readings from analysers or manual balance estimations. SO<sub>2</sub> emissions and intensity figures for 2018 above have been adjusted from the figure reported in our 2018 report due to a typographical error in the raw data. This error did not have any material impacts for EGA or the conclusions of the 2018 report.

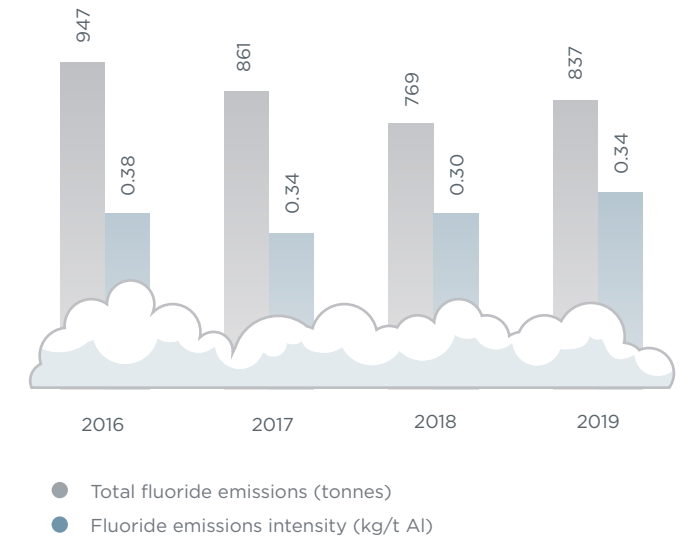
### Fluoride emissions from smelting and casting in the UAE

Fluoride is an important additive in the electrolytic process, as it significantly reduces energy consumption. However, a consequence is the generation of fluoride emissions.

EGA's fluoride emissions are carefully controlled and are in full accordance with international and UAE requirements, thanks to the application of advanced smelting technology developed by EGA. We also conduct regular vegetation material sampling in and around our smelting facilities to further ensure the adequacy and robustness of our control measures.

We regularly monitor our fluoride emissions according to the requirements stipulated by our environmental management system. In 2019, our monitoring identified increases in our absolute total fluoride emissions with an increase in fluoride emissions intensity of 13.3 per cent. Our subsequent investigation attributed this increase to changes in operational parameters during anode production that had led to unplanned disruption during the smelting process. In addition, we also encountered maintenance issues with one of our pollution abatement systems in Al Taweelah.

**Figure 9: Total fluoride emissions from smelters in UAE<sup>31</sup>**



Despite the increase, our fluoride emissions at both Jebel Ali and Al Taweelah remained well within regulatory limits and internal thresholds throughout 2019.

<sup>31</sup> Emissions values are derived from direct readings from a site analyser, laboratory analysis of manual stack sampling and/or mass balance estimations.



### Dust management from refinery operations in the UAE

Bauxite is a relatively inert sedimentary rock that is refined to produce alumina. However, when handling substantial volumes of dry bauxite, large quantities of airborne dust can be generated.

At EGA, we utilise numerous control measures to minimise the release of bauxite dust including automated dust suppression systems, covered conveyors and storage areas.

In 2019, during the commissioning and ramp-up of our new refinery in Al Taweelah, we encountered some inefficiencies in our bauxite dust controls and there were instances when bauxite dust was released to the immediate area. Monthly monitoring confirmed periods during 2019 where airborne particulate matter exceeded the UAE regulatory threshold. We reported the issue to the environmental regulator in Abu Dhabi.

In response, we commissioned a third-party review of our control measures to pinpoint the source of the problem and help identify suitable solutions. Consequently, we upgraded conveyor dust suppression systems and implemented improvements at our bauxite unloading area. Looking ahead to 2020, we will continue to monitor the situation and where necessary, look into other suitable controls.



### Dust management from mining operations in Guinea

During mining operations, the handling of large quantities of earth and the movement of heavy vehicles across exposed subsoils risks substantial dust generation.

For our operations in Guinea, we have a comprehensive dust suppression system that takes into account the needs of neighbouring communities and sensitive habitats, recognising the importance of addressing the risk of dust generation during the dry season.

In 2019, we received six complaints from the local community regarding dust generation during the dry season. In response, we improved access to reliable water sources for several of our contractors in order to achieve better results. We have also apologised to complainants from the local community and kept them up to date with how we have improved dust suppression.

### Vehicular and equipment emissions from mining operations in Guinea

The principal emissions from the use of vehicles and equipment in Guinea are NO<sub>x</sub> emissions from the heat of internal combustion engines and SO<sub>x</sub> from the use of diesel.

As part of our impact assessment and management planning for our mining operations, we have run simulated computer dispersion models to help

us understand and avoid potential local impacts associated with vehicular emissions and identify suitable locations for air quality monitoring stations. In 2019, our air quality monitoring confirmed the results from our dispersion models, finding no identifiable impacts associated with NO<sub>x</sub> or SO<sub>x</sub> emissions for any local communities, nor have we received any associated complaints.





## Energy consumption

### Energy consumption in the UAE

The majority of our energy consumption in the UAE is associated with the smelting of aluminium. The chemical bond between aluminium and oxygen in alumina is very strong. In order to break this bond and produce aluminium, a significant amount of energy is required.

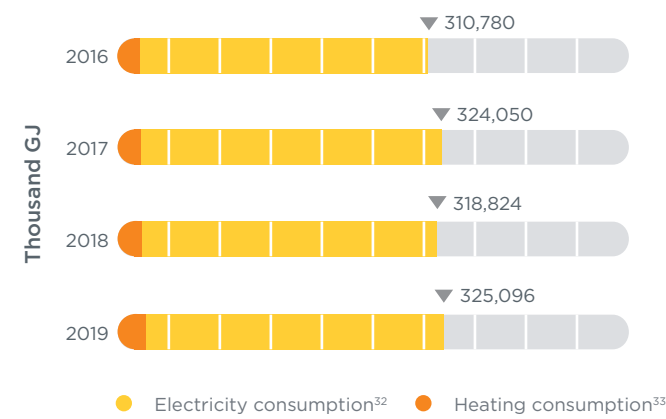
We generate the energy needed for the production of aluminium from our own natural gas fired power plants.

Producing more aluminium with less energy is important from both a commercial and an environmental perspective and has been part of EGA's ethos since the birth of our organisation 40 years ago.

We have been developing our own technology for over 25 years, progressively improving the energy efficiency of the aluminium smelting process.

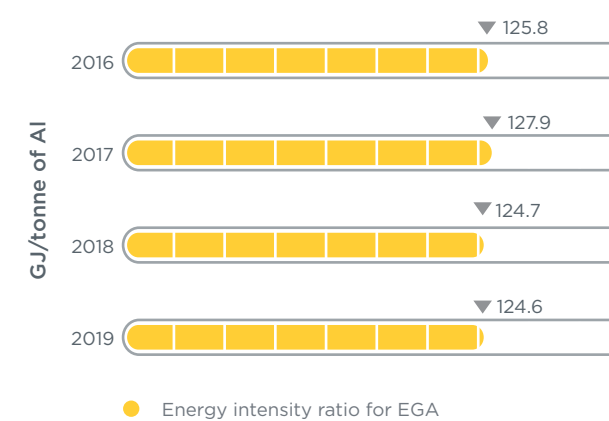
We have used our own home-grown technology in every smelter expansion since the 1990s and have retrofitted all our older potlines.

**Figure 10: UAE energy consumption from non-renewable resources**



In 2019, our total energy consumption in the UAE increased predominantly due to it being the first year of operations for our new refinery in Al Taweelah.

**Figure 11: Smelting and casting energy intensity**



### Energy consumption in Guinea

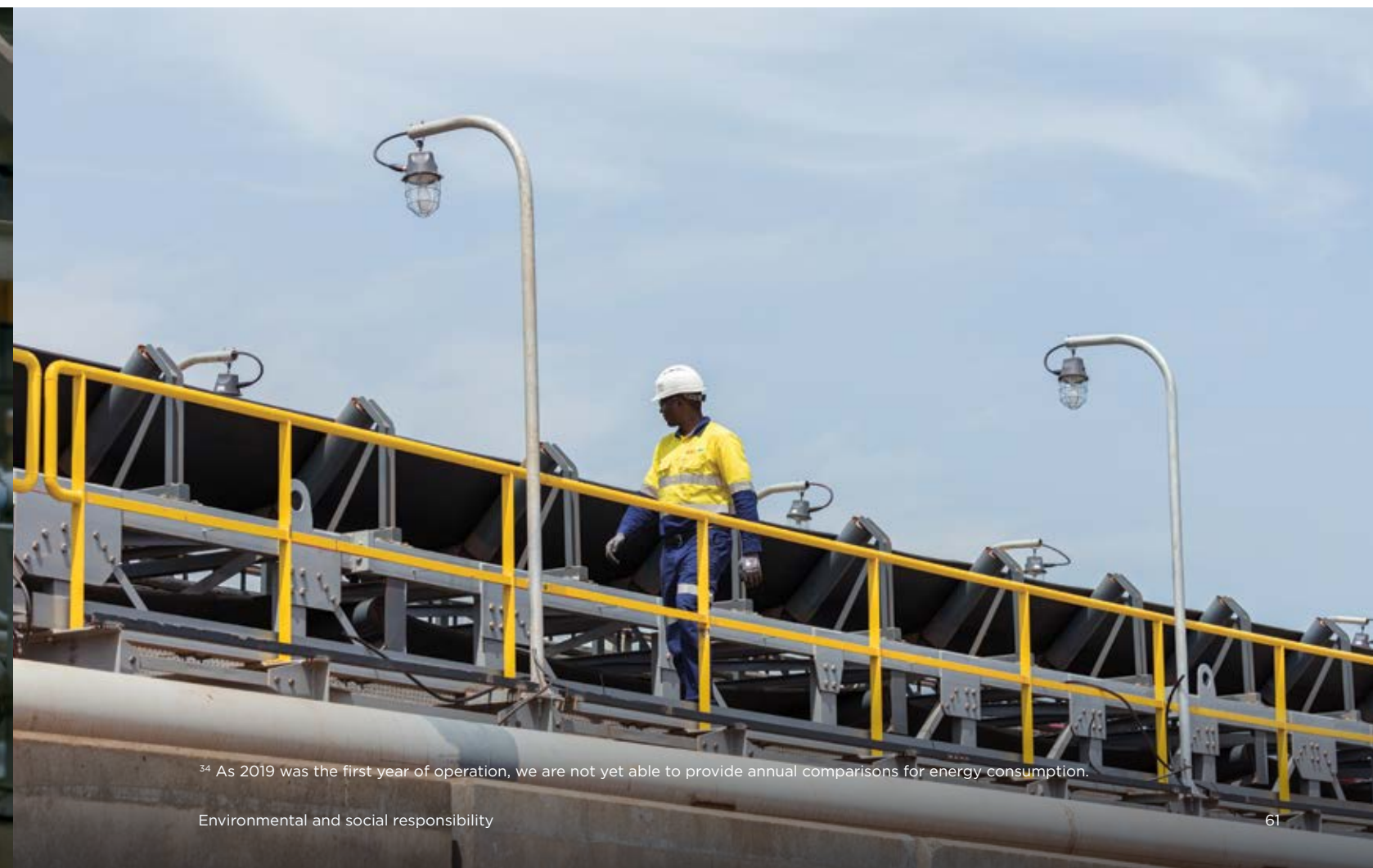
In Guinea, the bulk of our energy consumption is associated with the use of site equipment, and the operation of our site offices and welfare facilities.

During much of the construction phase, we have been largely dependent on the use of diesel powered mobile generators for the production of power. In 2019, as we moved into operations, we explored opportunities for improving energy efficiency. This led to the installation of two small diesel powered package power plants in November 2019, centralising production of power and improving overall efficiency.

In 2019, our total fuel consumption associated with the use of mobile generators and the operation of our two small package power plants was 365,394.85 GJ<sup>34</sup>.



<sup>32</sup> Gigajoule (GJ). Standard energy conversion calculations are used. Reporting boundary includes UAE operations excluding energy consumption for mobile equipment used in refinery.  
<sup>33</sup> Heating consumption is associated with the operation of refinery calciners, anode baking furnaces, casthouse furnaces; the figure also includes diesel used in mobile equipment used in smelting operations.



<sup>34</sup> As 2019 was the first year of operation, we are not yet able to provide annual comparisons for energy consumption.



## Greenhouse gas emissions

### Greenhouse gas emissions in the UAE

Fuel consumption at our natural gas power plants accounts for most of our greenhouse gas emissions. Other greenhouse gas emissions are generated by the consumption of anodes and by perfluorocarbon (PFC) emissions during the electrolysis process.

In 2019, we recorded an overall increase in our greenhouse gas emissions in the UAE, in part because it was the first year of operations at our new alumina refinery. We also recorded an increase of 1.1 per cent in the intensity of greenhouse gas emissions associated with our metal production. This increase in intensity was predominantly due to changes in operational parameters during anode production that led to unplanned disruption during the smelting process.

Despite this increase, our greenhouse gas emissions associated with metal production remained 38 per cent lower than the published global industry average<sup>35</sup>.

Figure 12: Direct (Scope 1) GHG emissions in UAE (thousand tonnes of CO<sub>2</sub>e)<sup>36</sup>

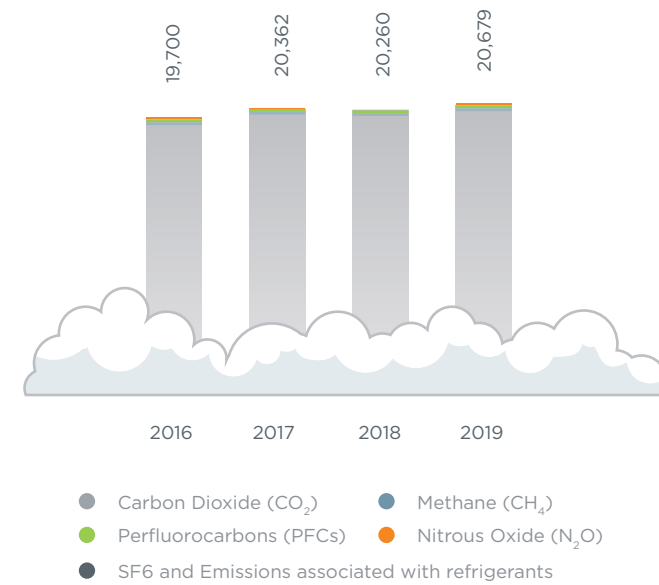
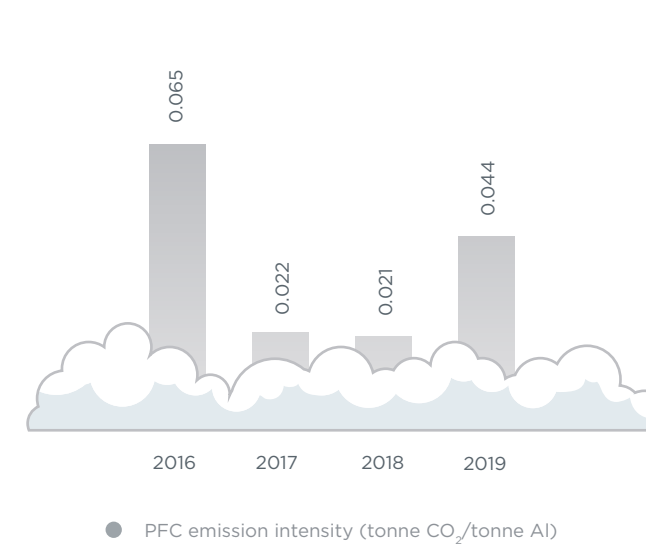


Figure 13: PFC emissions intensity

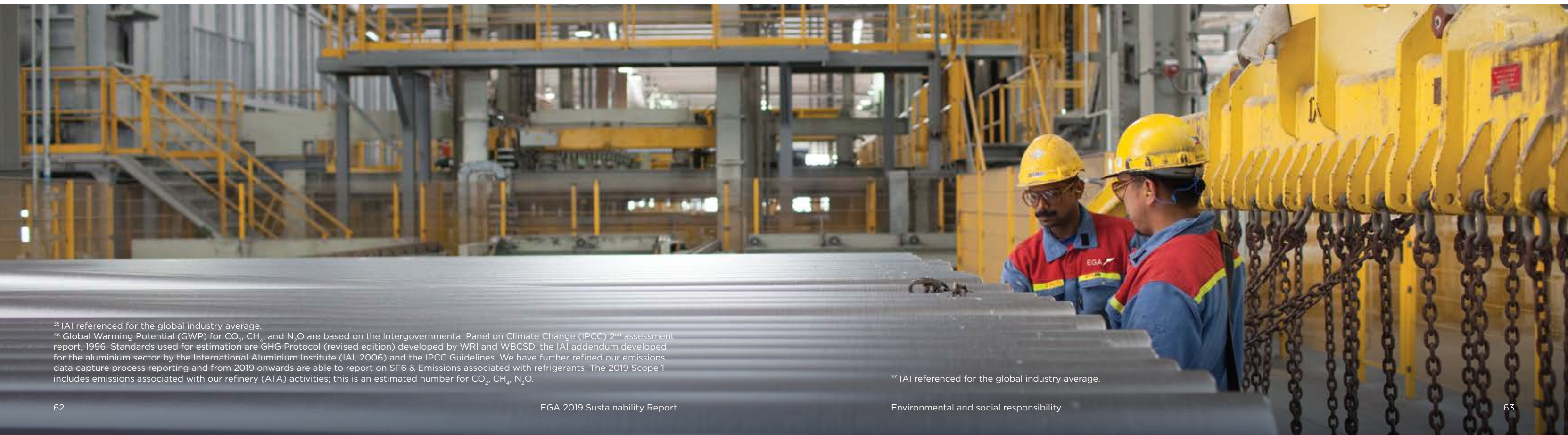


Despite an increase, compared to 2018, our PFC emissions intensity was more than 91% lower than the global industry average<sup>38</sup>

Indirect (Scope 2) emissions are generated as a consequence of energy exchange agreements through which we mutually exchange energy with the grid. These agreements are in place in order to help the UAE maximise efficiencies in grid supply and demand. Agreements are on a net zero exchange basis. However, greenhouse gas emission factors associated with the grid are higher than greenhouse gas emission factors associated with EGA's power plants, resulting in a net gain in greenhouse gas emissions for EGA. Variations in our reported annual indirect greenhouse gas emissions are a consequence of the total amount of energy exchanged and the different emissions factors applicable to energy sourced from the grid.



Our greenhouse gas intensity associated with our metal is 38% lower than the global average<sup>37</sup>



<sup>35</sup> IAI referenced for the global industry average.

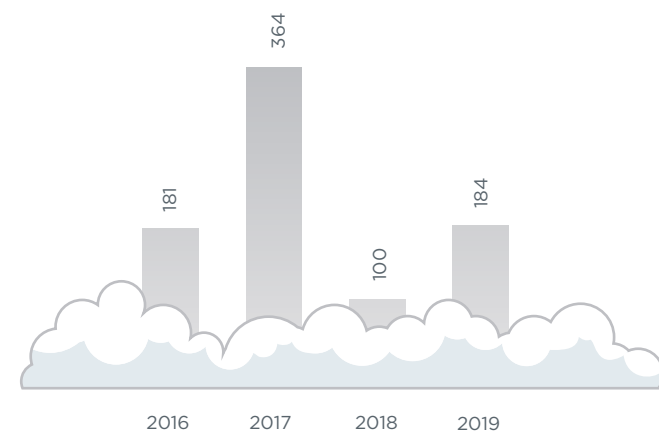
<sup>36</sup> Global Warming Potential (GWP) for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O are based on the Intergovernmental Panel on Climate Change (IPCC) 2<sup>nd</sup> assessment report, 1996. Standards used for estimation are GHG Protocol (revised edition) developed by WRI and WBCSD, the IAI addendum developed for the aluminium sector by the International Aluminium Institute (IAI, 2006) and the IPCC Guidelines. We have further refined our emissions data capture process reporting and from 2019 onwards are able to report on SF<sub>6</sub> & Emissions associated with refrigerants. The 2019 Scope 1 includes emissions associated with our refinery (ATA) activities; this is an estimated number for CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O.

<sup>37</sup> IAI referenced for the global industry average.



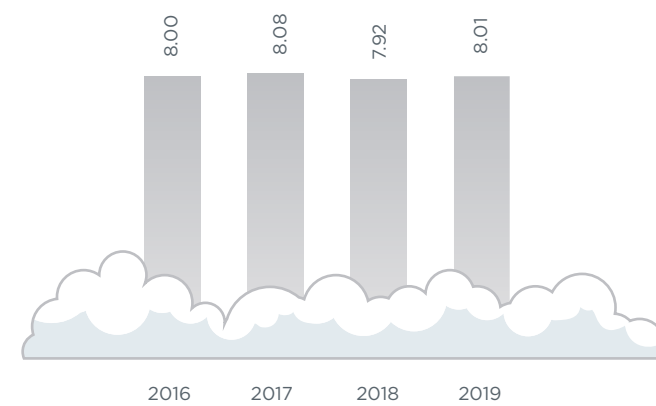
Despite the marginal increase in greenhouse gas emissions seen in 2019, we are anticipating future substantial reductions in greenhouse gas intensity following the completion of our new power block in Jebel Ali which will enable us to place older gas turbines on emergency standby and utilise best available technology.

**Figure 14: Indirect (Scope 2) greenhouse gas emissions in UAE<sup>38</sup>**



● Gross energy indirect (Scope 2) GHG emissions in metric tonnes of CO<sub>2</sub> equivalent (Thousand tonnes CO<sub>2</sub>e)

**Figure 15: Greenhouse gas emissions intensity (tCO<sub>2</sub>e/t Al)<sup>39</sup>**



● Greenhouse gas emission intensity ratio for EGA (tonnes CO<sub>2</sub>e/tonne Al)

### Greenhouse gas emissions in Guinea

In Guinea, our greenhouse gas emissions are predominantly associated with the use of diesel for vehicles, equipment and electricity generation. We are not connected to the national electricity grid nor do we contribute towards any other Scope 2 emissions.

**27,382.25 direct (Scope 1) greenhouse gas emissions in Guinea (tCO<sub>2</sub>e)<sup>40</sup>**

<sup>38</sup> Variation in our reported indirect greenhouse gas emissions are a consequence of the total amount of energy exchanged and different greenhouse gas emissions. Factors applicable to energy sourced from the grid. Global Warming Potential (GWP) for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O are based on the Intergovernmental Panel on Climate Change (IPCC) 2<sup>nd</sup> assessment report, 1996. Standards used for estimation are GHG Protocol (revised edition) developed by The World Resources Institute and World Business Council for Sustainable Development. 2018 Scope 2 emissions data has been adjusted from 2018 reported figures following the decision to rely on data from grid partner energy meters (given the associated improved accuracy). This adjustment does not have any material impact upon EGA or the conclusions of the 2018 report.

<sup>39</sup> 2018 greenhouse gas emission intensity has been adjusted from the 2018 reported figure due to recalculated Scope 2 emissions from the use of data from grid partner energy meters. This change does not have any material impact upon EGA or the conclusions of the 2018 report. Greenhouse gas intensity figures are associated with metal production only.

<sup>40</sup> Global Warming Potential (GWP) is based on the Intergovernmental Panel on Climate Change (IPCC) 2<sup>nd</sup> assessment report, 1996. 2019 was the first year of operation for our site in Guinea, and so we are not yet able to provide comparisons against previous years' greenhouse gas emissions.

### Future targets for greenhouse gas emissions

EGA's core policy includes a commitment to a low-carbon future through reductions in energy use and greenhouse gas emissions. This commitment is reflected in our current Carbon Abatement Strategy. This strategy includes specific targets for reduction in emissions intensity from our aluminium smelting, casting and power production operations in the UAE.

Targets are set according to foreseen opportunities for technological innovations and operational efficiencies. Targets are reviewed every year through collaboration between our operational and environment teams with progress regularly monitored and reported to our senior management.

Greenhouse gas targets (Scope 1 and 2) (tCO <sub>2</sub> e/t Al) <sup>41</sup>			
7.95 2020	7.90 2021	7.55 2022	7.53 2023



<sup>41</sup> Previously reported targets have been based on 2018 baseline for metal production. In 2019, we have adjusted our target GHG targets to reflect projected future years' metal production.



## Water use

### Water use in the UAE

In the UAE the majority of our water is used is for cooling during electricity generation. We extract seawater for this purpose, more than 94 per cent of which is returned to the sea. We also generate freshwater through desalination to meet our need for potable and distilled water in our industrial processes, as well as for office and residential use on our sites. We also supply some of the water generated at our Jebel Ali facility to local customers in Dubai.

In 2019, our total water consumption in the UAE was 77,605 megalitres.

We regularly monitor the quality of the water we return to the sea for various parameters including temperature, salinity and dissolved oxygen in order to ensure against discernible impacts to the marine environment. In 2019, we identified several minor exceedances above target limits, with four in Jebel Ali and three at Al Taweelah. These exceedances were each confirmed as having negligible risk to the environment and each was addressed through amendments to process operations or improved maintenance.

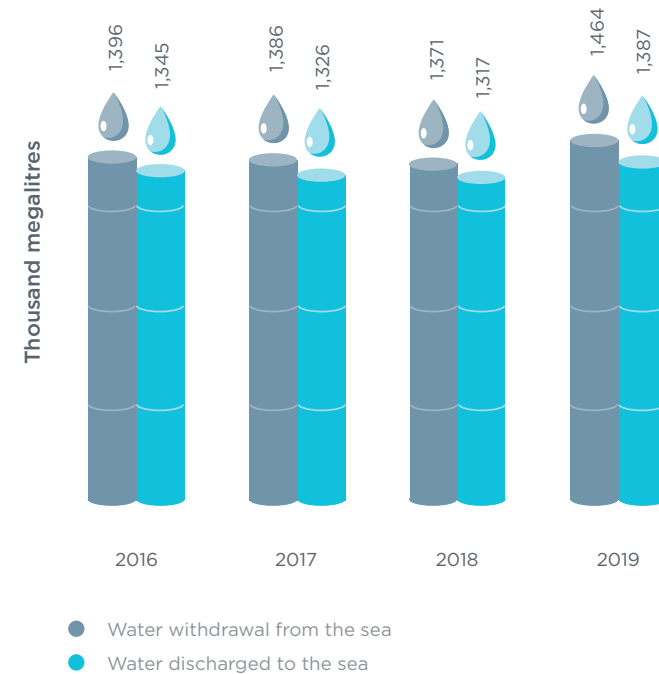
Our freshwater recycling activities include the use of treated effluent to meet our irrigation needs<sup>42</sup> and the reuse of casthouse discharged water in our Fume Treatment Centre.



**356 megalitres of water recycled and reused in the UAE**

Equivalent to water storage capacity of 8,107 large water tankers

**Figure 16: Water withdrawal and discharge in UAE<sup>43</sup>**



### Water use in Guinea

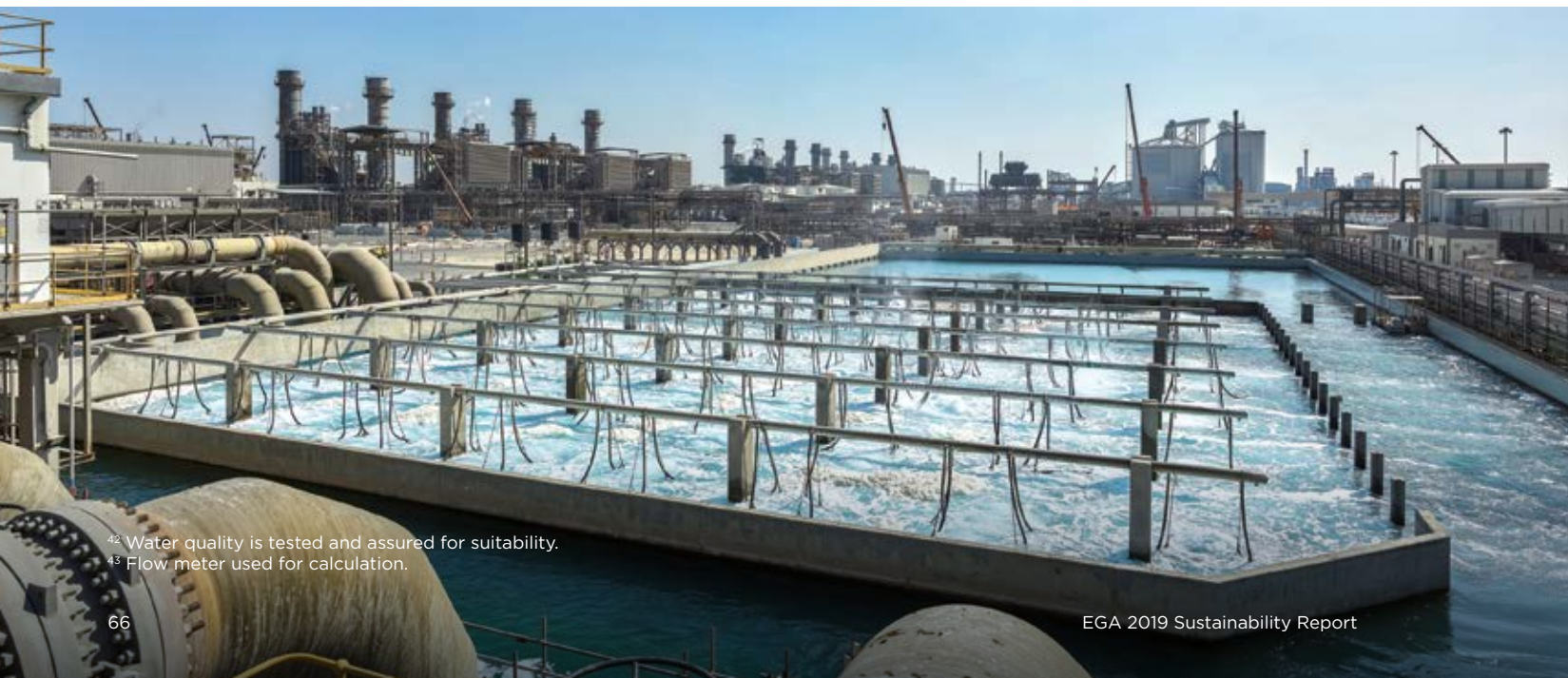
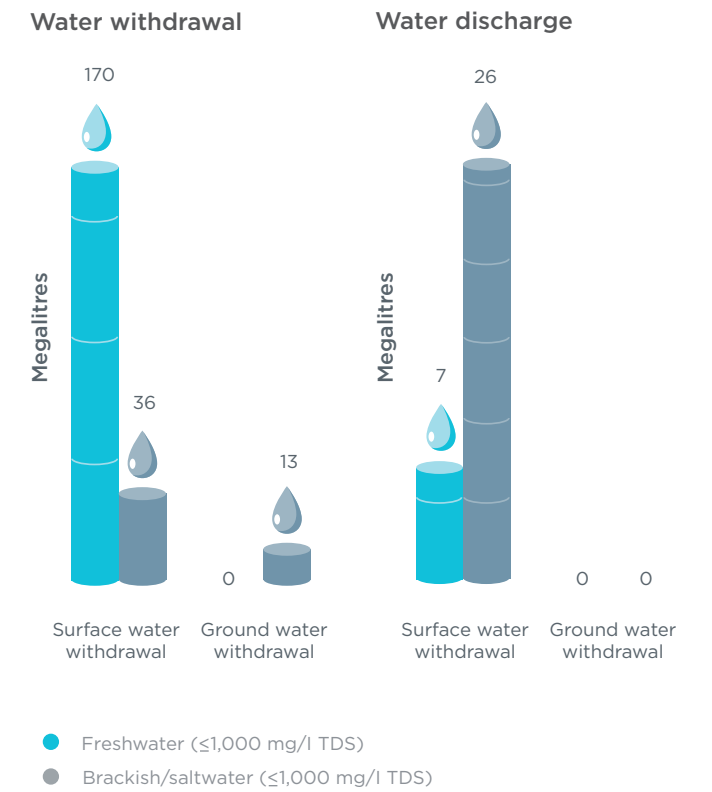
In Guinea, we manage our water-related impacts through an Integrated Water Management Plan. This plan establishes specific strategies and targets for water use, treatment and protection. Our main needs for water are for sanitation and dust suppression.

In 2019, we met our water needs through extraction from the Tiouladiwol Reservoir, as well as the Tinguilinta and Pompokol rivers. We also extracted seawater at Kamsar port area to generate fresh water through a site-based reverse osmosis facility.

We also continued to monitor water discharge from our sewage treatment facility through laboratory analysis for various parameters, including dissolved oxygen, biological oxygen demand, chemical oxygen demand, nitrogen, phosphorous, suspended solids, coliforms and residual chlorine. Results were compared against Guinean regulations and international standards.

In addition, we identified several exceedances above target limits, all of which were confirmed as having negligible risk to the environment. These exceedances were subsequently addressed through a facility sewage treatment plant optimisation programme.

**Figure 17: 2019 Total water withdrawal and discharge in Guinea<sup>44</sup>**



<sup>42</sup> Water quality is tested and assured for suitability.

<sup>43</sup> Flow meter used for calculation.



<sup>44</sup> The calculation of total water withdrawal is based on flow and totaliser meters. All water needs are met from non-water stress areas.



## Our response to environmental incidents

In 2019, EGA did not receive any fines or non-monetary sanctions for non-compliance with environmental laws or regulations. Nevertheless, we encountered environmental incidents associated with our operations, subsequently responding in accordance with our own internal incident response procedures established as part of our environmental management systems.

### Environmental incidents in the UAE

Remediation efforts associated with two past diesel spills at our Al Taweelah site continued during 2019. Specifically, based on a detailed site assessment conducted by an independent third party, we continued with our pump-and-treat remediation system. The first of these diesel spills was detected in 2015 near our power plant affecting an area of approximately 100 square metres. The second was detected in 2016 behind our cooling towers at Al Taweelah, affecting an area of approximately 900 square metres. Both were caused by corroded underground pipelines, which have since been replaced with above-ground pipelines.

Neither of these incidents has resulted in any fines, sanctions or judicial undertakings. Nevertheless, we have regularly reported the outcomes of our investigations and remediation efforts to the regulatory authority in Abu Dhabi. By the end of 2019, we had pumped and treated more than 120,319 m<sup>3</sup> of groundwater from diesel contaminated areas.

### Environmental incidents in Guinea

In 2019, one significant incident occurred in Guinea resulting in the spill of approximately 5,000 litres of diesel during fuel transfer. The diesel was accidentally spilled into a concrete-lined stormwater ditch and was subsequently contained through the deployment of sandbags. The concrete lining and use of sandbags prevented the contamination of ground and surface water. Our investigation of the incident confirmed a faulty flange to have been the cause. Subsequently, we investigated the potential for a similar failure at other fuel transfer stations, including the hydro-testing of pipelines to ensure that we would not encounter a similar incident elsewhere.

## Waste management

### Waste management in the UAE

At EGA, the waste hierarchy determines the bulk of our waste management decisions. In the UAE, we have a comprehensive Waste Management Plan for all operational activities, with a long-term aspiration of sending zero process waste to landfill. As part of this plan, we are exploring and developing various opportunities for our waste streams as feedstock for other industries.

The smelting of aluminium generates a range of hazardous waste materials. In terms of volume, the two most significant hazardous waste streams are spent pot lining and dross.

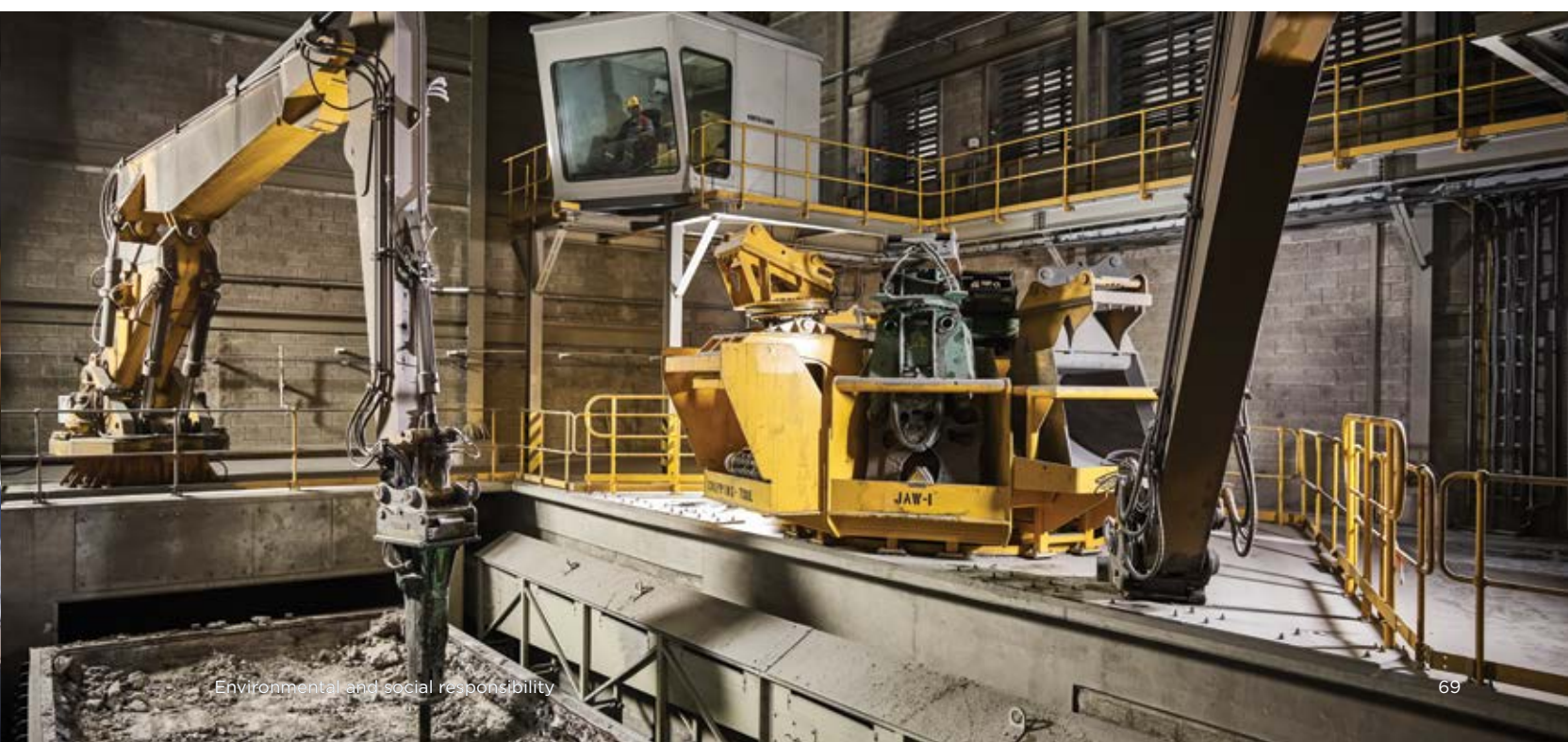
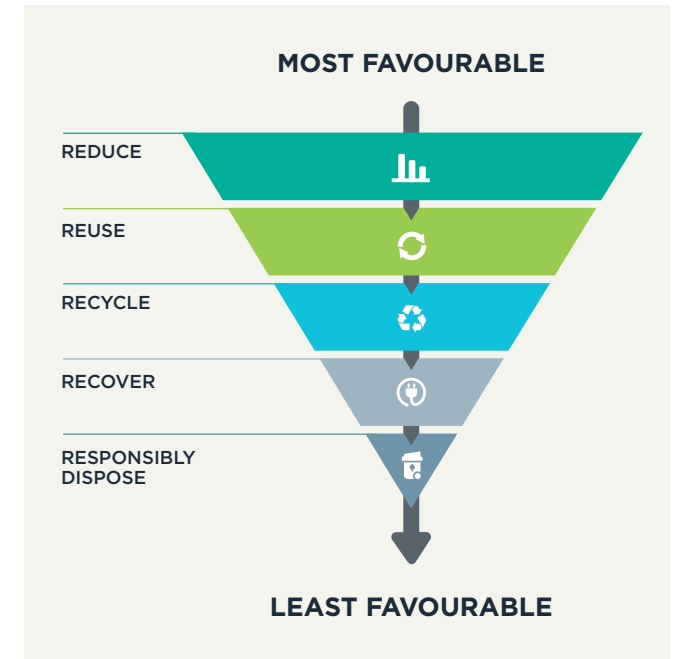


**35% increase in recycling compared with 2018**



**In 2019, EGA received an Environmental Award for SPL management from the Gulf Aluminium Council.**

This award recognised EGA's efforts in SPL management and our role in transforming an unwanted hazardous waste into a valuable feedstock for the UAE's cement industry






Spent-pot lining is the used inner lining of reduction cells, which needs to be replaced after several years of operation. In 2019 we recycled 46,696 tonnes of SPL, a record for EGA. This included 87 per cent of our 2019 SPL generation.

Dross is a mass of impurities that floats to the top of molten aluminium and is removed during the smelting process. In 2019, 100 per cent of our dross was sent to a specialised recycling facility to recover aluminium from the material. Recovered aluminium is returned to EGA: no aluminium is wasted. The dross recycling process also generates a salt slag by-product. Where possible, we stockpile this waste while reviewing opportunities to divert this material from landfill.

The most significant, and often challenging, waste material generated during the refining process is bauxite residue. This material consists of the remaining ore fraction once alumina has been extracted through the Bayer process and is comprised of several metal oxides, including iron oxide, giving it a distinctive orange colour, as well as some residual, highly alkaline compounds from the Bayer process. The hazardous nature of bauxite residue is principally associated with this high alkalinity which, can significantly alter the chemistry of natural environments.



**In 2019, EGA won an award at the 37<sup>th</sup> International Conference and Exhibition of ICSOBA for its research paper titled 'Environmental Benefits of Using Spent Pot Lining (SPL) in Cement Production'**

At EGA, our bauxite residue is washed, pressed into a dry cake, and transported using a fleet of sealed trucks to a purpose-built state-of-the-art bauxite residue storage facility. This facility is located within an expanse of desert approximately 30km inland from the coast in the Emirate of Abu Dhabi. It is fully lined and will be progressively sealed with the land being made available for reuse for potential projects ranging from warehousing to a solar farm. In 2019, we deposited 40,000 tonnes of bauxite residue at the facility. At the same time, EGA's bauxite residue research and development group is committed to finding long-term applications for EGA's bauxite residue, with the goal of reducing and eventually eliminating the need for storage<sup>45</sup>.

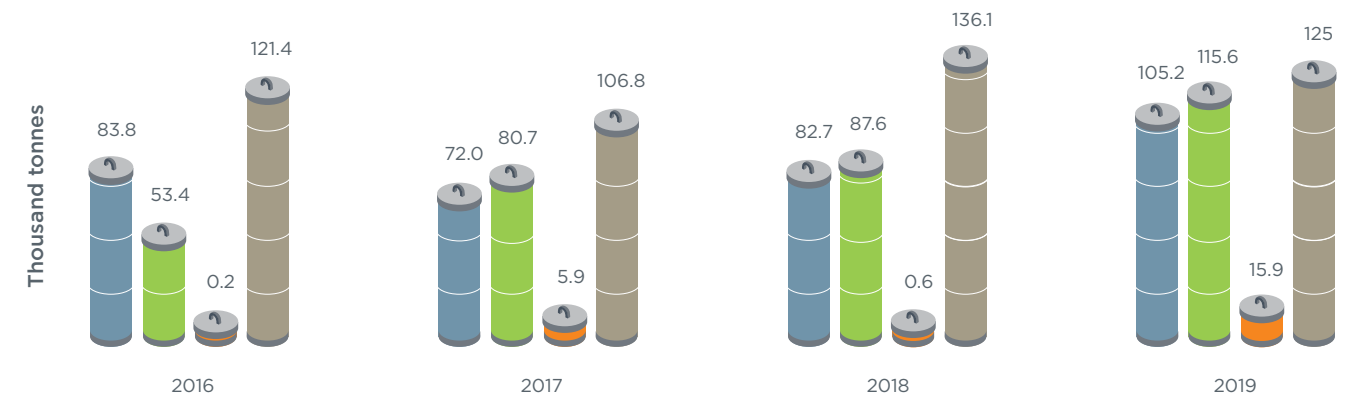


<sup>45</sup> More information provided in the Technology and Innovation Chapter.

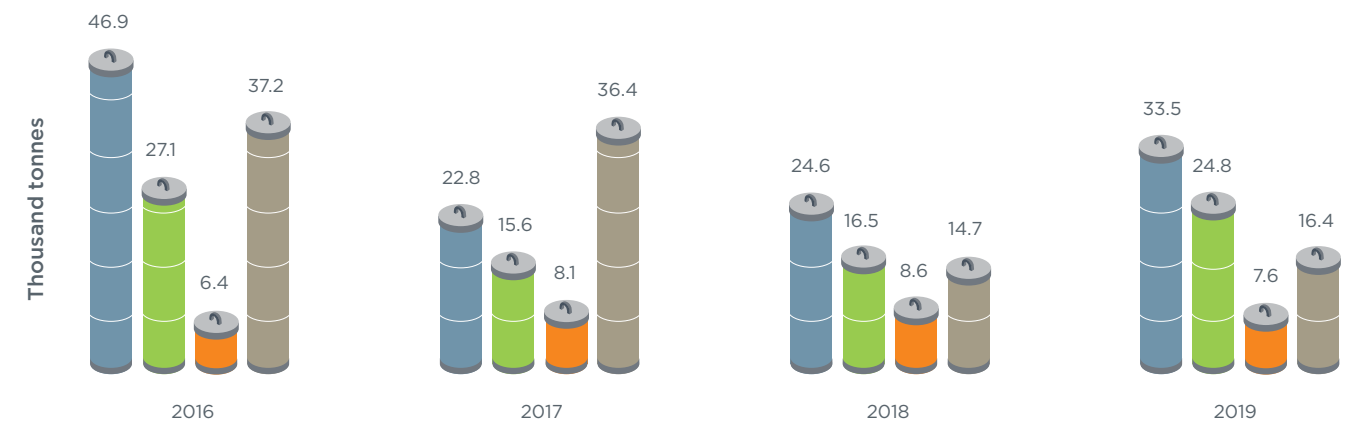
Figure 18: Waste types and disposal methods in UAE<sup>46</sup>

● Total waste generated ● Recycled ● Landfilled ● Total stockpiled on site<sup>47</sup>

**Hazardous waste<sup>46</sup>**



**Non-hazardous waste**



**Waste management in Guinea**

In Guinea, our comprehensive Waste Management Plan was developed in accordance with both national and international standards<sup>48</sup>.

The primary goal of this plan is to divert all waste from landfill. This is particularly challenging given that our mining concession is in an isolated area with minimal opportunity to access sophisticated waste treatment infrastructure.

The majority of our waste generated from mining operations is associated with the maintenance of machinery and equipment, plus sanitary and domestic waste from offices and welfare facilities. Earth and

vegetation material is reused wherever possible throughout our mine site.

Much of our waste is currently stored and controlled onsite until we are able to confirm a suitable means of reuse or recycling. Waste streams such as sanitary and medical wastes are incinerated<sup>49</sup>.

In 2019, we appointed a waste and resource specialist to oversee the management of all future waste management generated from our mine and have actively engaged with local waste recycling organisations hoping to expand their businesses.

<sup>46</sup> Excludes bauxite residue. All waste weights are measured at a weighbridge.

<sup>47</sup> 'Total stockpiled' includes the cumulative total of waste stored onsite in-year as well as from previous years.

<sup>48</sup> Including the Equator Principles, the International Finance Corporation Performance Standards and regulatory requirements of the Guinean government.

<sup>49</sup> Operation of the incinerator is licensed by the local authorities and included in the scope of independent third-party audits conducted approximately every 6 months.



## Biodiversity

We depend on healthy, functioning ecosystems which we are committed to maintaining for future generations. The protection of the natural environment is a core EGA value.

### Biodiversity management in the UAE

In the UAE, our facilities at Al Taweelah are approximately two kilometres from Ras Ghanada, a nationally protected marine reserve, and our Jebel Ali site is approximately seven kilometres from the Jebel Ali Wildlife Sanctuary<sup>50</sup>. Both these protected areas support important clusters of coral, mangrove and seagrass. At both sites, in the UAE our discharge monitoring efforts take account of these valuable conservation and, to date, we have not identified any adverse impacts associated with our operations.

In 2019, we continued our conservation efforts associated with the critically endangered hawksbill turtle, including regular surveys and implementation of protection measures to safeguard the turtle's nests and habitat, in addition to rescuing any diseased or distressed turtles.



One of our rescued turtles, following rehabilitation and release back to the wild thanks to support from the Dubai Rehabilitation Project and Emirates Marine Environmental Group.



Protecting the breeding grounds for the hawksbill turtles helps to ensure the future of another species. We are the custodians of the environment and have to ensure a future for our children; it is everyone's responsibility.



**ALMERO AUSTIN EYBERS**  
Lead Engineer  
Process Control, Technical



### EGA beach clean-up

In advance of the nesting season of the critically endangered hawksbill turtle, more than 50 employees from EGA volunteered in collaboration with Emirates Environmental Group (EEG) in a beach clean-up at our Al Taweelah site. Almost 2.5 tonnes of washed-up waste was collected and removed from nesting grounds.



<sup>50</sup> Confirmed as a wetland of international importance for biodiversity in accordance with the Ramsar Convention (an intergovernmental environmental treaty established in 1971 by UNESCO).

### Biodiversity management in Guinea

In Guinea, prior to the start of construction, our Social and Environmental Impact Assessment (SEIA) confirmed that our mining concession, rail corridor and port areas were in close proximity to key biodiversity areas of international importance. Our mining concession includes grassy and wooded savannah and gallery forests, all of high biodiversity value. Mangroves are also located along the perimeter of our port in Kamsar.

Furthermore, our SEIA confirmed that the habitats in and around our mining and port concessions support rich assemblages and important species of mammals, reptiles, herpetofauna, avifauna and flora, including 27 critically endangered species. These species include the West African chimpanzee, the hooded

vulture and the Atlantic humpbacked dolphin. Our biodiversity conservation work is documented, published and governed through our Biodiversity Management Plan, prepared in accordance with IFC Performance Standards, and includes a commitment to achieve no net loss for biodiversity and a net gain for critical habitats. Our restoration and rehabilitation work continued in 2019 in order to restore areas of vegetation disturbed during construction. In 2019, we restored an additional 8,750 m<sup>2</sup> of habitat, planting of more than 19,000 trees comprising over 25 local species of local provenance grown in our own nursery. We also made several erosion control improvements at Kamsar and Tinguilinta to minimise the potential impacts from runoff and dust generation for adjacent vegetated areas.





## Health and safety management approach

At EGA, the health and safety of our employees, contractors and neighbours is our top priority. Providing safe and healthy working conditions is the first commitment in our core policies<sup>51</sup>.

We recognise that, like many industrial processes, our operations create hazards that must be mitigated.

These include general hazards associated with industrial activity, such as exposure to noise, vibration, airborne contaminants, and dangerous materials, as well as moving machinery, vehicular movements, heavy loads and working at height.

Alumina refining poses additional hazards associated with the use of highly corrosive materials.

Further hazards associated with the smelting and casting of aluminium include exposure to strong electromagnetic fields, high voltage, molten metal, and heat.

### Occupational health and safety management systems and performance standards



#### Aluminium Stewardship Initiative

- Al Taweelah smelting and casting

#### ISO 45001:2018

- Jebel Ali smelting and casting
- Al Taweelah smelting and casting

#### OSHAD

- Al Taweelah smelting and casting
- Al Taweelah alumina refinery project

#### IFC Performance Standards and World Bank Guidelines

- GAC bauxite mine
- Al Taweelah smelting and casting



**EGA is my second home. The safety and well-being of my colleagues and co-workers is our first priority.**



**RASEESH MUNDATHADATHIL**  
Senior Technician  
Mechanical Maintenance



Across all operations and project sites, EGA proactively and continuously identifies and mitigates occupational hazards, and aims to engage all our employees and contractors in this effort. We apply a hierarchy of controls in order to eliminate hazards wherever possible and minimise the risk of those that cannot be eliminated entirely.

Our processes of risk identification, control identification and hazard elimination are managed in accordance with statutory or internationally recognised standards and guidelines at each of our sites.

Historically, all of our power, anode production, smelting and casting facilities in the UAE have operated to an occupational health and safety management system certified to the British standard, OHSAS 18001:200747.

In 2018, we upgraded our UAE management system to meet the latest, internationally recognised standard, the International Organization for Standardization's ISO 45001:2018<sup>52</sup>. We achieved certification to this standard in February 2019<sup>53</sup>.

The alignment of our safety standards with 45001:2018 has further reinforced the expectation and determination from senior management, including our executive committee members who are ultimately accountable for the conduct and performance of EGA's employees. Leadership has always been an important aspect of EGA's safety culture. Leaders have developed, implemented and championed our safety system, role-modelled the safety behaviours we expect, and actively empowered the workforce to also take responsibility for their own safety.



<sup>51</sup> Our core policies are published on our website <https://www.ega.ae/en/about-us/our-policies-and-certifications>

<sup>52</sup> Details available at <https://www.iso.org/iso-45001-occupational-health-and-safety.html>

<sup>53</sup> Certificate is available at <https://www.ega.ae/en/about-us/our-policies-and-certifications>



“  
**To be part of EGA’s operations team is such an amazing experience; we get to work with highly skilled professionals who help in keeping our work environment safe at all times.**”



**LJIAZ AHMED**  
 Technician  
 Casting Operation

In all our Abu Dhabi operational sites, we also adhere to legal requirements set by Abu Dhabi’s Occupational Safety and Health Centre<sup>54</sup> (OSHAD). OSHAD’s requirements are aligned with international standards and necessitate the maintenance of an occupational health and safety management system, regularly reviewed by OSHAD.

At Al Taweelah, our health and safety performance associated with smelting and casting has been confirmed as meeting ASI standards<sup>55</sup>.

Both smelting and casting in Al Taweelah and our mine in Guinea also operate according to occupational health and safety management systems developed in accordance with international guidelines, including IFC Performance Standard 2 and the World Bank Group Environmental, Health, and Safety Guidelines<sup>56</sup>.

In the UAE we are regularly audited by independent third parties against the requirements of ISO 45001:2018 and OSHAD.

In both Guinea and for our Al Taweelah smelting and casting operations, EGA’s activities are regularly monitored by an independent third party to ensure that we are meeting our commitments under the International Finance Corporations Performance Standards and Equator Principles.

EGA’s occupational health and safety management systems and associated safety controls are extended to all EGA employees and directly supervised contractors<sup>57</sup>. Indirectly supervised contractors are required to work to a health and safety system compliant with EGA’s core requirements, as defined in our Supplier Code of Conduct.

Safety is everyone’s responsibility at EGA. All our employees have the means to identify and suggest methods to improve safety and raise safety concerns without fear of reprisal. For example, suggestions or concerns can be raised via dedicated reporting lines, smartphone applications, open suggestion schemes, toolbox talks, safety steering committees, regular safety meetings and face-to-face with our specialist safety teams. Any improvements or updates to risk identification procedures, as well as associated controls and requirements for hazard elimination, are undertaken following concerns or suggestions raised by any of our colleagues under the guidance of our safety teams.

Task-specific safety requirements are communicated to staff and directly supervised contractors through appropriate, tailored training events with refresher courses, at a frequency relevant to the degree of risk<sup>58</sup>. Training needs are identified according to assessment by EGA’s safety professionals and effectiveness monitored in accordance with our occupational health and safety management systems.

As part of our core policy we emphasise that anyone and everyone at EGA has the authority to refuse or stop any activity perceived to be unsafe<sup>59</sup>.

This message is included as part of our induction and safety refresher training.

Our safety team continually reviews safety data from across all of our operational and project sites to identify hazards, trends, potential concerns, areas of improvement and any need for an increased level of focus in a particular area. EGA is a member of the Health, Safety and Environment committees at the International Aluminium Institute and the Gulf Aluminium Council, enabling us to share performance data and learn from best practice.

Each incident at EGA is investigated by our dedicated safety team with our focus being the welfare of any injured parties, root cause analysis and suitable prevention. Our intention is to do whatever is necessary to ensure that nobody is hurt in the same way again.

While robust safety systems, controls and training are essential, we believe that these alone are not enough. We work hard to instil a safety-focused culture that engages everyone who works for or with our organisation.

**Figure 19: Safety training in 2019 (total number of attendees at safety courses)**



<sup>54</sup> Details available at <https://www.oshad.ae/en/Pages/Home.aspx>  
<sup>55</sup> Al Taweelah was certified in May 2019. Certificate is available for review at <https://aluminium-stewardship.org/wp-content/uploads/2019/12/ASI-Summary-Audit-Report-EGA-PJSC-Al-Taweelah-27-PS-Rev1.pdf>  
<sup>56</sup> Details available at <https://www.ifc.org/>  
<sup>57</sup> Directly supervised contractors include workforce who are not employees but whose work activities are directly controlled by EGA’s health and safety procedures. In 2019, EGA engaged with 1,337 directly supervised contractors.

<sup>58</sup> All safety training is free of charge and is provided during paid working hours.  
<sup>59</sup> Our core policy is published online at <https://www.ega.ae/en/about-us/our-policies-and-certifications/>



## Safety performance in the UAE

At EGA, we aim to record all incidents and near misses no matter how small so we can track our performance accurately and improve. In 2019, most of the safety incidents that occurred involved either no injury, or only minor injuries treatable by first aid. However, three of our staff suffered more serious injuries.

One of these injuries was caused by a small site buggy that toppled over while cornering, trapping the driver's fingers between the buggy roof and the ground. The driver required two weeks in hospital and, after extensive consultation, surgeons concluded that the tips of three of his fingers had to be removed. Thankfully, our colleague retained the use of his hand and was able to return to normal duties after a six-month recuperation period. Consequently, we have retrofitted all of our site buggies to significantly improve stability on uneven ground and made changes to our site traffic management protocols. We also conducted a plant-wide survey to identify uneven road surface conditions that could contribute to such an incident and took measures to minimise the risk of reoccurrence.



## Zero fatalities in 2019

The other two injuries involved physical trauma from use of heavy machinery and equipment<sup>60</sup>. Thankfully, both of our colleagues made a full recovery and were able to return to normal duties after recuperation. Following each incident, we conducted safety awareness sessions highlighting the causes and suitable prevention methods for staff working in similar areas. We have also improved protective barriers, warning devices and improved on maintenance activities to minimise the risk of reoccurrence.

One contractor suffered a high-consequence work-related injury<sup>61</sup> in 2019 during a standard scaffold disassembly. A scaffolder accidentally touched a hot pipe causing him to step away and off the edge of the scaffold platform. Unfortunately, his fall protection was improperly attached and he fell 3.5m to the ground. The scaffolder required hospital treatment, and was subsequently transferred to his home town of Lahore in Pakistan to receive post-operative care and treatment for long-term spinal injuries at Mayo Hospital. Following this incident, we conducted additional fall protection and working at height training sessions and a thorough review of our risk assessment process for similar work.

Other key focus areas in 2019 included numerous re-designs of tools, equipment and workspaces to improve the inherent safety of our workplace, as well as campaigns focused on the upkeep and improvement of EGA's safety culture.

<sup>60</sup> These injuries were distinct and un-associated.

<sup>61</sup> High-consequence work-related injuries refer to injuries that are non-recoverable (such as amputation) or from which a full recovery is not expected within 6 months.

## Chemical safety campaign

### Case study

In 2019, our Energy department's safety objectives included improving awareness of safety while handling hazardous chemicals. Throughout the year, we ran a chemical safety campaign incorporating different training sessions, tips and reminders sent to employees' smartphones plus in-person interactive sessions involving more than 300 participants.



## HANDS campaign

### Case study

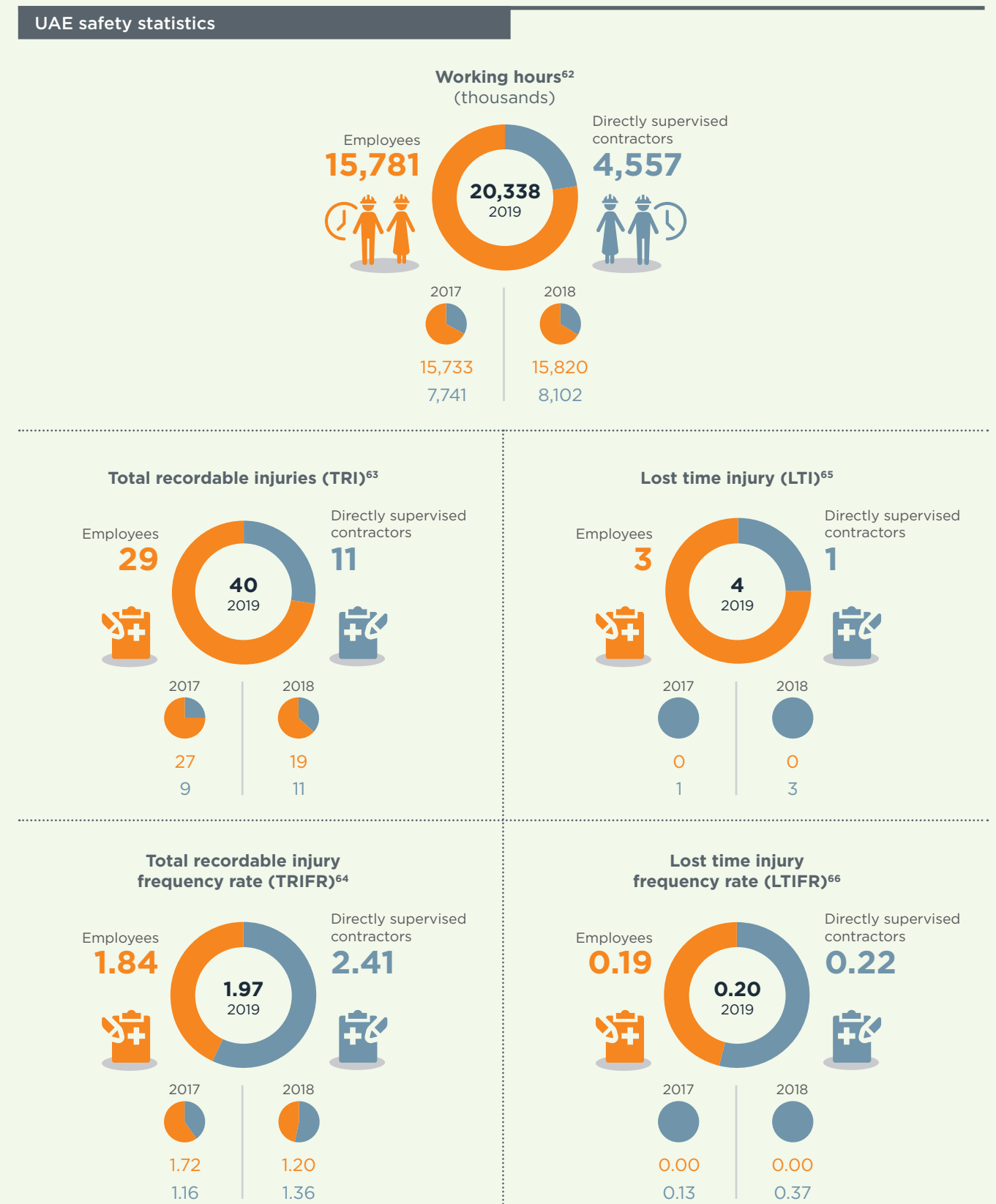
Our safety reporting and subsequent investigations identified that common safety issues across our sites in the UAE are often associated with injuries to hands, ankles, neck, spinal discs or shoulders. Subsequently, we ran a safety campaign specifically designed to raise awareness of these most common types of injuries and how to avoid them.







Figure 20: Safety performance statistics



<sup>62</sup> Working hours for employees have been calculated according to total hours paid.  
<sup>63</sup> Total recordable injuries is the sum of all work-related injuries and illnesses during the reporting period and includes any fatalities, lost time cases, medical treatments or incidents leading to restricted work activities.  
<sup>64</sup> Total recordable injury frequency rate is the total number of recordable injuries per million hours worked during the reporting period.  
<sup>65</sup> Lost time injuries is the sum of all work-related injuries or illness that result in an affected individual temporarily being unable to perform any regular job or restricted work activity on a subsequent scheduled workday or shift.  
<sup>66</sup> Lost time injury frequency rate is the total number of lost time injuries per million hours worked during the reporting period.



## GAC safety performance

In 2019, despite the transition from construction to operations and an inherent change in working practices, we continued to maintain an extremely low number of injuries associated with our activities.

No one working at GAC in 2019 suffered a high-consequence work-related injury<sup>67</sup> that permanently impacted their ability to work.

Over the same year, our total recordable injury frequency rate associated with mining operations was 77 per cent lower than the published average for the metals and mining industry<sup>68</sup>.

During construction activities in 2019, none of our staff suffered serious injuries. Regrettably however, there was an increase in the injury rate among our contractors, with a total of six recorded injuries. Most of these injuries were treatable with first aid apart from one that was more severe. This more severe incident occurred when a vehicle accident aggravated an existing back injury for the driver. Thankfully, after receiving medical treatment, the

driver fully recovered and was able to return to work after one month. To minimise the risk of any similar incidents, we have initiated a further driver training course, set additional speed limits and conducted a reverification exercise for driver competence with several of our contractors.

There were also no significant injuries among our employees during 2019's six-month operational period. However, there were two injuries among our contractor staff. One of these injuries was severe, involving a member of the security team, who was bitten by a snake resulting in a severe adverse reaction. Urgent medical care and an extensive recovery was necessary, but thankfully he returned to full health and returned to work after 40 days. To reduce risk of reoccurrence, we undertook an extensive snake identification and awareness programme, covering all types of snake that could be encountered at our site. We also appointed the African Snake Bite Institute<sup>69</sup> to train 40 of our employees on safe snake handling.



In 2019 the African Snakebite Institute trained 40 of our employees on safe snake handling.

We are extremely proud of the safety culture that we have nurtured at GAC; our employees have devoted themselves to creating a habit of excellence. In 2019, over 1,000 proactive health and safety interactions have been made by our colleagues and co-workers, a really positive indicator of safety leadership. On behalf of GAC Safety and Health department, I would like to thank everyone at GAC for their valuable contributions towards ensuring a successful safety culture.



**ABOUBACAR SIDIKI KEITA**  
Safety and Health Superintendent

<sup>67</sup> High-consequence work-related injuries refer to injuries that are non-recoverable (such as amputation) or from which a full recovery is not expected within 6 months.

<sup>68</sup> Based on 2018 safety data published by the International Council of Metals and Mining (ICMM) available at <https://www.icmm.com/en-gb/health-and-safety/safety/safety-data-and-indicators>

<sup>69</sup> For further details please refer to <https://www.africansnakebiteinstitute.com/>





We attribute our strong safety performance to a focus on leading indicators enabling our safety work to be proactive and preventative. To further promote this proactive safety culture, in 2019, we developed a GAC-wide programme that provides all employees with an individual key performance indicator related to proactive safety management with plans for full roll-out across GAC in 2020.

As we moved into operations, in the latter half of 2019, one of our principal safety concerns remained the potential for road traffic injuries to our staff and contractors travelling between their homes and place of work, as well as between our operational sites. In 2019, we appointed a full-time trainer, certified in defensive driving, to provide driver safety training to our employees and contractors in a proactive effort to minimise the potential for future road traffic incidents.



**In 2019, our TRIFR for mining activities was 77% lower than the industry average<sup>70</sup>**



**In 2019 we conducted 84 driver safety sessions with 726 participants**



<sup>70</sup> Based on 2019 safety data published by the International Council of Metals and Mining (ICMM) available at <https://www.icmm.com/safety-data-2019>

## Life Saving Rules

Case study

**In 2019, we rolled out our Life Saving Rules at both Kamsar and Tinguilinta.**

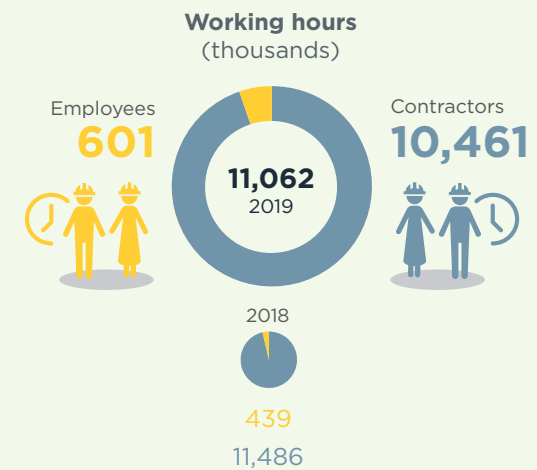
These rules built on the principles of our successful Life Saving Rules at our sites in the UAE, which aim to foster a widespread awareness of the principal hazards associated with our activities. We delivered our campaign in several different languages through specific training sessions and numerous visual aids.







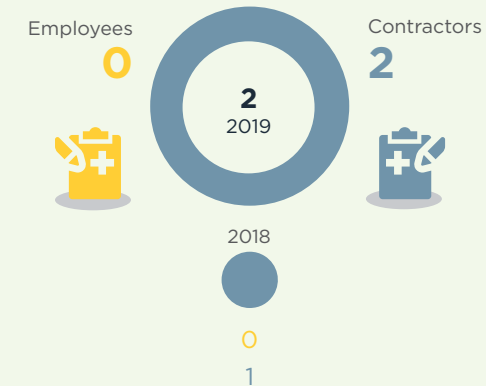
Guinea safety statistics – operations and construction<sup>71</sup>



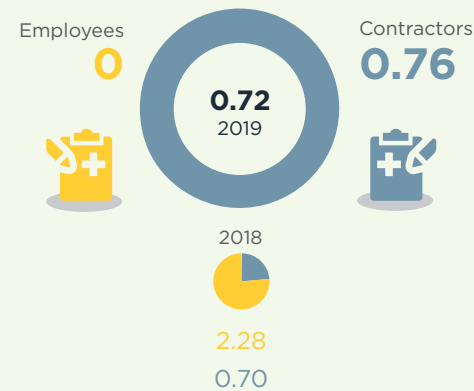
**Total recordable injuries (TRI)<sup>72</sup>**



**Lost time injury (LTI)<sup>74</sup>**



**Total recordable injury frequency rate (TRIFR)<sup>73</sup>**



**Lost time injury frequency rate (LTIFR)<sup>75</sup>**



<sup>71</sup> We have reported safety performance in Guinea for all contractors, considering that the majority of the key operational works are undertaken by unsupervised contractors.

<sup>72</sup> Total recordable injuries is the sum of all work-related injuries and illnesses during the reporting period and includes any fatalities, lost time cases, medical treatments or incidents leading to restricted work activities.

<sup>73</sup> Total recordable injury frequency rate is the total number of recordable injuries per million hours worked during the reporting period.

<sup>74</sup> Lost time injuries is the sum of all work-related injuries or illness that result in an affected individual temporarily being unable to perform any regular job or restricted work activity on a subsequent scheduled workday or shift.

<sup>75</sup> Lost time injury frequency rate is the total number of lost time injuries per million hours worked during the reporting period.



## Health performance in the UAE

We operate our own clinics at Al Taweelah and Jebel Ali run by qualified doctors, nurses and emergency medical technicians where we assess and attend to the health of our employees. Services at our clinics are also available to family members of our employees and contractors. At our clinics we provide all new starters with a medical examination including blood tests, eyesight examinations and hearing checks. We conduct regular check-ups to ensure our staff remain fit for work and to identify any early signs of ill health. In 2019 we provided more than 2,900 medical check-ups to employees and contractors.

Heat-related illness is a common risk for industries working with molten metal, especially in hot climates. In the UAE, heat-related illness is classified as an 'occupational disease'. In 2019, we achieved our long-standing target of zero instances of heat-related illness. We attribute this to extensive campaigns that we run each summer on heat stress and hydration, reaching both employees and contractors.



Figure 21: Occupational disease rate (ODR) in UAE<sup>76</sup>

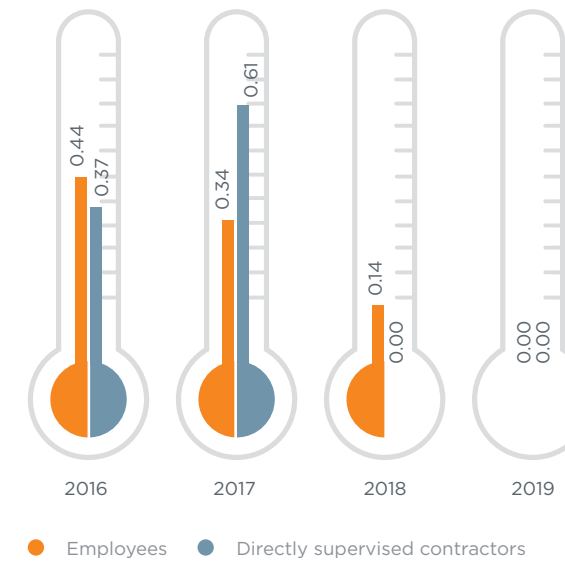
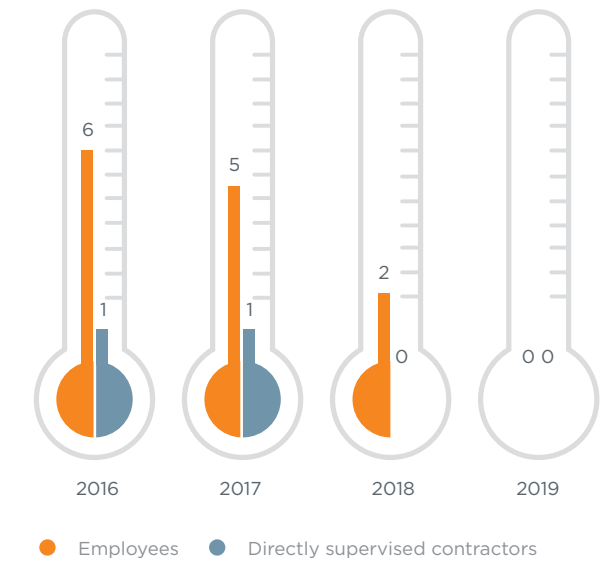


Figure 22: Heat-related illness cases in UAE



**Zero occupational disease**  
In 2019, we achieved our target of zero instances of occupational disease.



<sup>76</sup> ODR is calculated per million work hours. These figures contribute to EGA's TIRFR in the safety section.

## Knowledge sharing on heat stress prevention

In 2019, we hosted 53 health and safety professionals from other organisations in the Khalifa Industrial Zone in Abu Dhabi to share experiences and best practice relating to heat stress management.





## EGA Employee Wellness Programme

In 2019, we launched the EGA Employee Wellness Programme, designed to look outside the scope of traditional occupational health systems to promote well-being and a healthy lifestyle. The programme was built on the following four pillars:

**Nutrition:** Including a series of awareness sessions to raise understanding of healthy eating habits. We also started to provide calorie counts for foods in our canteens.

**Health and hygiene:** Covering smoking cessation and assistance, mobile support vehicles offering vaccination against seasonal influenza, and guidelines for employees and their families travelling to tropical and sub-tropical regions.

**Balance:** Focusing on ergonomics and stress management and including introductory yoga and breathing classes.

**Personal support:** Recognising that personal matters such as financial and family issues can affect the health, safety and well-being of our employees. We provide a confidential, professional support service called the Employee Assistance Programme which is available to everyone who works for or with EGA and to their families wherever they live. The Employee Assistance Programme includes:

- 24-hours-a-day access to independent and anonymous counselling services
- Support for any legal or financial-related concerns
- Support for managers and supervisors on managing crises and difficult employee concerns
- An online library of wellness-related information in a variety of languages
- Critical incident stress management support including independent and anonymous counselling

### Early detection saves lives

Every year, EGA holds a breast cancer awareness campaign at our sites at Jebel Ali and Al Taweelah to spread awareness and highlight the importance of early detection as well as offering free consultation and examination. In October 2019 more than 90 of our female employees participated in the campaign.



# We care about our employees and are always here to help

For personal support, contact the Employee Assistance Programme anytime

**For services in UAE, call:**

8000.444.0790 8000.3570.2579 (mobile)

**For services in India, call:**

8000.3570.4410 (+91.981.871.1035 landline)

**For services in the Philippines, call:**

8000.3570.4416 (+63.2395.3309 landline)





## Health performance in Guinea

In Guinea, we operate on-site clinics at both Kamsar and Tinguilinta, staffed by qualified doctors and nurses. Our principal mining contractor also operates a fully equipped clinic on our mine site. Services at our clinics include first aid training and medical consultation on both chronic disease and healthy living. The International Red Cross also provides first aid training to employees and contractors.

In 2019, we continued to record zero occupational diseases among GAC's employees and contractors. Our clinics operate an emergency response service which is available for everyone on our site and outside of GAC, wherever there is an emergency situation or humanitarian need.

We also have partnering agreements in place with in-country medical centres, such as the Anaim Hospital in Kamsar and the Clinique Ambroise Pare in Conakry, and we have contracted an international emergency medical evacuation service which is available for serious cases.

GAC's medical team regularly conducts visits to our operations sites and local communities to inspect hygiene levels and promote healthy lifestyles. Our medical service provider tracks any international disease outbreak or major health concerns that could affect the region in which we operate. Regular travellers are provided with medical screening and check-ups upon their return to Guinea. Further to this, we track any health issues within Guinea and the region through the Guinea National Health Department.

Malaria is endemic to Guinea, and GAC has a comprehensive control programme to reduce this risk including mosquito fogging, larviciding, standing water prevention as well as the provision of mosquito nets and awareness programmes for all personnel. All of our clinics are equipped with detection and treatment equipment and medication. We respond to any suspected case of malaria among our employees or contractors and routinely monitor malaria rates in the region in order to track the degree of risk.



**GAC's employees and their families are our main priority. Employees' well-being is at the heart of our business strategy, since they are our greatest asset. We recognise that taking care of our people reflects on our business success.**



**DR FRED KABIKE**  
GAC Chief Medical Officer



## Health promotion campaigns in Guinea

In 2019, we ran a number of health awareness campaigns in Guinea for our employees, contractors and members of the local community. These included the following:

- Malaria prevention
- First aid
- Healthy food habits
- Prostate and breast cancer awareness
- Hypertension awareness
- Drug and alcohol awareness campaign at workplace
- Nutrition and lifestyle changes
- Reduce absenteeism frequency and work-related injuries

These campaigns were delivered through practical training courses, toolbox talks and one-to-one training sessions.

## Engaging with communities

As part of EGA's core policy, we respect our neighbours and are committed to positively engaging with local communities wherever we operate so that we may maximise the benefits of our presence while mitigating potential adverse impacts.

We operate planned and targeted corporate social responsibility programmes at all of our locations in both the UAE and Guinea, working with numerous stakeholders, including community representatives, non-governmental organisations, educational institutions and respective governments.

In Guinea, we have long recognised that the development of our mining operation would result in land use changes and disruption to some of our neighbours. With this in mind, we actively seek to minimise these impacts. Where they are unavoidable however, we have developed and implemented plans to alleviate or compensate for the impact.

Positive impacts are planned and maximised by improving career opportunities among local communities, actioning infrastructure improvements, engaging with local businesses, providing educational programmes and employing local people wherever possible within our operation.

All of our community impact assessments and project planning in Guinea have been undertaken in accordance with the International Finance Corporation Performance Standards and Equator Principles. Any associated studies, engagement plans, community investment strategies, closure and rehabilitation requirements, policies and reports are made publicly available on the IFC website<sup>77</sup> with implementation regularly monitored<sup>78</sup> by an independent third party to ensure that we are meeting our commitments.



<sup>77</sup> For more information, please visit the GAC IFC Project Information Portal website: <https://disclosures.ifc.org/#/projectDetail/ESRS/24374>

<sup>78</sup> Approximately every 6 months.



## Community engagement in Guinea

In Guinea, our Social and Human Rights Impact Assessments confirmed that no indigenous people<sup>79</sup> are likely to be affected by our operations. However, some parts of our mine concession area, as well as, the land required for port, rail and other infrastructure, overlap with pre-existing villages and communities.

As part of the assessment process we conducted during the planning phase, we confirmed that our project required the resettlement of more than 270 households. Land acquisition, compensation, community engagement and resettlement plans were all prepared in accordance with IFC Performance Standards to ensure that any disruption was minimised and people's lives were not adversely affected. We have been open and transparent in this process, engaging with communities in advance to ensure we meet their needs, while making all plans publicly available via IFC<sup>80</sup> and GAC<sup>81</sup> websites.

We have also previously established a Resettlement Committee to engage with affected communities throughout the resettlement planning and implementation process. The committee's main role has been to involve affected people and traditional authorities in identifying suitable resettlement sites, to identify potentially vulnerable groups, to witness compensation payments, and to advise on resettlement site planning and housing design.

In addition, we conducted 11 community engagement forums in 2019. At each one, we informed community members of recent events associated with our operations and discussed our plans for community improvement initiatives, the potential for foreseen impacts, our proposed mitigations, and how we could identify opportunities for projects that could help contribute towards an improved quality of life. A total of 1,376 community members participated.

Projects identified through community engagement forums are overseen by a steering committee including representatives from communities, GAC and the prefect of Boké. Projects completed in GAC throughout the planning and construction phases have included:

- New community infrastructure including 325 new houses
- Construction of 12 schools, now attended by 5,600 children
- Provision of eight new health facilities as well as the renovation and extension of existing centres supporting health care for approximately 76,000 people
- Installation of 51 new groundwater boreholes and improvements to three existing wells benefitting 70,000 people
- Protection of 1,000 hectares of agricultural land from saltwater intrusion
- Providing 600 solar pumping devices and watering systems to relocated and nearby communities
- Planting of an additional 6,000 fruit trees to support local market gardens

Our relocation projects also establish livelihood restoration measures focused on land-based means of support inline with the rural and agricultural setting of the area. Our aim is to ensure that the living standards and economic opportunities of relocated people are maintained, and where possible, enhanced. Our livelihood programmes have included promoting skills and opportunities associated with market gardening, saponification, sewing, hand dyeing, motorcycle taxi driving, growing fruit trees, fisheries and rice production.

In 2019, we moved into phase 2 of our Taïgbé Rice Development and Intensification Project to assist and improve the livelihood of communities directly impacted by facilities associated with our mine. To design and implement this programme, we collaborated with the Bureau d'Études de Réalisation et de Conseil Agricole (BERCA), an organisation in Guinea with extensive experience of similar projects. The project aimed to:

- Conduct a methodical study to identify ways to develop and improve rice production
- Develop and implement a modern rice farming approach for an area of 100 hectares
- Provide training in business management techniques to empower farmers to maximise the economic value of their crops
- Provide mechanical equipment to enhance yields

Moreover, project included compensation for the loss of 6.5 hectares of rice fields affected by our port development. So far, the results of the project have exceeded our expectations with rice yields increasing from 2.3 tonnes in 2017 to 150.5 tonnes in 2019.

In Boké during 2019, we also implemented additional plans for necessary land-use change in an area historically used for the growth of crops, providing additional income for members of the local community. Our plans incorporated measures to ensure that the community members would not suffer any associated loss of revenue. This included financial assistance to compensate for loss in production as well as acquiring a new location and preparing the land to the point of being equally productive.

Over the same period elsewhere in Kamsar, we continued to engage with local fisheries, including providing training sessions covering safety aspects and anticipated changes in maritime traffic. We also shared barging schedules with seven artisanal ports in the area.

“ I am very grateful to GAC for all the efforts and support provided to the community, from the good health care, schooling system and women's development programmes. ”



**MME AISSATOU BARRY**  
Community Member

“ I am pleased with GAC's inclusive efforts which involve all community members regardless of age or gender. ”



**ELHDJ YAYA CAMARA**  
Community Member



<sup>79</sup> As defined by IFC Performance Standards.

<sup>80</sup> For more information, please visit the GAC IFC Project Information Portal website: <https://disclosures.ifc.org/#/projectDetail/ESRS/24374>

<sup>81</sup> Please visit GAC website through: <https://gacguinee.com/en/about-us/sustainability/>



### Community health

To date, we have provided health awareness campaigns to local communities that reached more than 190,000 people. Themes and necessity for these campaigns are often identified and planned through the help of community engagement forums. In 2019, our principal focus areas were malaria and HIV.

Our malaria campaign included the distribution of more than 23,000 mosquito nets across 79 villages in the regions of Tanéné and Sangarédi. Beneficiaries included some 9,000 children less than 5 years old.

In 2019 alone, our HIV awareness campaign reached over 80,000 people.

### Improving career opportunities

Since 2014, GAC has trained more than 1,200 people through a series of vocational training programmes designed to improve opportunities and career prospects including by giving people the skills to start their own business.

In 2019, we continued our Project 150 vocational training programme designed to prepare 150 students for professional life and provide specialised training in mining operations. Subjects covered included mechanical skills, electrical engineering and mine maintenance with the intention of increasing prospects for employment in the mining sector. The programme included classroom sessions, on-the-job training and post-programme assistance. We completed Project 150 in August of 2019, with 142 of our 150 graduates subsequently finding direct employment.

We also provided a vocational training programme assisting a number of school leavers and unemployed people from the community. Completed in June 2019, the course focused on skills associated with mechanics, HVAC maintenance and masonry. Many of the graduates from this course have gone on to take apprenticeships with local businesses.

As part of our community-based Capacity Building Programme, we also continued to provide computer literacy training designed to improve career prospects. The programme included fundamental elements of common business applications such as Word, Excel, PowerPoint and Internet Explorer. In 2019, this programme reached 80 participants with several students finding employment directly after completing the course.

Also in 2019, we continued a functional literacy and income generation programme focusing on the management of compensation income associated with projects affiliated with the development of our operations. This programme included aspects of financial management, preparing community members to receive compensation payments. In total, we reached 650 adults with this training programme.

### Security practices in Guinea

As part of our Human Rights Risk Assessment, we have considered the potential for negative interactions between the community and security personnel. Security for our operations is provided by both an external security provider and GAC's own security staff, all of whom follow the Voluntary Principles on Security and Human Rights<sup>82</sup>. Crisis scenarios and security responses that could create or exacerbate community tensions are reviewed with adequate mitigation measures planned, to ensure GAC understands its role and that staff are appropriately trained. Training components include relevant Guinean and international laws as well as the UN principles concerning the use of force and arms.

“  
**GAC is making enormous efforts incorporating young people and women into their local development process, providing various training programmes that support our future careers.**



**M. MAMADOU SALIOU BAH**  
Community Member

”



<sup>82</sup> Details available at: <https://www.voluntaryprinciples.org/>



## Community engagement in the UAE

In the UAE, we have a dedicated corporate social responsibility team that actively and regularly engages with local communities to gather feedback and understand how we can best contribute to the community. This is conducted through various channels including regular public meetings<sup>83</sup>.

Education is one of the UAE Government's top priorities in its drive to develop a diversified knowledge-based economy. In line with the goals set out in 'UAE Vision 2021' to ensure inclusive and quality education in support of the development of a knowledge-based economy, our corporate social responsibility focus in the UAE has been youth development and education. In 2019, we continued our successful partnerships with the Ministry of Education and INJAZ UAE.

### School outreach programme

We launched the School Outreach Programme in 2017, collaborating with the Ministry of Education and Edutech to promote awareness and understanding of science, technology, engineering and mathematics-related subjects within UAE high schools. We continued to run this programme in 2019 reaching more than 8,292 students from 24 schools across the UAE. Notably attendance was greater among female students.

### INJAZ UAE

INJAZ UAE is a member of Junior Achievement Worldwide, one of the world's largest not-for-profit business education organisations, reaching over 10 million students each year in 121 countries. It serves as a link between the business community, educators and volunteers, working together to empower young people to plan their professional futures and make smart academic and economic choices.

Throughout the 2018-2019 academic year, EGA hosted four INJAZ innovation camps at UAE schools, benefitting a total of 256 students. More than 25 EGA employees from various departments volunteered to take part in these innovation camps.

**Figure 23: Students who participated in the 'School Outreach Programme'**



<sup>83</sup> There are no indigenous people (As defined by IFC Performance Standards) within the vicinity of any of our facilities in the UAE.

### Promotion of health and fitness in the community

From June to September in the UAE, outdoor sports activities can be somewhat restricted by the hot summer sun. In 2019, we sponsored the transformation of the Dubai International Convention and Exhibition Centre into an indoor sporting arena, providing the opportunity for people to stay fit despite the weather. Activities included football, basketball, tennis, badminton, street basketball, gym and a running track, all made available to EGA staff and to the community. Events attracted over 257,700 visitors, 320 players and 3,000 spectators over the three-month period.



### Community events

Since the establishment of EGA, we have always been the main sponsor of Al Samha Heritage festival, organised by Emirates Heritage Club. The main purpose of the event is to support and consolidate the national identity and to embody and spread the UAE's cultural heritage. In 2019, the festival featured a number of family activities such as free-of-charge booths supporting homemade goods, traditional games, and special programmes and volunteering opportunities for school students. The event attracted over 23,000 visitors including 850 school students.

Every year, EGA hosts a community National Day celebration at Al Rahba Park in Abu Dhabi, open to Al Taweelah's nearby community. In 2019, the event attracted more than 1,000 visitors and featured traditional live shows such as Yola and Harabiya, as well as interactive stage games and shows for children and parents.





## Volunteering

Our EGA CSR Club is open to any EGA employee who would like to volunteer their time either during or outside working hours. On joining the CSR Club, EGA employees are able to define their interest and members of the club are encouraged to share CSR ideas and opportunities.

In 2019, 52 EGA volunteers actively participated in community improvements or engaged with students in our education and youth development programmes.

Figure 24: Volunteering efforts in UAE



“With busy lives, it can be hard to find time to volunteer. However, the benefit I found was enormous. Volunteering offers vital help to people in need, worthwhile causes, and the community, but the benefit for me was even greater. The right match can help you to find friends, connect with the community and learn new skills.”



**IBRAHIM ALMARZOUQI**  
Senior Associate  
Plant Analysis

## EGA's Youth Council

Formed in November 2018, EGA's Youth Council was established as a platform to enable young people in the company to participate in the future direction of our organisation and be a force for positive change in our community. In 2019, the Youth Council arranged over 15 events engaging more than 1,400 EGA employees.

Some of the highlights over 2019 included:

- An ocean clean-up event, removing 50kg of rubbish from the sea floor in the UAE.
- A 30-day fitness challenge incorporating 10 fitness events over 30 days.
- A local food drive, distributing 1,000 meals to those in need.
- Arranging a local football championship, building relationships across several youth councils across the UAE.



## Learn, do, achieve

Founded in 2014, the Al Shams Centre for People with Disabilities was established to meet the growing demand for high-quality educational and therapeutic services for students with special needs and to offer support for their families in Sharjah and the surrounding Emirates.

EGA has provided support for the past three years in sourcing new equipment. In 2019, we continued our support, assisting with new educational software, musical instruments and educational materials and books for the classrooms.



## Community grievance management

We have a formal grievance mechanism at all of our locations in both the UAE and Guinea, giving everyone within the community the opportunity to raise concerns or queries associated with our environmental and social performance. Our aim is that our grievance process provides the community with easy access, and enables us to find effective solutions to any complaint quickly.

In the UAE, we have a dedicated phone line accessible 24/7 with details published on our website<sup>84</sup>. Calls are monitored and picked up by our in-house dedicated corporate social responsibility team. In 2019, EGA in the UAE did not receive any complaints from the community.

In Guinea, our stakeholder engagement team record and manage all complaints through a bespoke software-based management tool. We register all complaints and investigate them to understand the problem and find the best solution to resolve issues promptly. In 2019, we received 76 grievances, 72 of which were substantiated and closed out by the end of the year. Substantiated grievances were mainly associated with compensation, local transport restrictions, expectations regarding employment opportunities and environmental concerns such as blasting and dust. Our target is to address substantiated complaints within 14 days.

## Community health

In 2019 our medical team ran blood donation drives at all of our sites in the UAE in association with Dubai Health Authority (DHA) and SEHA Abu Dhabi, as part of our role in supporting the community.



<sup>84</sup> For more information, please visit: <https://www.ega.ae/en/contact-us/>



## Embedding ethical practices

At EGA, we believe that good ethics are the foundation of good business. Unethical behaviour can severely damage the trust stakeholders place in an organisation and compromise its ability to meet its objectives.

We are committed to embedding ethical practices throughout our business and seek to build mutual trust with our customers, suppliers and communities by working honestly and ethically.

EGA implements a risk-based ethics and compliance programme reflecting the specific challenges encountered in the countries and industries in which we operate. We apply the same standards across all areas and geographies and continue to look for ways to improve how we detect, prevent and respond to compliance issues.

Our in-house legal and compliance department implements EGA's compliance programme and oversees the identification of compliance risks and associated controls across all of our operations.

We promote the idea that everyone is responsible for compliance and for fostering an ethical culture at EGA.



**EGA's success depends on the everyday decisions and actions made by our people. Our ethics and compliance programme is about empowering people to do things right and to do the right thing.**



**ALEXANDRA ROBAK**  
General Counsel  
Legal and Compliance



## EGA's Code of Conduct

EGA's Code of Conduct establishes and communicates the standards that guide our behaviour.

Our Code of Conduct applies to everyone at EGA and covers 24 compliance issues. These include treating people with respect (prohibiting harassment, discrimination and retaliation), anti-bribery and corruption, complying with competition laws and behaving with integrity in all dealings with customers, partners, suppliers and governments<sup>85</sup>. Our Code of Conduct is available on our website<sup>86</sup>.

## Anti-corruption and anti-bribery

EGA takes anti-bribery and anti-corruption compliance seriously and recognises the high levels of risk in some of the countries in which we operate. Bribery not only undermines the rule of law and the principles of free and fair competition, but also has a stifling effect on businesses and commerce.

In 2019, we introduced a standalone anti-fraud policy that complements our Code of Conduct and includes an explicit definition of actions deemed fraudulent, how EGA detects and prevents fraud, as well as suitable reporting lines for staff or business partners. We also conducted fraud-related risk assessments across key corporate functions including finance, supply, human capital and marketing.

Regular risk assessments are a key part of an effective compliance programme and all of our operations have been assessed for risks related to bribery and corruption. Guinea remains a high-risk business environment in relation to bribery and corruption, although the country improved its ranking in Transparency International's 2019 Corruption Perception Index<sup>87</sup>. In 2019, we refreshed our anticorruption and bribery risk assessments specifically for Guinea.



<sup>85</sup> EGA does not involve itself directly or indirectly with any form of political or electoral activity.

<sup>86</sup> <https://www.ega.ae/en/about-us/our-policies-and-certifications>

<sup>87</sup> For more information, please visit <https://www.transparency.org/en/cpi/2019>



## Communication and training

EGA's Code of Conduct training is mandatory for all staff, including our Executive Committee. We deliver the training as part of EGA's induction process, and all employees are required to complete a refresher Code of Conduct training on an annual basis.

The induction training introduces EGA's ethics and compliance programme including compliance issues, anti-corruption, the multiple ways to report compliance concerns and our non-retaliation policy.

Our annual Code of Conduct training focuses on different topics each year. In 2019, training included focus on anti-fraud, harassment and misuse of assets. We also released a reference guide for managerial

staff covering ethical leadership at EGA, including guidance associated with the promotion of integrity, accountability, inspiration, respect and doing the right thing.

In December 2019, to coincide with International Anti-Corruption Day, our senior managers in Guinea delivered anti-corruption messages in their toolbox talks with staff.

In Guinea, we continued to provide compliance induction training to a number of contractor staff in order to increase awareness of our values, Code of Conduct and to encourage anyone to speak up if they suspect any illegal or unethical behaviour.



## Monitoring, reporting and how we respond

EGA's compliance team consists of qualified lawyers and certified compliance officers. Our team investigates all concerns that are reported, either directly or through our 'Your Voice' reporting line.

### Your Voice

We encourage people to speak up if they have any compliance-related questions or concerns. 'Your Voice' is an independently operated reporting line that allows our employees, suppliers, contractors and others to report any possible violation of EGA's Code of Conduct, policies or applicable laws. It is available 24/7 in multiple languages and publicised within EGA and also appears on our website and supplier declaration.

**8000 021** (UAE toll-free) **8123** (Guinea toll-free)

We have a strict policy of non-retaliation. Anyone reporting a concern in good faith is assured that they will be supported, regardless of the outcome of their report.

### Our response to discrimination and harassment

In 2019, our compliance team recorded a total of 26 cases of "lack of respect", including instances of harassment and discrimination. Following investigation by our compliance team, 12 of these cases were substantiated.

All remedial actions associated with these substantiated cases have been completed and have ranged from counselling and training to formal disciplinary action up to and including dismissal.

<sup>88</sup> Please refer to page 54 for more details.

## Our response to incidents of corruption

In 2019, our compliance team recorded a total of eight incidents of alleged corruption. On investigation, only one case was substantiated.

This one substantiated case related to unauthorised payments made by a contractor to union representatives. As a result of this case, EGA made changes to its internal processes and delivered training to the associated contractor's management to improve understanding of what constitutes bribery and corruption as well as EGA's requirements for ethical business practice.

Also in 2019, we continued the investigation of an incident that occurred in 2018 whereby an EGA employee resigned after self-reporting that they had breached EGA's Code of Conduct. The continuation of our investigation identified the involvement of a contractor and we have taken the decision to blacklist this contractor from future contract awards.

In 2019, there were no substantiated incidents of corrupt behaviour that involved EGA employees.

### Fines, judgments, penalties or sanctions

In 2019 we did not receive any fines, judgments, penalties or non-monetary sanctions for non-compliance with laws and/or regulations.

We had no legal actions, threatened or ongoing, regarding anti-competitive behaviour or corruption and no violation of anti-competitive behaviour or anti-trust and monopoly legislation.

We do have an active violation notice from the environmental regulator in Dubai regarding the NO<sub>x</sub> emissions from our power plant at Jebel Ali exceeding regularity thresholds. These emissions are associated with older gas turbines that were installed before the implementation of relevant emission regulations applicable to the Emirate of Dubai<sup>88</sup>.



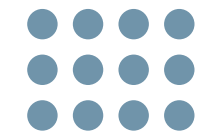
05



**Creating opportunities for people**

Jobs for modern lives






# Creating opportunities for people

## Our employees

At EGA, our business success depends on our people. We aim to attract high-quality recruits, provide effective opportunities to enable them to reach their full potential, and retain the most capable people for the long term by providing competitive remuneration and welfare.

Of our 7,236 employees in the UAE, 1,194 are UAE nationals. In Guinea, of our 421 employees, 338 are Guineans. In Guinea, we also give priority in hiring decisions to people directly impacted by our projects wherever the right skill set is available.

EGA supports the development of all employees. This includes giving appropriate focus to the development of nationals in the countries in which we operate. In both Guinea and the UAE, increasing the proportion of nationals in the workforce is a key business objective. EGA's Emiratisation and Guineanisation programmes are designed to attract, develop and retain UAE and Guinean nationals, providing clear progression pathways through structured development and training programmes.



**7,600+**  
people from  
over 80 different  
nationalities

Figure 25: Supporting local recruitment (UAE)

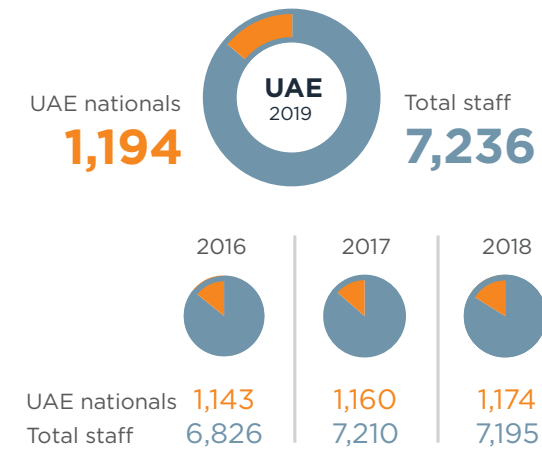
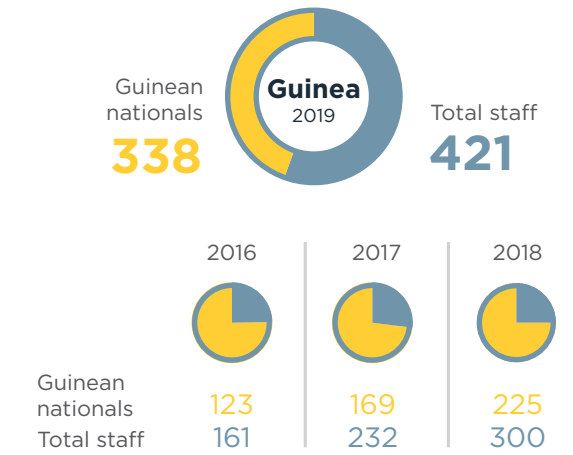


Figure 26: Supporting local recruitment (Guinea)




**17%** of supervisory and management roles are held by women in UAE



**80%** of our staff are Guinean nationals





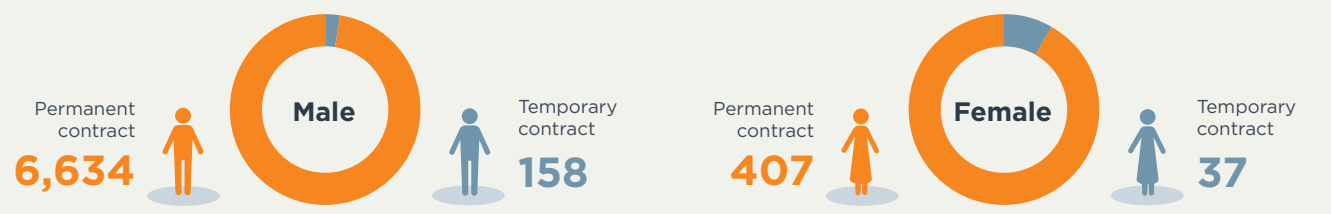
Figure 27: Employee diversity in UAE



Senior management hired from the local community



Total number of employees by gender in 2019<sup>90</sup>



<sup>89</sup> Programmes to attract, develop and retain nationals are considered contributions to local community. Senior management is grades F and above and excludes Executive Committee.  
<sup>90</sup> No part-time employees during the reporting period. There are 6,792 full-time male and 444 female employees during reporting period.

Employee category

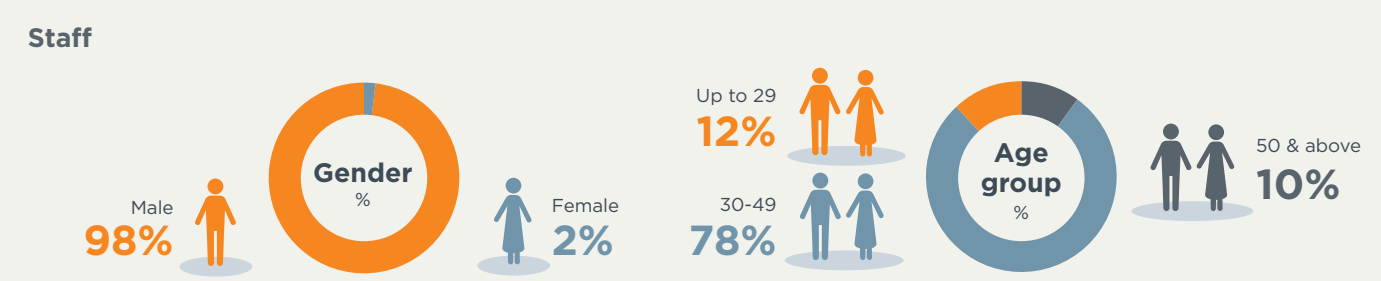
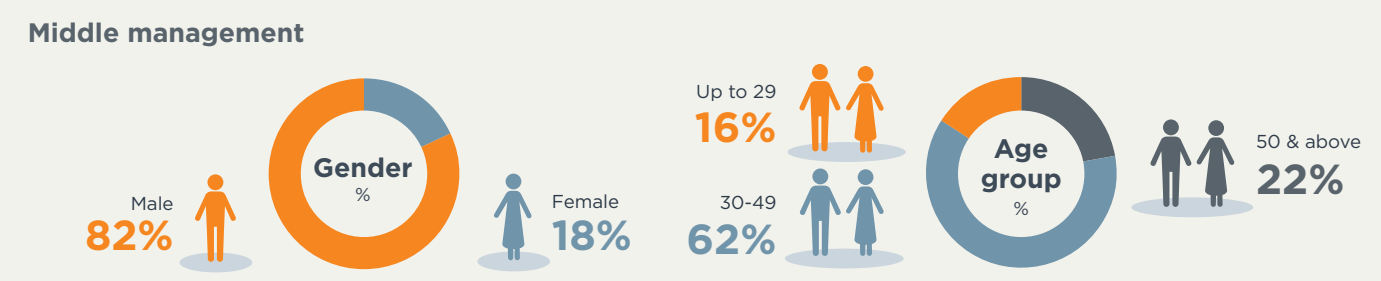
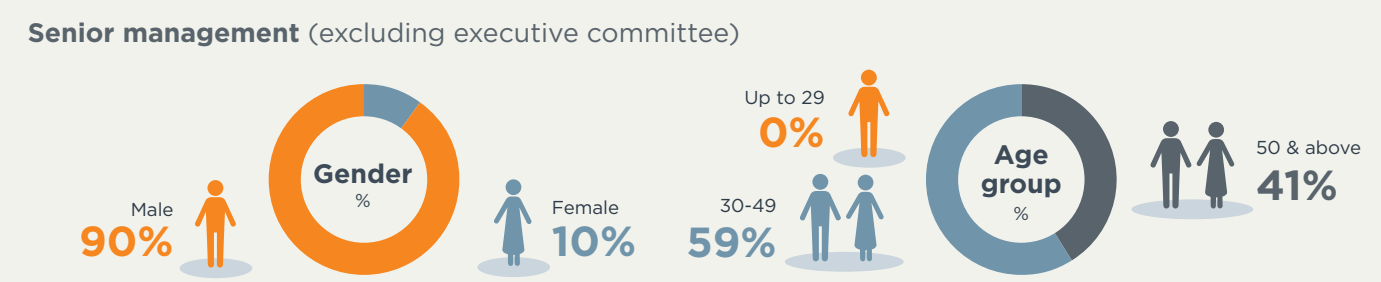
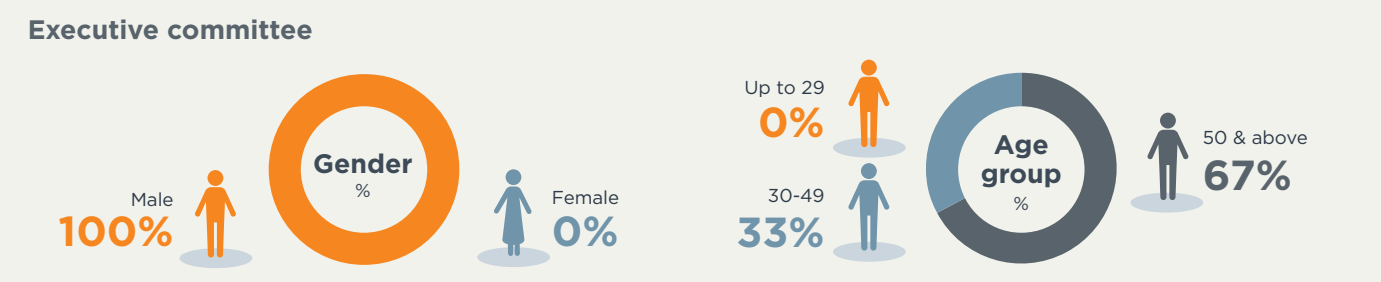
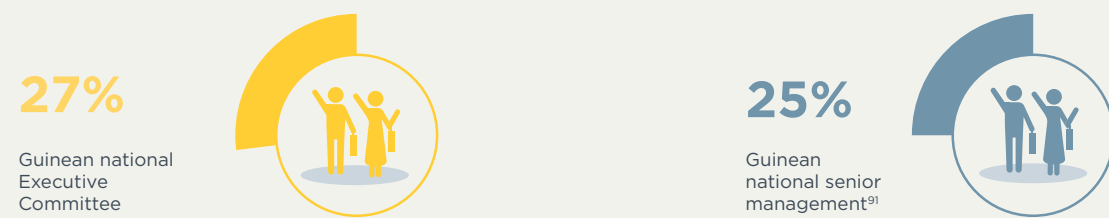




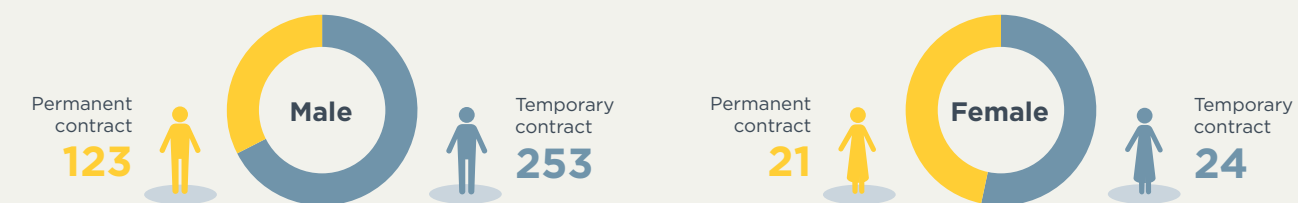
Figure 28: Employee diversity in Guinea



Senior management hired from the local community



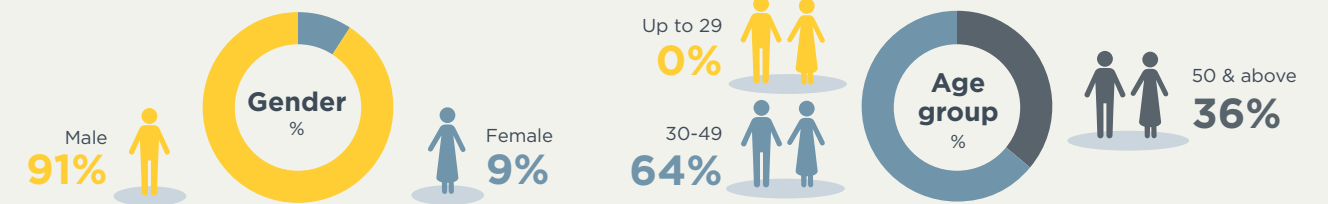
Total number of employees by gender in 2019<sup>92</sup>



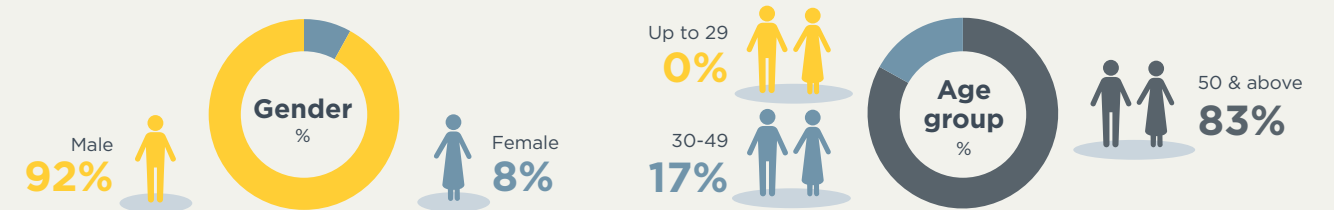
<sup>91</sup> Senior management is grades F and above and excludes Executive Committee.  
<sup>92</sup> No part-time employees during the reporting period. There are 376 full-time male and 45 female employees during reporting period.

Employee category

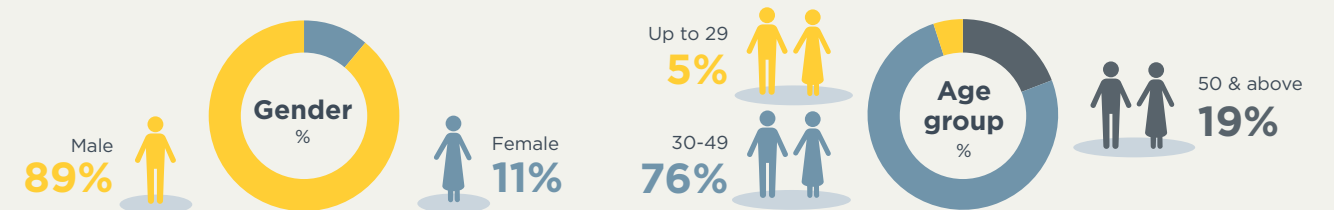
Executive committee



Senior management (excluding executive committee)



Middle management



Staff

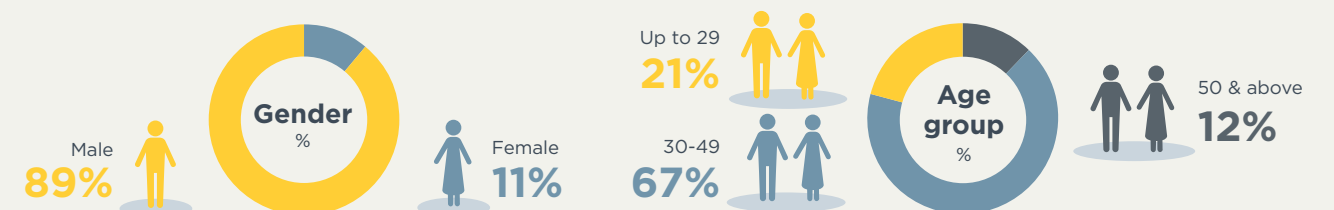
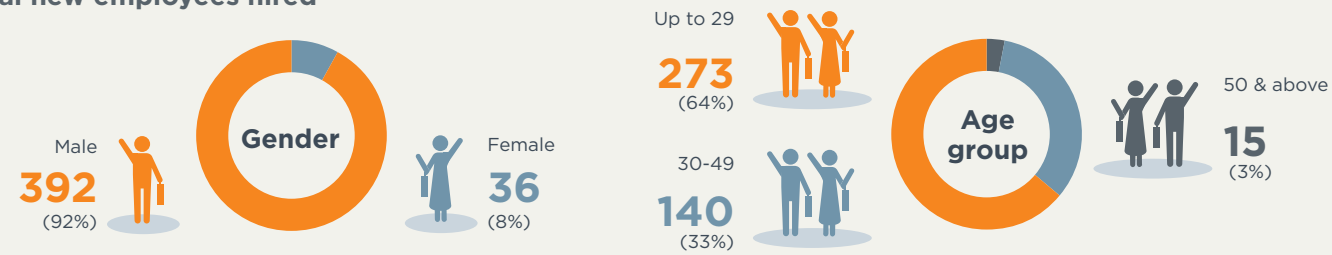




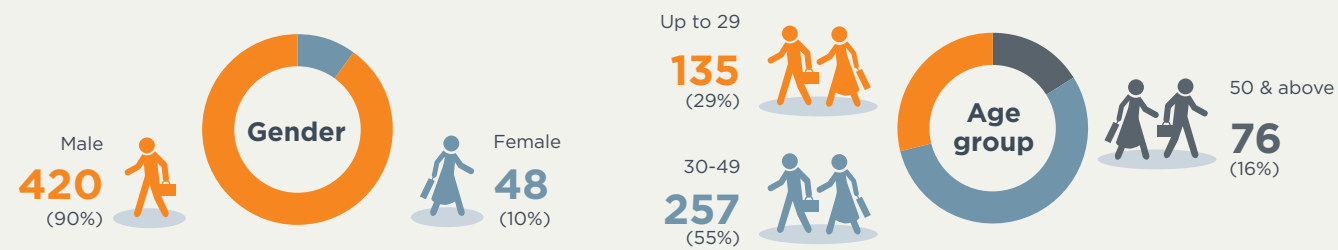
Figure 29: Employee retention

Total new employees hired and turnover in the UAE

Total new employees hired

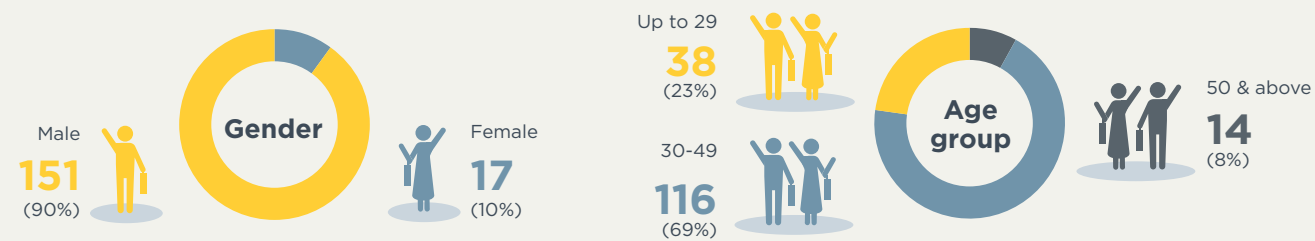


Total employees turnover

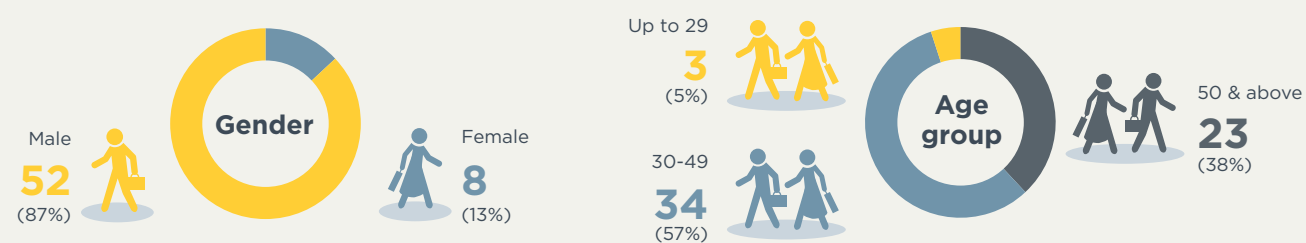


Total new employees hired and turnover in Guinea

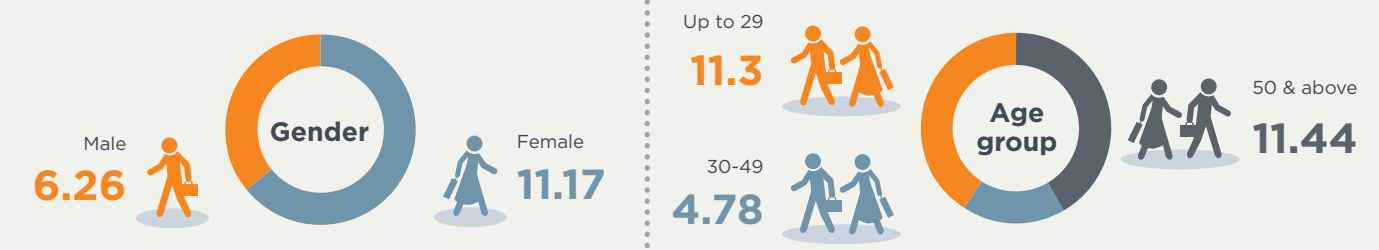
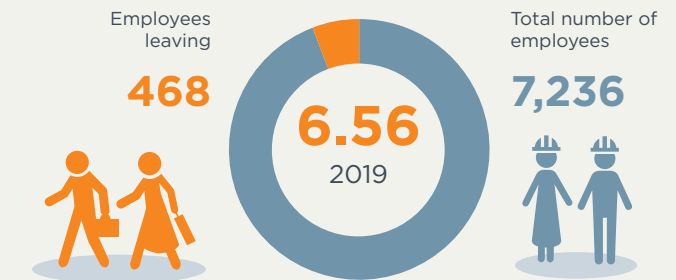
Total of new employees hired



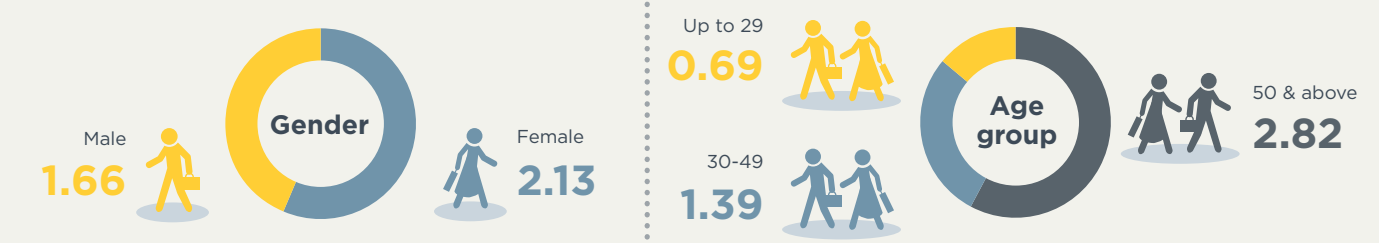
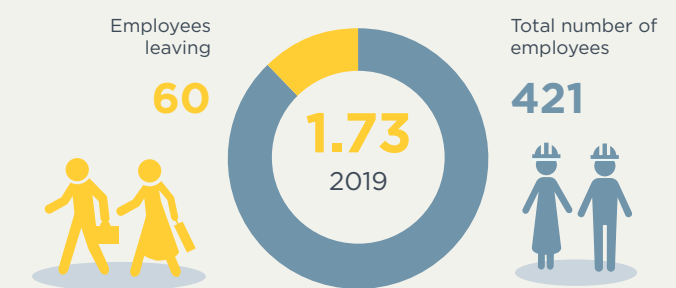
Total employees turnover



UAE attrition rate (%)



Guinea attrition rate (%)





## Working at EGA

EGA offers a wide range of benefits to employees to ensure their well-being, commitment to work and overall happiness. Our employees receive a school education allowance, life insurance, health care, medical check-ups, disability and invalidity assistance, compassionate leave and medical insurance that covers the employee and their immediate family.

Our annual and parental leave policies exceed statutory requirements while many aspects of our remuneration packages compare favourably with industry norms<sup>93</sup>. EGA does not discriminate in remuneration based on gender.

Freedom of association and collective bargaining are restricted under UAE law<sup>94</sup>. However, throughout our organisation, we support open dialogue and actively encourage colleagues to raise any concerns or opportunities to improve the working environment and the well-being of our staff.

In Guinea, our human capital policies and procedures are aligned with International Labour Organization and IFC Performance Standards. The majority of our employees are members of one of the national trade unions for the mining sector and 81 per cent of GAC's employees are covered by collective bargaining agreements<sup>95</sup>. GAC has established a rapport with the unions in the company and meets their representatives monthly to help resolve any work-related issues.

In the UAE, we have established a dedicated employee care centre managed by a contracted third party. This facility provides assistance to all our staff and helps resolve queries, concerns or issues associated with employment at EGA. We also actively seek employee feedback through an employee engagement survey called 'Mashura'. This is designed to enable employees to confidentially provide opinions on a wide range of topics. Findings from Mashura are reviewed by our Executive Committee and targets set and shared to deal with concerns or opportunities for improvements raised by staff.



Guinea Alumina Corporation is committed to becoming an employer of choice. Our ambition is to offer our employees a rewarding work experience and a positive work environment that promotes well-being, equality, professional fulfilment, creativity and productivity. One of our main strategies is to attract and retain the most talented people in Guinea and help them reach their full potential.



**MAMADY CAMARA**  
Human Capital Director

### Training and career progression

Skills development and career planning are facilitated through EGA's Performance Management Framework, which is available to all EGA staff<sup>96</sup>. Our aim is to provide a challenging work environment and opportunities for employees to reach their full potential, thereby increasing job satisfaction and contributing to employee motivation and retention. EGA provides a wide range of training programmes to thousands of employees every year. Training is designed according to EGA's current and future requirements, current staff needs and planned career progression<sup>97</sup>.

In the UAE, EGA's Emiratisation programme includes internships, summer work experience for high school and university students, the Eadad<sup>98</sup> programme (training opportunities for fixed periods), scholarships for employees and students, national trainee programmes and a graduate trainee programme.

<sup>93</sup> Contract notice periods range from one to three months depending on role.

<sup>94</sup> Federal Law no. 3 of 1987 (as amended).

<sup>95</sup> In Guinea, minimum notice periods regarding operational changes and provisions for consultation and negotiation are specified in collective bargaining agreements.

<sup>96</sup> Staff meet with their line managers to set goals in a performance agreement at the start of each year. Progress and success in achieving these goals is assessed in interim and full-year review meetings.

<sup>97</sup> All technical training programmes for the operational facilities in Dubai are accredited by the Knowledge and Human Development Authority.

<sup>98</sup> Eadad is an Arabic word meaning preparation.



I joined EGA in 1991 as a National Trainee in the Smelter Operations department, with a high school diploma and very limited English proficiency. Since then, EGA has provided me with lots of opportunities to develop my academic knowledge and work skills. EGA has always been people-oriented and consistent in their employee development.



**ALI MOHAMMED**  
Senior Manager  
Human Capital



**120 scholarship students**

studying in the UAE in 2019



**95 graduate trainees**

enrolled in 18-month programme in the UAE

Figure 30: Average hours of employee training in UAE<sup>99</sup>

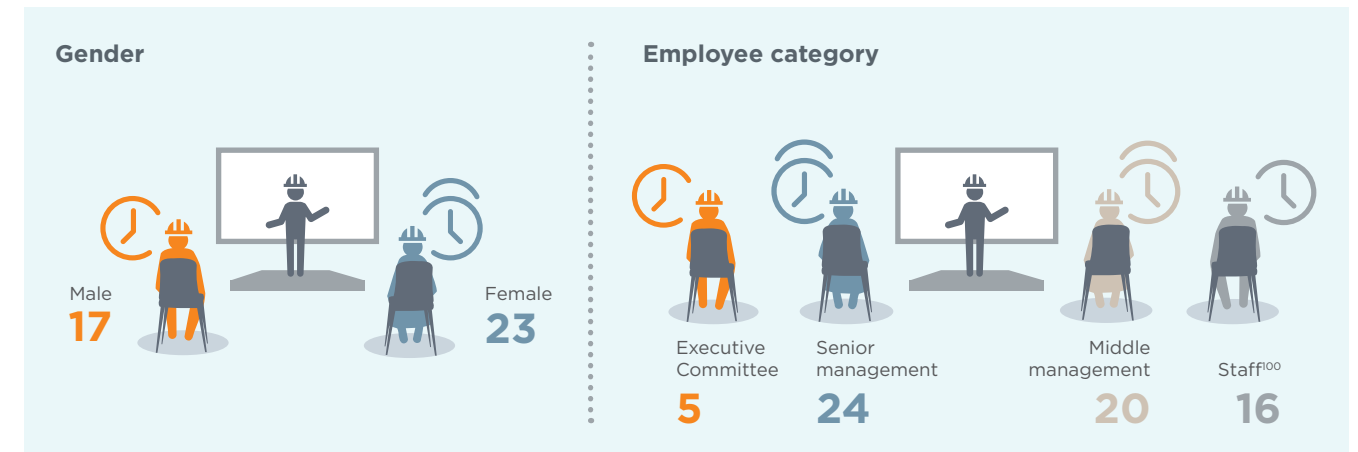
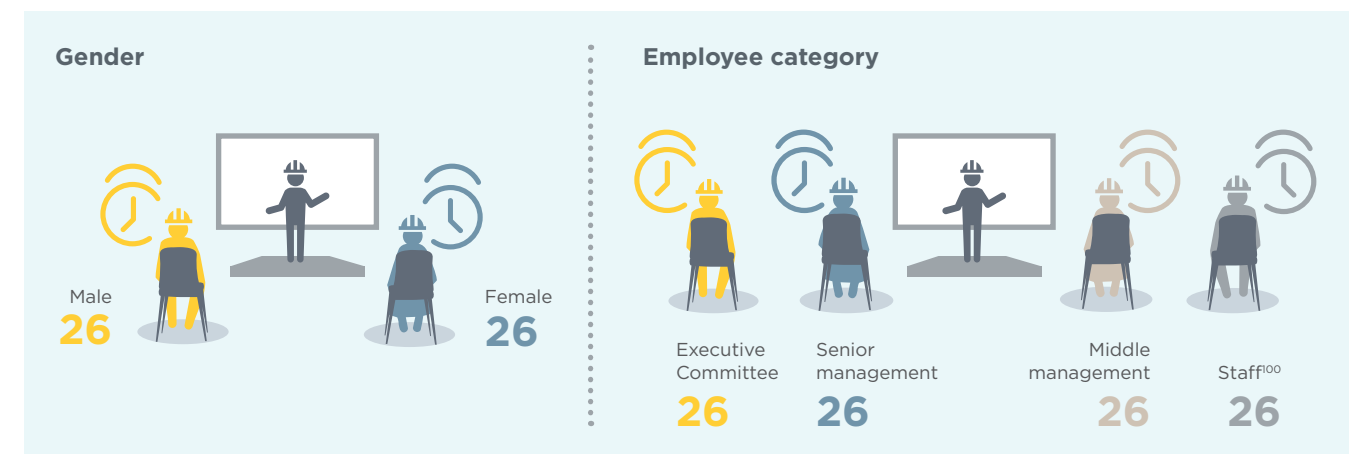


Figure 31: Average hours of employee training in Guinea<sup>99</sup>



<sup>99</sup> Senior management is grades F and above excluding Executive Committee, management and supervisory is grades K-G, non-supervisory is grades S-L.

<sup>100</sup> Non-supervisory (professional and administrative).



## Mashura employee engagement

At EGA, we value our employees' opinions and actively seek feedback through employee engagement. We want to ensure we maintain a positive working environment at EGA and pursue improvements that are meaningful to our people. Mashura is an Arabic word meaning, 'we value your opinions'. It is the name we gave to our employee engagement survey which was launched in 2016 and designed to give EGA employees the opportunity to voice their opinions on matters that are important to them and highlight any recommendations for improvement.

We issue the survey in seven languages and gather feedback on subjects including sustainable engagement, direction, efficiency, collaboration, safety, senior leadership, line management, EGA values, personal development, retention, reward & recognition and facilities.

So far, we have conducted our Mashura survey in both 2016 and 2018, each time utilising an external provider that specialises in employee engagement, ensuring impartiality and confidentiality. Following each survey, the main findings were communicated to all EGA employees.

EGA's Board and Executive Committee identified suitable actions in response to survey findings and shared proposals for action with all employees.

Since 2016, we have planned and implemented over 190 of these actions in order to improve the working lives for people at EGA.

In 2019, we continued to develop and implement actions identified from findings of our 2018 survey, examples include:

- The creation of a food committee to oversee improvements in our canteens. Improvements in 2019 included an increased range of food to better reflect the increasingly diverse ethnicity of people who work at EGA and to provide healthier options for all staff.
- Improved executive leadership visibility and engagement with the rest of the organisation. This included an increase in the frequency of executive leadership visits to the shop floor, giving employees opportunities for direct communication on thoughts and ideas.
- EGA-wide communication on our progress and strategic direction through monthly updates from the CEO.
- An upgrade to EGA's employee intranet portal to improve accessibility and user-friendliness.
- Enhanced learning opportunities, including the roll-out of EGA Leadership Expectations, new leadership development programmes and the introduction of a number of new learning platforms.




## New learning platforms in 2019


**92**  
Edx courses completed



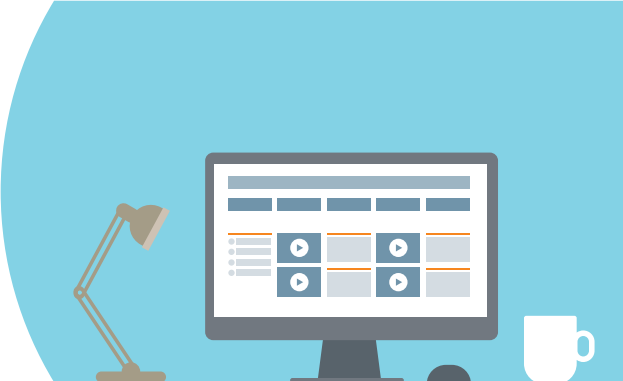
An open online course provider founded by Harvard & MIT hosting over 2500+ online university-level courses, micro master, professional certificates, in a wide range of disciplines globally.



**2,080**  
LinkedIn courses completed



An online platform that helps discover and develop business, technology-related, and professional skills through expert-led video courses.



**1,898**  
Axonify users enrolled



A micro learning tool that can engage people for only a few minutes a day, but still gradually building knowledge and skills.



## My Learning

An integrated one-stop shop for all learning in EGA with access to course information, training calendars, YouTube videos, Ted Talks, updated announcements on new learning initiatives, and a range of other benefits to EGA employees.





## Our UAE residential facilities

Our employees come from countries across the world to join EGA. At our site in Jebel Ali, we provide accommodation for up to 2,100 people of various nationalities and cultural backgrounds. Accommodation is provided for both employees and contract staff and we understand the importance of making our residential site feel like home.

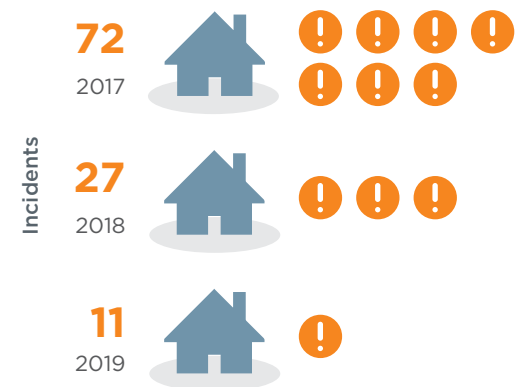
Daily activities, events, regular maintenance and resident care are provided by our onsite facility management team, whose reception desk is open and available for 24 hours, 7 days a week.

We cater for a diversity of tastes and cuisines and are mindful of cultural and dietary requirements.

Transport to the city, malls, restaurants and other recreational attractions across Dubai is provided by a dedicated, free bus service. We also operate a bus service for employees within our Jebel Ali site and to our Al Taweelah site. To get to work, residents can also choose to use our cycle tracks or landscaped walkways.

Our onsite clinic provides 24-hour access to fully qualified doctors and nurses and is situated adjacent to our residential area. Access is provided free of charge to all residents.

**Figure 32: Safety at home – safety improvements within our accommodation area**



Our residential area is included within our Health and Safety Management System, which, in February of 2019, was certified against ISO 45001:2018<sup>101</sup>. Our safety and health teams conduct regular visits to ensure the well-being of all residents. We also conduct a series of quarterly<sup>102</sup> safety workshops covering topics such as 'fire readiness and prevention' and 'safe cycling<sup>103</sup>'.

We operate a suggestion scheme tailored specifically for our accommodation area to give residents the opportunity to raise their ideas for improvements. In 2019 we received over 100 suggestions and subsequently made improvements such as the provision of a free-of-charge, on-site bicycle repair workshop.

“ EGA has been my permanent home for the past 17 years. Being a sports enthusiast, this place has given me opportunity to explore different sporting activities at one location. We are treated like family and are provided with all facilities, which makes the experience of living on site very satisfying. I would say, this is a home away from home.



**LYNDON HILARION MANABAT BERNABE**  
Technician  
Desal. Operations - Energy

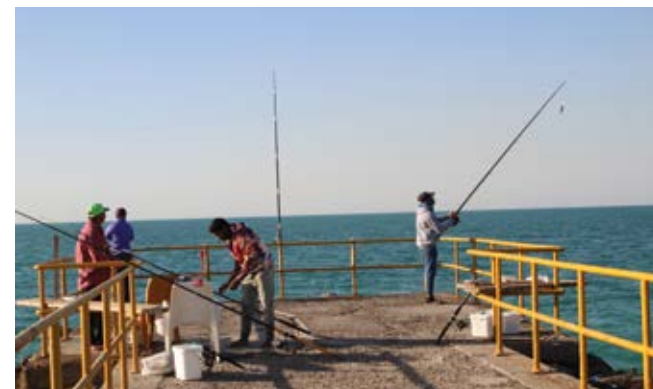
“ The best part about staying on site is the exclusive facilities that are provided to us, which keep you motivated, entertained and engaged in fitness activities. The African community also has a dedicated food counter and an African Chef.



**FREDRICK KOFI AMIHERE**  
Operator  
Potlines, Reduction

## Our residential area facilities include:

- Swimming pool
- Golf course
- Cricket pitch
- Gym
- Squash courts
- Badminton courts
- Mini-supermarket
- Laundry service
- Travel desk
- 24-hour concierge
- Free Wi-Fi
- Allotments
- Football pitch
- Tennis courts
- Basketball court
- Fishing pier



## Our 2019 residential area tournaments included:

- Basketball
- Cricket
- Chess
- Football
- Fishing
- Golf
- Hockey
- Tennis
- Volleyball
- Badminton



<sup>101</sup> Certificate is available at <https://www.ega.ae/en/about-us/our-policies-and-certifications>

<sup>102</sup> Residents decide on the frequency that they would like to hold these workshops.

<sup>103</sup> Sports, home and similar injuries in our residential area are not considered occupational injuries.



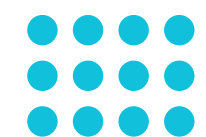
# 06



## Technology and innovation

Contributing to a modern, knowledge-based economy





# Technology and innovation

## Home-grown technology

EGA's in-house research and development department produces technological advancements intended to increase productivity, reduce resource consumption, lessen environmental impact and minimise capital and operational cost.

Since the 1990s, EGA's technology development has more than doubled the size of a cell that is technically and commercially viable and led to substantial advancements in productivity.

We have used our own technology for every smelter expansion since the 1990s and retrofitted all our older potlines. To date, we have developed and industrialised eight reduction technologies and filed a total of 31 patents, all associated with successful advancements by our research and development division.

Our current operations benefit from over 27 years of home-grown technological improvements. Today, all of EGA's 2,777 reduction cells use EGA technology, enabling us to minimise the energy consumption and process emissions associated with the production of aluminium.



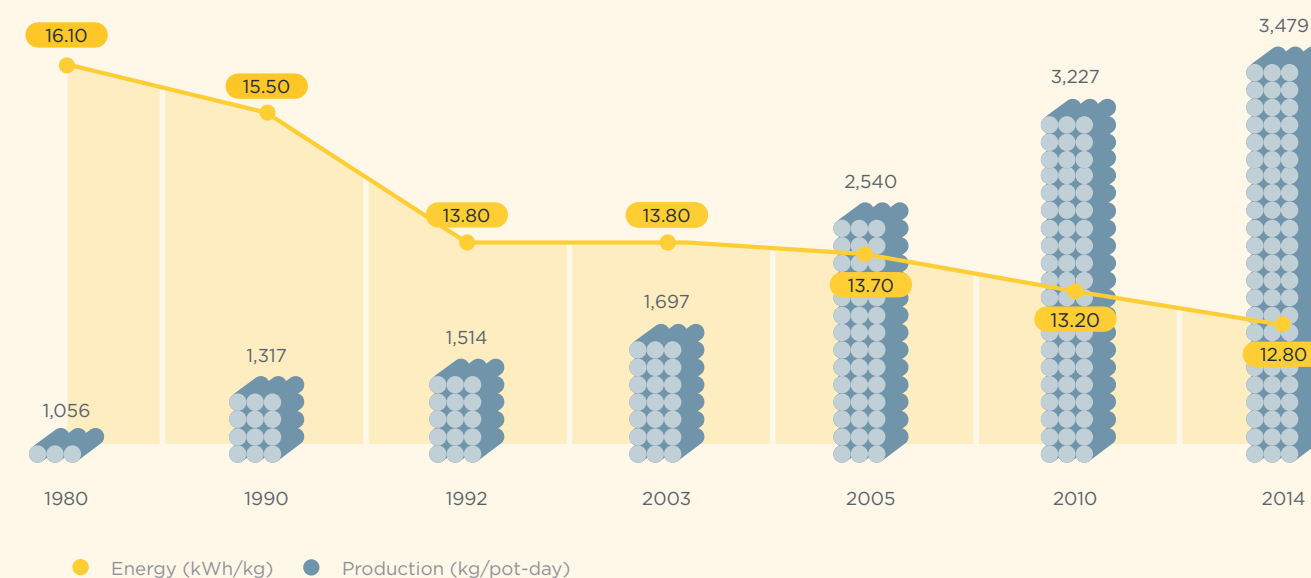
In 2019, EGA PFC emissions were more than 91% below the global industry average<sup>104</sup>

EGA (t CO <sub>2</sub> e/t Al)	0.044
GLOBAL AVERAGE (t CO <sub>2</sub> e/t Al)	0.54

But also, through our Technology Development and Transfer Team, we are able to pass on what we have learned and offer expertise in engineering, construction, start-up and operation, technology advancement and improvement to others within the aluminium industry.

<sup>104</sup> International Aluminium Institute referenced for global industry average: <http://www.world-aluminium.org/statistics/perfluorocarbon-pfc-emissions/#data>

Figure 33: Evolution of EGA technologies



## Licensing aluminium smelting technology

EGA was the first UAE industrial company to license its core process technology internationally, when Aluminium Bahrain (ALBA) selected EGA's proprietary DX+ Ultra technology for its new Potline 6. Compared with earlier generation cells, DX+ Ultra technology substantially reduces energy consumption by introducing various voltage drop reductions which address key energy consumers in a cell.

The first pot at ALBA's Potline 6 using EGA's technology was started in December 2018 and by July 2019, all 424 pots were in operation. Given our experience with this success story, our long-term aspiration is to grow this aspect of our business, generating revenue, contributing to improved efficiencies in the industry as a whole, and participating in the national strategic objective of further developing the UAE's knowledge-based economy.





## Bauxite residue research and development

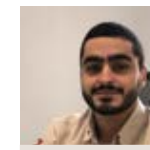
A challenge faced at alumina refineries across the world is finding safe, sustainable, and commercially viable uses for the primary waste product from the refining process, bauxite residue. Despite extensive research by the global alumina industry over many decades, permanent large-scale storage in specially constructed dams and impoundments remains the most common means of safely managing this material.

In 2019, following the start-up of our new Al Taweelah alumina refinery in Abu Dhabi, we started to store our bauxite residue at a purpose-built, state-of-the-art bauxite residue storage facility located within an expanse of desert approximately 30km inland from the coast<sup>105</sup>. However, this is not our intended long term-solution. EGA's bauxite residue research and development group is tasked with identifying viable applications for EGA's bauxite residue,

with the goal of converting this waste material into usable products, subsequently reducing or eliminating the need for storage. EGA's approach to achieving this goal is to treat bauxite residue as a new resource for the UAE.



**The bauxite residue R&D team's efforts to find a way of converting bauxite residue from a waste material into a usable product is a prime example of just how EGA values sustainability.**



**ABDULLA AL AWAR**  
Engineer II  
Bauxite Residue R&D, Technology  
Development and Transfer



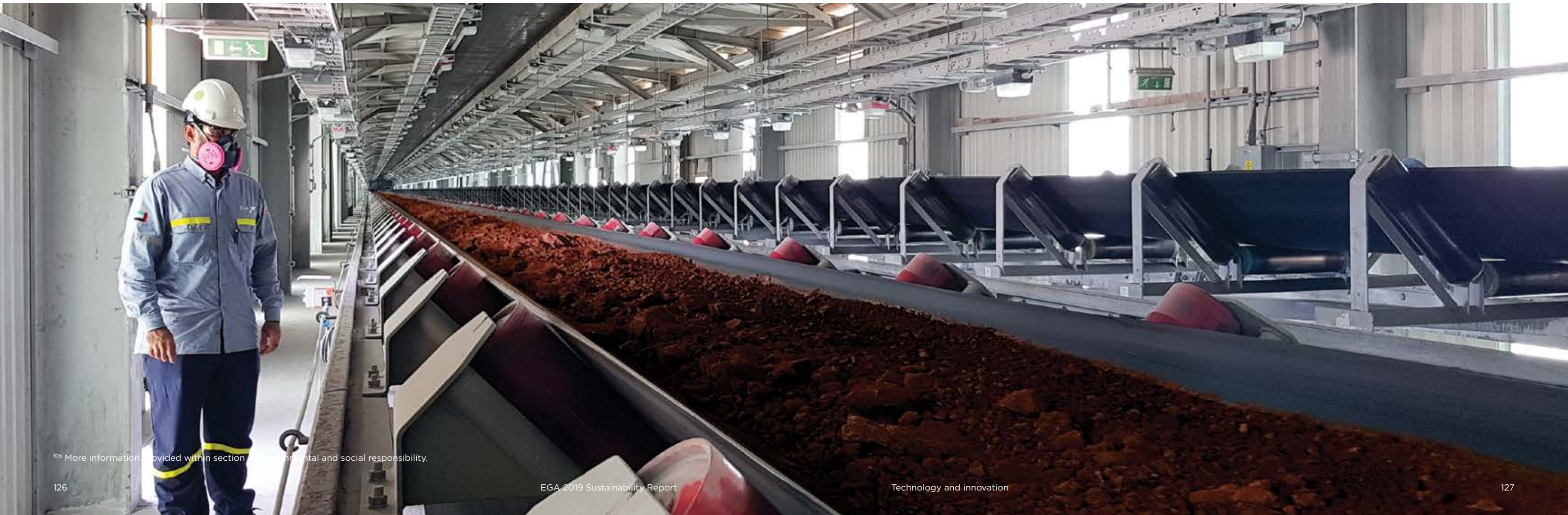
## Manufactured soils

Research at The University of Queensland's School of Agriculture and Food Science achieved proof of concept on the conversion of optimised bauxite residue (OBxR) into a manufactured soil (Turba) with potential applications in the UAE. The EGA-sponsored research programme has continued into 2019, including the use of Turba manufactured with optimised bauxite residue to grow a variety of plants ranging from salt-tolerant grasses to food crops including lettuce, broccoli and carrots.

Building on the manufactured soil concept, research has also continued in 2019 at the American University of Sharjah to convert organic wastes available in the UAE into biochar as a soil additive, with potential for improving the nutrient and moisture properties of Turba (while also reducing waste to landfill and greenhouse gas emissions). Results in 2019 have identified the thermal processing requirements to convert food waste into a suitable, slightly acidic biochar.

## Supporting the construction industry

In addition to the potential use of bauxite residue for the manufacture of soils, EGA is also exploring the technical and commercial viability of developing products for the construction industry. In 2019, we continued working closely with several European research organisations, including Vlaamse Instelling voor Technologisch Onderzoek (VITO). VITO have successfully developed some prototype lightweight aggregates from bauxite residue that approach the performance and morphology of commercial products made from other materials. In 2019, we also developed a road base formulation suitable for field trials in 2020. It is hoped that each of these applications will not only convert our waste material into a feedstock for other industries, but also help alleviate the UAE's reliance on large-scale imports of construction materials.



<sup>105</sup> More information provided within section Environmental and social responsibility.



## Industry 4.0

The industrial sector is expecting significant change over the coming years as the transition to digitisation, automation and artificial intelligence offer opportunities for significantly improved efficiency. This transition is commonly referred to as the fourth industrial revolution, the next evolutionary step after the computerisation of industrial processes (the third industrial revolution) during the second half of the 20<sup>th</sup> century.



**Industry 4.0 is the new engine that will drive value generation for EGA in future. Industry 4.0 levers shall change the way we work, leading to a more sustainable and resilient business.**



**MAHMOOD ABDULMALIK**  
Senior Manager - Tech. Eng.,  
Technology Development and Transfer

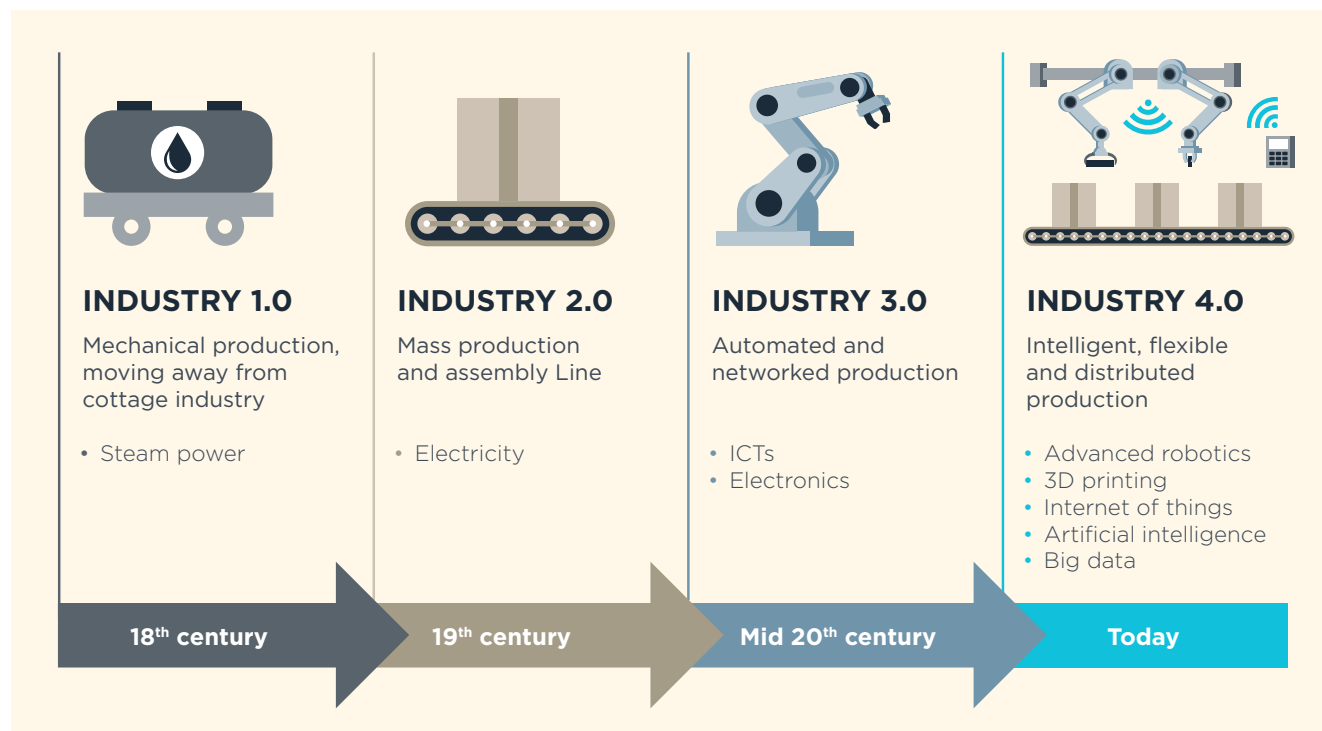


**At EGA we believe that Industry 4.0 will re-shape our economic and social conditions. Hence it is part of our development strategy and we are proud to take the lead in adopting some of the latest technologies in the aluminium sector, maximising safety, minimising emissions while increasing productivity to acquire both our employees' and customers' satisfaction.**

EGA has established a detailed road map for Industry 4.0 aligned with the UAE's Fourth Industrial Revolution Strategy<sup>106</sup>. Our road map includes plans for low-cost, intelligent automation, the use of autonomous vehicles and robot technology, plus data-driven live decision-making. These innovations are expected to deliver reduced energy consumption, minimised safety risks, an upskilling of staff, and significant cost savings. Phase 1 of our Industry 4.0 programme includes the potential for 40 projects due to be delivered over the next six years.



**Wafa Al Kaz**  
General Superintendent  
Casting Operation



<sup>106</sup> Details available here <https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/federal-governments-strategies-and-plans/the-uae-strategy-for-the-fourth-industrial-revolution>





## Centre of Excellence

EGA's Centre of Excellence is a research centre and knowledge bank located at Al Taweelah. The Centre conducts extensive research into practical challenges in EGA operations and proposes solutions that seek to optimise our internal processes, including finding opportunities for minimising environmental impacts and achieving cost savings.

Our Centre of Excellence conducts research in collaboration with established academic institutions in the UAE and internationally and has developed and maintained partnerships with the American University of Sharjah, Abu Dhabi University, Heriot-Watt University, Khalifa University, Massachusetts Institute of Technology and the University of New South Wales. Every year, we collaborate with UAE's undergraduate students on new research topics through knowledge exchange sessions, sponsoring research projects and competitions.

In 2019, the Centre created an online-based library known as the 'Knowledge Hub' where all EGA's employees can have access to a wide range of books, magazines, technical articles and journal papers. Our Centre of Excellence team collaborated with several governmental agencies including the Emirates Scientists Council (ESC) on their 'Open Lab' initiative that links major research institutions with highly qualified scientists and university researchers to find cooperative opportunities in their fields. EGA was one of the 16 organisations including universities that took part in our online platform to promote academic-industrial collaboration.

EGA has conducted research in collaboration with MIT for the past five years and, in 2019, we conducted the following research projects with nine PhD and master's students from MIT:

- Hyperspectral analysis of bauxite residue properties
- Usage of available high magnetic field in potlines
- Detailed study of seawater outfall dissolved oxygen values
- Conversion of pure bath into useful products<sup>107</sup>
- Utilising evaporators after power plant expansion
- Recovery of water from refinery stack emissions



Since 1985, EGA has prepared and submitted more than 161 research papers to international committees and conferences specific to the aluminium industry including:

- The Minerals, Metals & Materials Society (TMS)
- The International Committee for Study of Bauxite, Alumina and Aluminium
- The Australasian Aluminium Smelting Technology Conference
- Alumina Quality Workshop

TMS holds a conference every year which is an important platform for aluminium industry professionals to network and learn about advances in the industry. In 2019, we presented four papers to TMS covering the following:

- Innovative Anode Coating Technology to Reduce Anode Carbon Consumption in Aluminium Electrolysis Cells
- Challenges and opportunities associated with vacuum compaction during anode production processes
- Modelling Study of Exhaust Rate Impact on Heat Loss from Aluminium Reduction Cells
- Understanding of Co-evolution of PFC Emissions in EGA Smelter with Opportunities and Challenges to Lower the Emissions

<sup>107</sup> Bath material is the electrolyte component used in the Hall-Héroult process for industrial production of aluminium.

## EGA's Aluminium Competition

### Case study

The EGA Aluminium Competition invites higher education institutions in the UAE to take part in an aluminium industry themed competition with the main aim of increasing awareness of the industry among students and faculty members.

Each edition of the competition encourages students to think creatively and to develop new tools, techniques and solutions for use in an aluminium smelter.

Goals of the competition include:

- Student exposure to the aluminium industry, including technology, environment and culture
- An opportunity for students to put theory into practice
- An opportunity to harness team-building skills in a real-world scenario
- The chance for students to increase their profile and expand their career opportunities

The competition theme in 2019 was robotics. Students were tasked with the design, build and operation of a drone or semi-autonomous robot capable of capturing and analysing thermal images of the steel pot shell surfaces in the basement of our potrooms, with recorded thermal images being transferred to a PC or mobile app to generate reports. The robot needed to be able to manoeuvre through high magnetic fields, confined spaces and high temperatures.





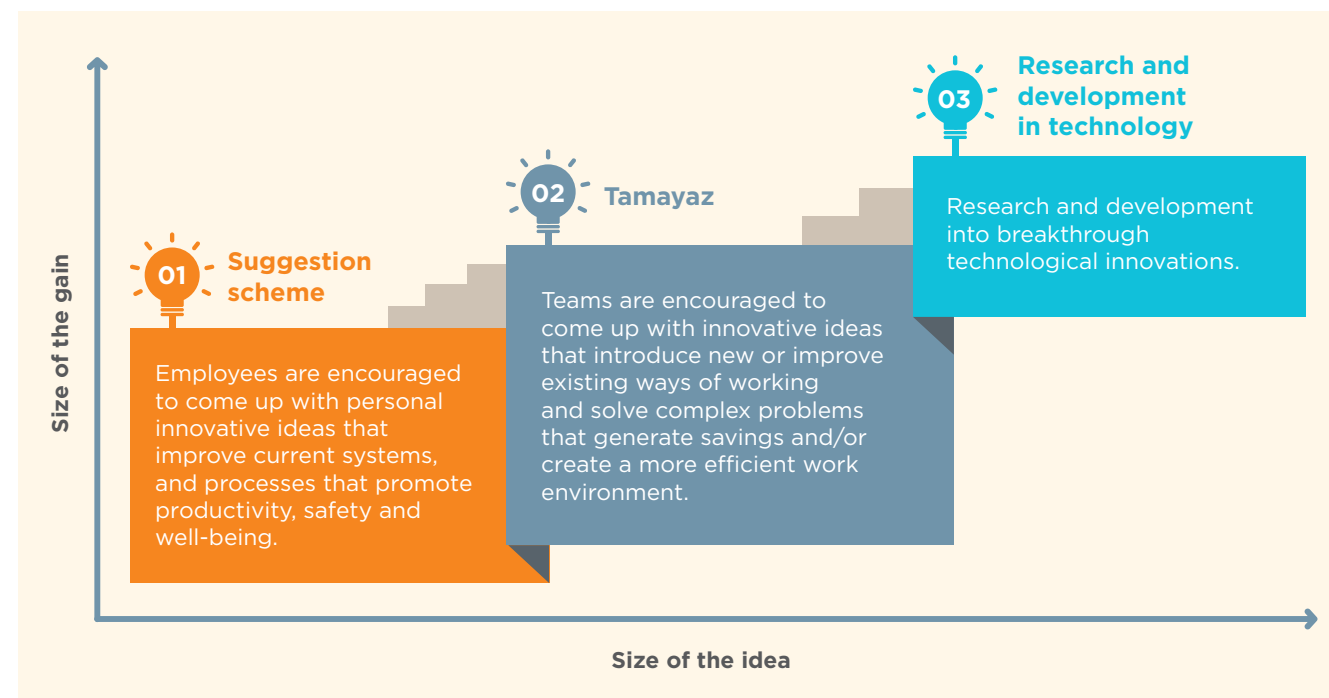
## Our innovation

For decades, EGA has focused on innovation and continuous improvement as a foundation for developing and maintaining global competitiveness.

We believe that the people closest to a work process are often in an ideal position to identify what improvements are required and to create the best

solution. We have therefore put in place a system to encourage and reward innovative thinking at all levels of our organisation. As part of this system, EGA operates two continuous improvement initiatives, the EGA Suggestion Scheme and Tamayaz programme.

### EGA Innovation Journey



## Tamayaz programme

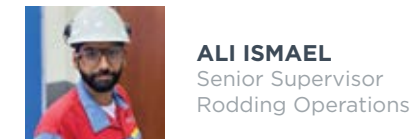
Tamayaz is EGA's reward and recognition programme to encourage continuous improvement by teams and is led by middle managers. The programme helps teams tackle complex problems and apply scientific tools for identifying root causes and solutions. Tamayaz is the Arabic word for 'differentiate' or 'distinguish oneself', a name intended to inspire those engaged in the programme.

In 2019, the Tamayaz programme recorded a record number of 278 submitted projects of which 129 were implemented to generate savings of AED 18.9 million (USD 5.2 million). All EGA staff who are involved in a successfully implemented Tamayaz project are rewarded. Those involved in the most impactful projects are recognised throughout our organisation.

### 2019 Tamayaz scheme figures

SUBMITTED PROJECTS	278
IMPLEMENTED	129
AUDITED FINANCIAL SAVINGS (USD million)	5.2

**Waste is the enemy of any organisation that strives to be outstanding. From my experience, implementing kaizen as part of our Tamayaz programme was definitely a great way to be outstanding.**



**Tamayaz is a fantastic way of encouraging cross-functional collaboration in order to solve problems and find opportunities. Working together allows us to learn from different mind-sets and points of view.**



### Improving environmental performance through Tamayaz

In 2019, a cross-functional team of six employees worked over three consecutive days to improve the performance at one of our gas treatment centres in Al Taweelah. Exploring opportunities for improved functionality, the team ran treatment fans on low amps, increased the frequency of scrubber inspections and distributed emissions over several treatment stacks to improve treatment efficiency.

Gas sampling confirmed that we were able to achieve a 49 per cent reduction in SO<sub>2</sub> emissions.





## EGA's Suggestion Scheme

EGA's Suggestion Scheme is a reward and recognition programme designed to make continual incremental improvements to the company's performance. It decentralises the process of continuous improvement and encourages employee engagement through fostering their knowledge and skills, to help make our processes, systems and equipment better. EGA's Suggestion Scheme was first launched in May 1981, making it one of the world's longest-running structured suggestion schemes.

### 2019 Suggestion Scheme figures



SUGGESTIONS SUBMITTED

32,504

IMPLEMENTED

24,900

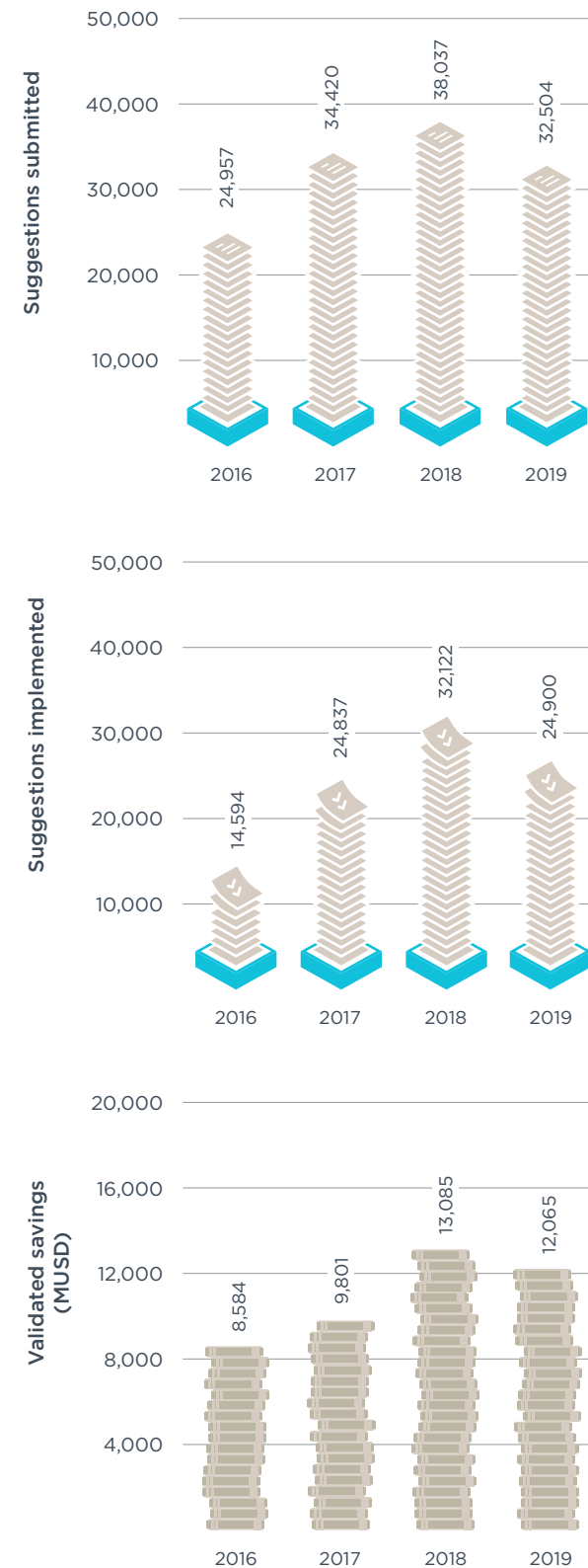
AUDITED SAVINGS  
(USD million)

12

In 2019, we received a record number of 32,504 suggestions of which 24,900 were implemented, saving the organisation more than AED 44 million (USD 12 million). Approximately 86 per cent of EGA employees participated. All EGA staff who are involved in a successfully implemented suggestion are rewarded and the originators of the most impactful suggestions are recognised throughout our organisation.

In 2019 two of the suggestions made by employees under the Scheme were awarded golden awards by Ideas Arabia<sup>108</sup>.

Figure 34: Suggestion scheme achievements



The Suggestion Scheme has become an integral part of EGA's operation. My experience with the Suggestion Scheme has been excellent and what I like the most about it is that all ideas are encouraged.



**SANDEEP NAIK**  
Supervisor  
Mechanical Workshop Maintenance



EGA's Suggestion Scheme gave me a platform where I can easily come up with innovative ideas for improvement. It also strengthened the communication skills between our team and the supervisor. I feel extremely motivated when my suggestions are implemented successfully in the area.



**CLAUDIO HUGOS**  
Senior Technician  
Casthouse Maintenance



<sup>108</sup> Ideas Arabia is a competition organised by Dubai Quality Group (DQG) that emphasises the importance of innovation in fostering business success and provides a forum for companies to share their best practice. For further information on DQG annual awards please visit <https://www.dqg.org>



# 07



## Appendices



## External assurance



### Independent Limited Assurance Report

To the Management of Emirates Global Aluminium

#### Conclusion

Based on the procedures performed, and evidence obtained, we are not aware of any material misstatements in the Assured Sustainability Information, as described below, which is prepared in accordance with GRI Standards, as disclosed in the Emirates Global Aluminium (“EGA”) Sustainability Report 2019 for the year ending 31 December 2019.

#### Assured Sustainability Information

The Assured Sustainability Information comprised of the following selected performance areas:

Selected performance area	Pages
2019 GHG Emissions (Total Scope 1 and 2)	62 - 64
Anti-bribery and corruption procedures, non-discrimination, policies and associated disclosures	102 – 105
2019 Safety Statistics - Injury Rate, Fatalities, and Occupational Disease Rate	74 - 92

#### Criteria Used as the Basis of Reporting

The criteria used as the basis of reporting are the GRI Standards (Core level of disclosures) as published by the Global Reporting Initiative.

#### Basis of Conclusion

We conducted our work in accordance with *International Standard on Assurance Engagements (“ISAE”) 3000 Assurance Engagements other than Audits or Reviews of Historical Financial Information*. In gathering evidence for our conclusions our limited assurance procedures comprised:

- enquiries with relevant EGA management and staff to understand EGA’s process for determining material issues;
- the process for developing the Selected Performance Areas within the EGA Sustainability Report 2019;
- enquiries with relevant EGA management and staff to understand the internal controls, governance structures and reporting processes for the Selected Performance Areas;
- analytical procedures over the Selected Performance Areas;
- walkthroughs of the Selected Performance Areas to source documentation;
- evaluating the appropriateness of the criteria with respect to the Selected Performance Areas;
- considering that the selected performance areas have been reported in accordance with the GRI Standards.

In accordance with the ISAE 3000 standard we have:

- used our professional judgement to plan and perform the engagement to obtain limited assurance that the Assured Sustainability Information is free from material misstatements, whether due to fraud or error;
- considered relevant internal controls when designing our assurance procedures, however we do not express a conclusion on their effectiveness;
- ensured that the engagement team possess the appropriate knowledge, skills and professional competencies.

#### How we Define Limited Assurance

Limited assurance consists primarily of enquiries and analytical procedures. The procedures performed in a limited assurance engagement vary in nature and timing, and are less in extent than for reasonable assurance engagement. Consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had reasonable assurance procedures been performed.

#### Use of this Assurance Report

This report has been prepared for the Management of EGA. We disclaim any assumption of responsibility for any reliance on this report, to any person other than the Management of EGA, or for any other purpose than that for which it has been prepared.

#### Management’s Responsibility

Management are responsible for:

- determining that the criteria is appropriate to meet their needs;
- preparing and presenting the Selected Performance Areas in accordance with the criteria; and
- establishing internal controls that enable the preparation and presentation of the Selected Performance Areas that are free from material misstatement, whether due to fraud or error.

#### Our Responsibility

Our responsibility is to perform a limited assurance engagement of the Assured Sustainability Information, and to issue an assurance report that includes our conclusion.

#### Our Independence and Quality Control

Our work was performed in compliance with the requirements of the International Federation of Accountants (IFAC) Code of Ethics for Professional Accountants, which requires, among other requirements, that the members of the assurance team (practitioners) as well as the assurance firm (assurance provider) be independent of the assurance client, in relation to the scope of this assurance engagement, including not being involved in writing the Report. We have complied with the applicable independence and other ethical requirements of the IESBA code.



KPMG Lower Gulf Limited  
Dubai  
13<sup>th</sup> September 2020



## GRI content index

The GRI Content index is a navigation tool that specifies which GRI Standards are used, which disclosures have been made and where these disclosures can be found in the report.

GRI standard #	Disclosure	Page number	Reason for omissions
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### General disclosures

GRI 102: General disclosures 2016	Organization profile		
102-1	Name of the organization	6	
102-2	Activities, brands, products, and services	15, 38, 125	
102-3	Location of headquarters	15	
102-4	Location of operations	14-15	
102-5	Ownership and legal form	14	
102-6	Markets served	36-38	
102-7	Scale of the organization	15, 45, 36, 108	
102-8	Information on employees and other workers	110, 112	
102-9	Supply chain	47-48	
102-10	Significant changes to the organization and its supply chain	15	
102-11	Precautionary principle or approach	52, 74-75	
102-12	External initiatives	18, 52, 74	
102-13	Membership of associations	18	
	<b>Strategy</b>		
102-14	Statement from senior decision-maker	9, 11	
	<b>Ethics and integrity</b>		
102-16	Values, principles, standards and norms of behaviour	18	
	<b>Governance</b>		
102-18	Governance structure	28	
	<b>Stakeholder engagement</b>		
102-40	List of stakeholder groups	29	
102-41	Collective bargaining agreements	116	
102-42	Identifying and selecting stakeholders	29	
102-43	Approach to stakeholder engagement	29, 39, 94, 116, 118	
102-44	Key topics and concerns raised	30, 118	
	<b>Reporting practice</b>		
102-45	Entities included in the consolidated financial statements	14-15	
102-46	Defining report content and topic boundaries	29-31	
102-47	List of material topics	30	
102-48	Restatements of information	45, 64-65	
102-49	Changes in reporting	31	
102-50	Reporting period	6	
102-51	Date of most recent report	31	
102-52	Reporting cycle	6	

GRI standard #	Disclosure	Page number	Reason for omissions
	102-53	Contact point for questions regarding the report	6
	102-54	Claims of reporting in accordance with the GRI Standards	6
	102-55	GRI content index	140-143
	102-56	External assurance	138-139

### Most material topics

A safe and healthy workplace at EGA				
<b>GRI 103: Management approach 2016</b>	103-1	Explanation of the material topic and its boundary	31, 74-77	
	103-2	The management approach and its components	74-79, 82-85, 88, 90-92	
	103-3	Evaluation of the management approach	74-79, 81-92, 105, 120-121	
<b>GRI 403: Occupational health and safety 2018</b>	403-1	Occupational health and safety management system	74-76	
	403-2	Hazard identification, risk assessment, and incident investigation	74-77, 105	
	403-3	Occupational health services	88-92	
	403-4	Worker participation, consultation, and communication on occupational health and safety	77, 116, 118, 132	
	403-5	Worker training on occupational health and safety	76-77	
	403-6	Promotion of worker health	88-92, 116	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	47,76	
	403-8	Workers covered by an occupational health and safety management system	76,109	
	403-9	Work-related injuries	13, 78, 81-82, 87	
	403-10	Work-related ill health	76, 89, 92	
Business integrity and ethics				
<b>GRI 103: Management approach 2016</b>	103-1	Explanation of the material topic and its boundary	31, 102-105	
	103-2	The management approach and its components	102-105	
	103-3	Evaluation of the management approach	102-105	
<b>GRI 205: Anti-corruption 2016</b>	205-1	Operations assessed for risks related to corruption	103	
	205-2	Communication and training about anti-corruption policies and procedures	104	
	205-3	Confirmed incidents of corruption and actions taken	105	
<b>GRI 206: Anti-competitive behaviour 2016</b>	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	105	
<b>GRI 419: Socioeconomic compliance 2016</b>	419-1	Non-compliance with laws and regulations in the social and economic area	105	



GRI standard #		Disclosure	Page number	Reason for omissions
<b>Respecting human rights</b>				
<b>GRI 103: Management approach 2016</b>	103-1	Explanation of the material topic and its boundary	31, 47, 93-98, 102-103, 108	
	103-2	The management approach and its components	47, 93-98, 102-105, 101, 116, 118, 120-121, 133-134	
	103-3	Evaluation of the management approach	47, 93-98, 102-105, 101, 116, 118, 120-121, 133-134	
<b>GRI 406: Non-discrimination 2016</b>	406-1	Incidents of discrimination and corrective actions taken	105	
<b>GRI 410: Security practices 2016</b>	410-1	Security personnel trained in human rights policies or procedures	97	We have reported where risk is considered material, hence considered not applicable for UAE operations.
<b>GRI 411: Rights of Indigenous peoples 2016</b>	411-1	Incidents of violations involving rights of indigenous peoples	94, 98	
<b>GRI 412: Human rights assessment 2016</b>	412-1	Operations that have been subject to human rights reviews or impact assessments	21, 74, 94	
<b>GRI 414: Supplier social assessment 2016</b>	414-2	Negative social impacts in the supply chain and actions taken	47	
<b>Air quality and emissions</b>				
<b>GRI 103: Management approach 2016</b>	103-1	Explanation of the material topic and its boundary	31, 52-54	
	103-2	The management approach and its components	52-59, 101	
	103-3	Evaluation of the management approach	52-59, 101	
<b>GRI 305: Emissions 2016</b>	305-1	Direct (Scope 1) GHG emissions	62	
	305-2	Energy indirect (Scope 2) GHG emissions	64	
	305-4	GHG emissions intensity	62-64	
	305-7	Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> ), and other significant air emissions	54-59	
<b>Our employees</b>				
<b>GRI 103: Management approach 2016</b>	103-1	Explanation of the material topic and its boundary	31, 108, 116	
	103-2	The management approach and its components	108, 105, 116, 118, 120-121, 132-134	
	103-3	Evaluation of the management approach	108, 105, 116, 118, 120-121, 132-134	
<b>GRI 401: Employment 2016</b>	401-1	New employee hires and employee turnover	114	
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	112, 116, 133-134	
<b>GRI 402: Labor/management relations 2016</b>	402-1	Minimum notice periods regarding operational changes	116	

GRI standard #		Disclosure	Page number	Reason for omissions
<b>GRI 404: Training and education 2016</b>	404-1	Average hours of training per year per employee	117	
	404-3	Percentage of employees receiving regular performance and career development reviews	116	
<b>GRI 405: Diversity and equal opportunity 2016</b>	405-1	Diversity of governance bodies and employees	111, 113	
<b>GRI 407: Freedom of association and collective bargaining 2016</b>	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	116	
<b>Community engagement</b>				
<b>GRI 103: Management approach 2016</b>	103-1	Explanation of the material topic and its boundary	31, 93	
	103-2	The management approach and its components	93-101, 105	
	103-3	Evaluation of the management approach	93-101, 105	
<b>GRI 413: Local communities 2016</b>	413-1	Operations with local community engagement, impact assessments, and development programs	93-101	

## ASI content index

The ASI content index is a navigation tool that specifies which Aluminium Stewardship Initiative performance standards disclosure requirements have been made and where these disclosures can be found in the report.

ASI standard	ASI ref #	Disclosure requirement	Page number
<b>Sustainability reporting</b>	3.1	Governance approach and material, environmental, social and economic impacts	28, 31-32
<b>Non-compliance and liabilities</b>	3.2	Information on significant fines, judgments, penalties and non-monetary sanctions for failure to comply with applicable law	105
<b>Payments to governments</b>	3.3 b	Payments to governments, building on existing audit and assurance systems	45
<b>Disclosure of GHG emissions and energy use</b>	5.1	Material GHG emissions and energy use by source	60-64
<b>GHG emissions reductions</b>	5.2	Time-bound GHG emissions reduction targets	65
<b>Emissions to air</b>	6.1	Emissions to air	54-59
<b>Discharges to water</b>	6.2	Discharges to water	66-67
<b>Reporting of spills</b>	6.4 b	Impact assessments of any significant spills and remediation actions taken	68
<b>Waste management and reporting</b>	6.5 b	Quantity of hazardous and non-hazardous waste generated and associated waste disposal methods	71
<b>Disclosure of water usage and risks</b>	7.3	Water withdrawal and use. Material water related risks.	66-67
<b>Biodiversity management</b>	8.2 c	Biodiversity action plan outcomes	72-73







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