



EGA 2020 Sustainability Report

Together, innovating aluminium to make modern life possible





Making modern life possible

Aluminium makes modern life possible as part of products and infrastructure we rely on every day from buildings to electronics, mass transit to beverage cans.

The unique properties of aluminium - its strength, lightness, durability, conductivity and infinite recyclability - make it the ideal solution for many of the challenges that we need to address for a more sustainable future.

But the production of aluminium is not without the potential for negative impacts. At EGA, we recognise that in order to be part of a sustainable future, it is important that we consider how aluminium is used in conjunction with how aluminium is made.



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01



Introduction





Introduction

About this report

Welcome to Emirates Global Aluminium’s annual sustainability report, which details EGA’s 2020 sustainability performance.

The information presented in this report has been prepared and disclosed in accordance with:

- The Global Reporting Initiative (GRI) Standards core option¹
- The GRI mining and metal sector supplement²
- Aluminium Stewardship Initiative (ASI) Performance Standards reporting and disclosure requirements³

Although 2020 is the focus of this report, in some instances we have also referred to data pertaining to key aspects of our business from 2017-2019, in order to illustrate trends in performance.

The world changed in 2020. COVID-19 was the most significant pandemic in over a century. Throughout this report and particularly on pages 28 to 29, we relay EGA’s 2020 response to COVID-19.

To ensure appropriate content and data quality, professional auditing firm KPMG independently verified our disclosures in selected key performance areas, including material sustainability topics. KPMG’s assurance statement is provided in the appendices.

For more information on EGA’s sustainability activities and performance, please contact sustainability@ega.ae.

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



¹ GRI provide a framework and international benchmark for public disclosure of economic, environmental and social performance.
² GRI provides sector guidance for all reporting organisations in the mining and metals sector.
³ The ASI Performance Standards define environmental, social and governance performance standards specific to the aluminium industry.





Managing Director's statement

In a year of unprecedented challenges, EGA delivered by maintaining our focus on sustainability.

Future historians will look back on 2020 as a turning point. For many of us alive today, COVID-19 is our first experience of a global catastrophe. This shared trauma has refocused humanity on the other challenges looming in our future, and redoubled our commitment to take action now to deal with them. As we rebuild from COVID-19, we must do so better, addressing the full spectrum of sustainability issues.

EGA's priority has always been the health and safety of our people. This has been tested as never before during COVID-19. In 2020, we responded quickly and decisively to minimise transmission of the virus, protect the most vulnerable, and care for those who contracted it.

Our COVID-19 mitigation measures have included a vigorous testing programme, contact tracing, physical distancing and changing the ways some tasks were done, robust hygiene protocols, changes to our staff transport and housing, remote working, and extensive training and education programmes. We engaged an epidemiologist to help us understand the course of COVID-19 infection at EGA, and shared best practice with other leading companies in the UAE. Into 2021, we have continued to adapt and refine our measures as we learn more about this scourge.

Our mantra during the pandemic has been 'We are EGA. Together we can beat COVID-19'. For me, the most important word of this statement is 'together'. We are all responsible.

Throughout 2020, many people at EGA made personal sacrifices to protect themselves and each other, and ensure we could continue operations. I thank them all, and particularly those who spent long periods living in our accommodation away from their families to reduce the possibility of transmission into our workforce.

The COVID-19 pandemic has also been a test of our business's resilience. In the first half of 2020, demand for 'premium aluminium' declined as end-user industries reduced or suspended production. We increased our production of commodity P1020, which was in demand to be placed in storage for future use. Later in the year, as economies recovered, demand for 'premium aluminium' rose and we again adjusted our production mix. Meeting the challenges of this evolving and unprecedented situation was difficult for our team and I am grateful for their dedication.

Abdulla Kalban
Managing Director



Chief Executive Officer's statement

In 2020, despite the challenges of COVID-19, we further improved our safety performance. There were no injuries leading to time off work in any EGA operation. At EGA, each one of us is a safety leader and I thank all my colleagues for their dedication to keeping themselves and everyone around them safe.

COVID-19 upended 'business as usual', disrupting international supply chains and grinding entire industries to a halt. The aluminium industry was no exception. Everyone in EGA has had a part to play in navigating the pandemic, and we weathered the storm to deliver an improved financial performance on 2019. This enabled us to continue investing in a sustainable future with progress in transforming refinery waste into a useful product and harnessing solar power to make aluminium.

Elsewhere, however, we had no choice but to suspend some of EGA's ongoing initiatives due to COVID-19. For example, in Guinea, where we were unable to continue our vocational training programmes. However, we did redirect resources to support the fight against the pandemic, engaging local people in fabricating prevention materials for their communities, and reaching approximately 35,000 people with our information and awareness campaigns.

Also in Guinea, we continued to work closely with local communities, knowing that we must ensure that our neighbours' lives are not adversely affected by our operations. Our community outreach programme had to adjust to the risks imposed by the pandemic and opportunities for group or face to face communication were limited. Nevertheless, we still engaged with over 4,500 community members to help identify how we could contribute towards a better quality of life for the community and ensure all were well informed of our activities.

Unfortunately, for the second year in a row, we recorded an increase in our greenhouse gas emissions intensity associated with our metal production. Even though the increase was marginal at only 1.37 per cent it is not consistent with EGA's core commitments.

Thankfully, in 2020, we made good progress on the construction of a new highly efficient power block at Jebel Ali, built around the first Siemens Energy H-class gas turbine deployed in the global aluminium industry. This highly efficient power block will lower greenhouse gas emissions from our operations in Jebel Ali. We also made progress on our longer-term journey to lower carbon. Through a partnership with the Dubai Electricity & Water Authority, in 2020 EGA confirmed access to enough solar power to produce 40,000 tonnes of aluminium every year, with potential for significant expansion in the future. We will market this solar aluminium under the product brand CelestiAL.

I have also been proud of our further progress in aligning EGA with the Environmental, Social and Governance standards for our industry, the Aluminium Performance Standards. In 2020, EGA passed a surveillance audit in Al Taweelah and made significant progress in preparing our Jebel Ali facilities for certification.

Abdulnasser Bin Kalban
Chief Executive Officer

2020 key statistics

Quality products	Economic value generated and distributed	Technology and innovation
<p>2.51 million tonnes of cast metal produced</p>	<p>AED 4.14 billion (USD 1.13 billion) adjusted EBITDA⁴</p>	<p>18,000+ employee suggestions implemented</p>
<p>72% value-added products</p>	<p>AED 6.06 billion (USD 1.65 billion) spend on local suppliers</p>	<p>133 team based improvement projects implemented⁵</p>
<p>408 customers in 57 countries</p>	<p>AED 10.46 million (USD 2.85 million) community investments in UAE and Guinea</p>	<p>AED 79+ million (USD 21 million) savings from new innovations</p>

Creating opportunities for people

<p>7,300+ people employed</p>	<p>86,000+ contractor staff engaged</p>	<p>82% of our employees in Guinea are Guinean nationals</p>
<p>95 scholarship students supported</p>	<p>93 graduate trainees enrolled</p>	<p>18% supervisory and management roles in the UAE held by women</p>

⁴ Adjusted earnings before interest, taxes, depreciation and amortisation (EBITDA).
⁵ Known as Tamayaz projects.

Environmental and social responsibility

<p>Zero fatalities in any of our operations</p>	<p>74.95% lower TRIFR⁶ for mining activities compared with the industry average⁷</p>	<p>23.35% decrease in TRIFR⁶ for UAE when compared with 2019</p>
<p>Zero Lost Time Injuries⁸</p>	<p>35,000+ people reached through our health campaigns in Guinea</p>	<p>4,500+ people engaged through community engagement forums</p>
<p>79,134 COVID-19 tests provided to employees and contractors</p>	<p>600 students participated in online educational events</p>	<p>32% decrease in recycling compared with 2019 for UAE operations</p>
<p>1.37% higher GHG emissions intensity from smelting and casting operations compared with 2019</p>	<p>12.24% higher SO₂ emissions intensity from smelting operations compared with 2019</p>	<p>2.94% higher fluoride emissions intensity from smelting operations compared with 2019</p>
<p>39.42% lower GHG emissions intensity from smelting and casting operations compared with the global industry average⁷</p>	<p>6.45% higher NO_x emissions intensity in the UAE compared with 2019</p>	<p>88.45% lower PFC emissions intensity from smelting and casting operations compared with global industry average⁷</p>

⁶ Total Recordable Injury Frequency Rate
⁷ International Council of Metals and Mining (ICMM) referenced for the industry average.
⁸ Lost time injuries are the sum of all work-related injuries or illnesses 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.

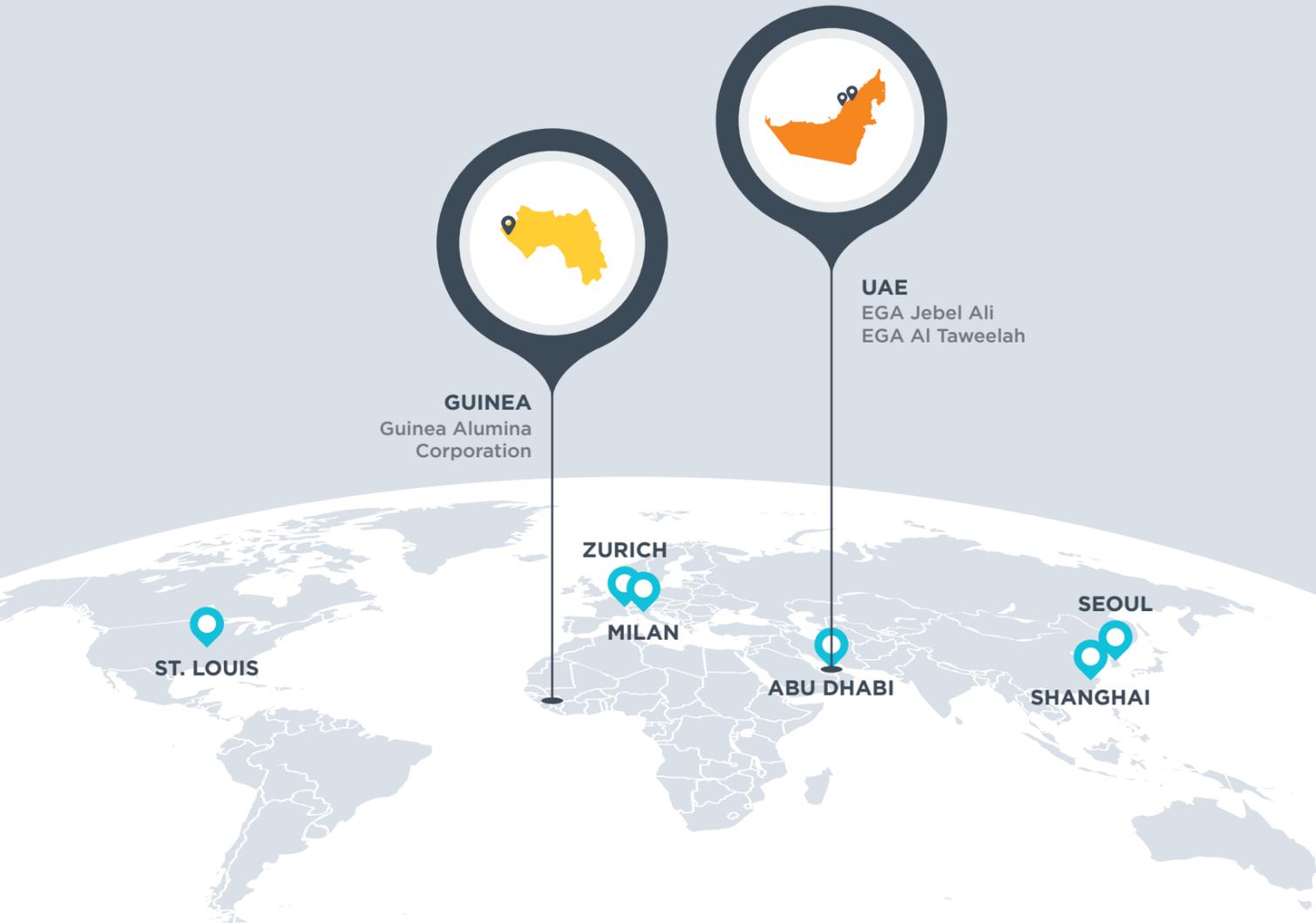
About Emirates Global Aluminium

Emirates Global Aluminium is the world's largest 'premium aluminium' producer and the United Arab Emirates' largest industrial company outside oil and gas.

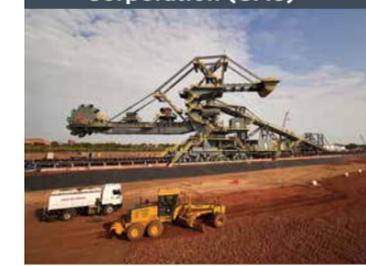
EGA was formed in 2014 through the merger of Emirates Aluminium and Dubai Aluminium, and our history stretches back to the 1970s when Dubai Aluminium was founded. Headquartered in the UAE, we are owned equally by Mubadala Investment Company of Abu Dhabi and Investment Corporation of Dubai.

Where we are located

● EGA operations ● EGA regional offices



EGA directly employs 6,937 people in the UAE and 428 in the Republic of Guinea, as well as teams based in our regional offices around the world. We supplied 408 customers in 57 countries in 2020. We operate two aluminium smelters – one in Abu Dhabi and one in Dubai, as well as the UAE's first alumina refinery. In Guinea, our wholly-owned subsidiary Guinea Alumina Corporation operates a bauxite mine with associated export facilities.

<p>Guinea Alumina Corporation (GAC)</p> 	<p>Bauxite mine and export facilities</p> <ul style="list-style-type: none"> • Capacity of 12 million tonnes of bauxite per year • Includes mine, rail infrastructure (shared with other operators) and export port • One of the largest greenfield investments in Guinea in the last 40 years
<p>Al Taweelah</p> 	<p>Al Taweelah alumina refinery</p> <ul style="list-style-type: none"> • A USD 3.3 billion development making alumina refining a new industrial activity for the UAE • Nameplate capacity of 2 million tonnes of alumina per year, enough to meet 40 per cent of EGA's alumina requirements, replacing some imports • The site is approximately 1km², the size of 200 football fields
<p>Al Taweelah</p> 	<p>Smelting, casting, anode production, power and water</p> <ul style="list-style-type: none"> • Commissioned in 2009, second phase in 2013 • 1,200 reduction cells in three potlines • 9 casting stations producing more than 1.4 million tonnes of aluminium in 2020 • 3,500MW natural gas power plant • 3.75 million gallons per day capacity desalination plant • The site is approximately 3km², 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
<p>Jebel Ali</p> 	<p>Smelting, casting, anode production, power and water</p> <ul style="list-style-type: none"> • 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 2020 • 2,350MW natural gas power plant • 30 million gallons per day capacity desalination plant • The site is approximately 1.3km², the size of 250 football fields



Our vision, mission and values

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

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.

We embody these three core values to deliver on 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

During 2020 we engaged all our employees worldwide, as well as some external stakeholders, in a process to collectively articulate a new purpose, mission and set of values to ensure our success over the decades ahead. We unveiled the result in 2021 and will provide details in our next sustainability report.

Memberships

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

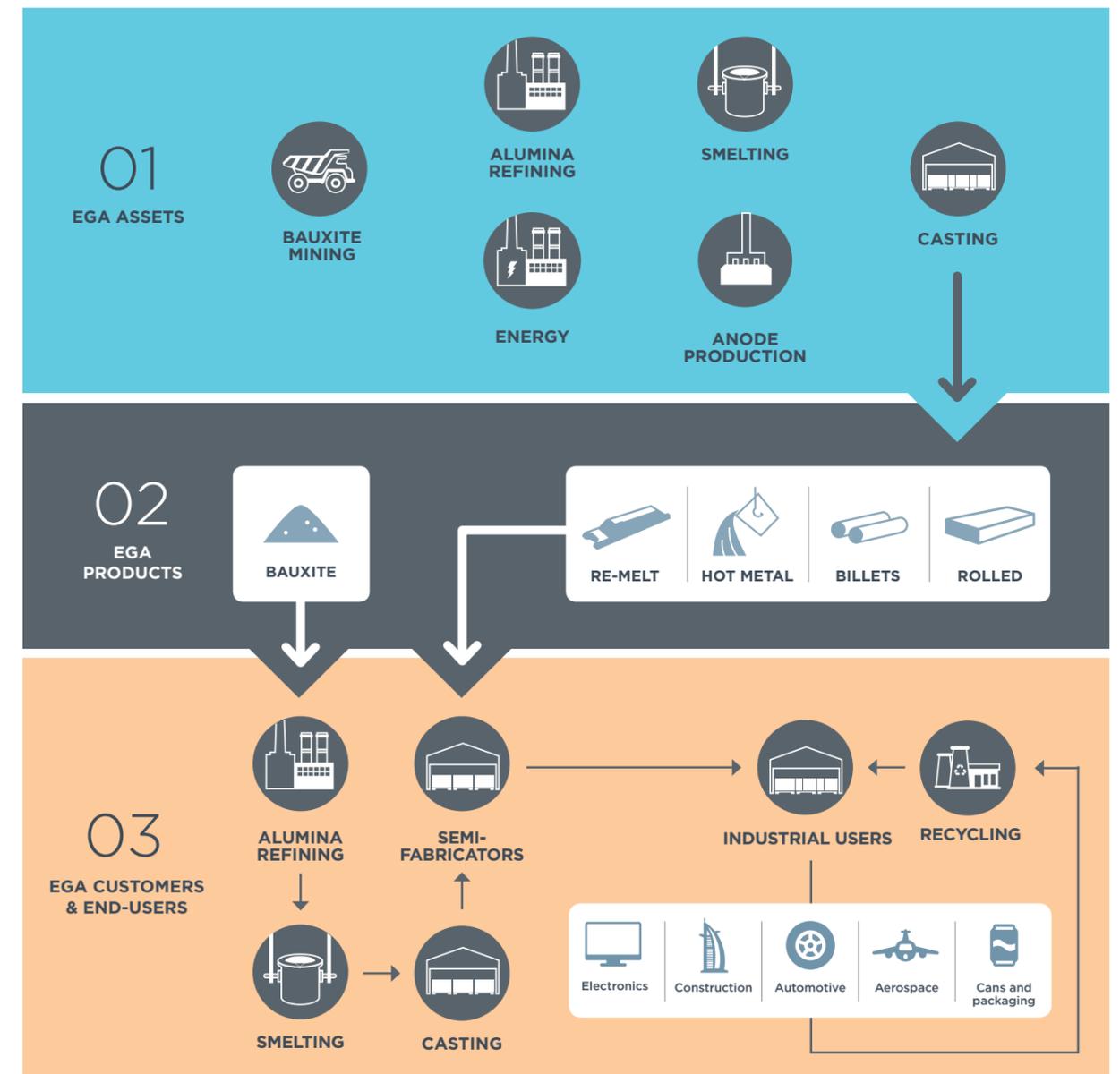


EGA's role in the aluminium value chain

EGA operates two smelters in the UAE, one in Abu Dhabi and one in Dubai. Each has its own anode production facilities, casthouses and captive power plant. Our sites are also able to access some power from the grid, enabling access to solar energy. In addition, we operate an alumina refinery in Abu Dhabi and a bauxite mine in Guinea.

EGA supplies primary aluminium to a wide range of downstream users. Most are semi-fabricators making parts for applications such as electronics, construction, automotive, aerospace and packaging. We also supply water to local Dubai customers from our onsite desalination facility.

EGA's role in the aluminium value chain in 2020



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



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 2020, EGA used 4.74 million tonnes of alumina to produce 2.51 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.

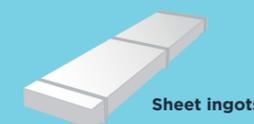
Re-melt purity products



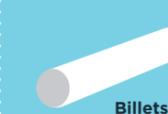
Re-melt foundry products



In **sheet ingot casting**, cast aluminium slabs are either: heated and passed through a sequence of rollers until either 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 tonnes crucibles which can keep the metal liquid for up to 18 hours at temperatures of around 780°C.



Hot metal transfer



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.

To help address these challenges, we have aligned our approach to sustainability with standards developed specifically for our industry by the Aluminium Stewardship Initiative (ASI). Developed over the course of over a decade, in collaboration with civil society and with input from communities, the ASI Performance Standards address sustainability issues all the way from bauxite mining to the production of consumer products made with aluminium.

Representing an international consensus on best practice in aluminium production, the ASI Performance Standards set expectations on governance, environmental, and social performance.

Aligning our approach to sustainability with the ASI Performance Standards means conducting our business with a high level of integrity and ensuring we have effective policies and procedures in place to support the sound management of environmental, social and governance issues. It includes being transparent, reporting on our sustainability performance in accordance with internationally recognised standards. It also means taking a life cycle perspective and promoting resource efficiency. It includes radically reducing our greenhouse gas emissions to mitigate their impact on the global climate as well as minimising emissions and effluents that have the potential to impact human health and the environment. It means

minimising the generation of waste and ensuring the responsible stewardship of water. It includes managing our biodiversity impacts to safeguard ecosystems, habitats, and species. Also, it means respecting and supporting individual and collective human rights, upholding labour rights and promoting healthy working conditions for all employees, contractors and those in our supply chain.

In 2017, EGA was the first organisation in the Middle East to become a member of ASI. In 2019, EGA became the first organisation in the Middle East to achieve a facility-level certification to the ASI Performance Standards. For 2021, we are aiming to achieve certification to the ASI Performance Standards for all our power production, anode production, smelting and casting facilities in the UAE.

“

COVID-19 has demonstrated how quickly a global catastrophe can change the world we live in. As we all build back from the pandemic, we must do so recognising the needs of the planet and the importance of our people.

”



Salman Abdulla
Executive Vice President - Health, Safety Sustainability, Environment, Quality, Business Transformation

“

Despite the pandemic, during 2020 we successfully passed our first ASI surveillance audit for Al Taweelah and made significant progress in preparing our Jebel Ali facilities for certification.

”



Steven Bater
Manager - Sustainability



EGA was the first aluminium producer in the Middle East 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



Alignment with United Nations Sustainable Development Goals

As part of our commitment to international best practice, we also align our sustainability approach with several of the UN Sustainable Development Goals relevant to our industry. Here is a summary of our 2020 initiatives.



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

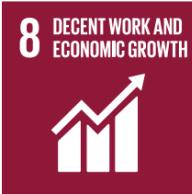
- We continue to provide healthcare for our employees. This includes offering medical insurance and operating clinics staffed by qualified doctors and nurses.
- We established COVID-19 testing facilities at our operational sites early in the pandemic, and provided regular testing for both staff and contractors. We had conducted 79,134 RT-PCR tests in the UAE alone by the end of 2020.
- In 2020, mindful of the toll that the pandemic may have on mental health, we also launched a comprehensive mental well-being campaign that included a series of webinars, e-learning activities, and videos to complement our long-standing Employee Assistance Programme. We intend to continue and expand this programme, and make mental well-being a priority for our company and industry.



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



- Education is a key focus for our community engagement and development projects. Unfortunately, in 2020, COVID-19 hindered our ability to run our usual vocational training programmes and school outreach projects. But we have leveraged virtual training opportunities and in 2020 engaged with over 600 university students as part of our Ambassador Programme.
- We also supplied numerous virtual training sessions for staff through platforms such as LinkedIn Learning and edX plus.



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. 82 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 2020 spend included USD 1.67 billion on local suppliers in the UAE and Guinea.



Take urgent action to combat climate change and its impacts.

- Unfortunately our carbon intensity associated with smelting increased by 1.37 per cent in 2020. However, the carbon intensity of our metal remains 39.42 per cent lower than global average.



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. EGA has been exploring the technical and commercial viability of using bauxite residue to develop products including for the construction industry.



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 zero net loss of biodiversity and a positive gain for critical habitats.
- In the UAE, our work to safeguard the critically endangered Hawksbill turtle nesting site adjacent to our facility in Al Taweelah was disrupted by access restrictions associated with COVID-19. However, we did increase our knowledge of local biodiversity at Jebel Ali, developing our first biodiversity action plan for the site.



Ensure sustainable consumption and production patterns.

- In 2020, despite some practical challenges resulting from COVID-19, we recycled 26,067 tonnes of spent pot lining (SPL)⁹. This included 87 per cent of our SPL generation in 2020 as well as some previously stockpiled material. We were able to achieve this thanks to a decade of close collaboration with local cement manufacturers in the UAE.



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

- EGA has been involved in multi-stakeholder engagement process looking into the future development and proposed updates to the ASI Performance Standards.
- We regularly engage with universities and research institutions to address key industry challenges.



⁹ Used inner lining of reduction cells.

The fight against COVID-19

EGA's COVID-19 response was conducted with the health and well-being of everyone who works at EGA as our priority.

Our efforts to minimise the transmission of the virus touched every corner of our business, whilst externally, we engaged with industry peers, medical professionals, government entities, medical laboratories and epidemiological specialists to ensure we were doing all we could to understand, control and eliminate COVID-19.



Testing for the virus

EGA's medical response was led by more than 60 doctors, nurses and other medical staff at our on-site medical centres. In the UAE, during the early stages of the pandemic, we established facilities able to provide reverse transcription polymerase chain reaction (RT-PCR) tests. Regular testing was mandatory for everyone working on our sites, at no cost to the individual. By the end of 2020, we had conducted 79,134 RT-PCR tests at EGA.

In Guinea, access to testing facilities and suitable laboratories in the proximity of our mining site proved challenging, but nevertheless, we were able to start on-site RT-PCR testing later in the year.

Regular testing proved an invaluable tool as the vast majority of identified positive cases were entirely asymptomatic, but nevertheless, potential spreaders of the virus.

In response to a positive result or on identifying a close contact, our medical team would immediately contact the concerned individual and assist with quickly ensuring quarantine at either their home, EGA facilities or a nearby hotel room provided by EGA. All positive cases would be regularly contacted by our medical staff to provide support and assurance during recovery and quarantine.

Understanding the virus

As we started to collate such a large volume of data through widespread RT-PCR testing, we recognised that these data could help us identify any transmission patterns and how to further improve our management of the virus. We engaged with a professor of epidemiology to provide insights and help guide us on efforts to reduce transmission risk.

We also reached out to industry peers, both regionally and internationally in order to share insights and learn from others what more we could do to reduce transmission risk and support active cases.

Reducing transmission risk

In both the UAE and Guinea, we implemented guidance issued by the World Health Organisation and government health agencies, as well as actions learned from our peers and epidemiology study, to minimise the risk of transmission.

In both the UAE and Guinea, this involved planned physical distancing, targeted disinfection and meticulous use of personal protective equipment.

Physical distancing included a site-wide rule of maintaining a distance of two metres or more, restricting contact between shifts wherever possible, providing extra accommodation, limiting access to our sites for all other than essential employees with working from home encouraged for all who are able to perform their role remotely¹⁰. We also provided accommodation on EGA premises for contractor staff, reduced transportation requirements and significantly increased the size of our bus fleet to reduce seat occupancy.

Disinfection and hygiene protocols were ramped up with high risk areas¹¹ and fomites specifically targeted. We purchased disinfectant fogging machines to facilitate disinfection efforts and installed disinfection tunnels at key access points. We also partnered with an external provider to check our hygiene standards, analysing hundreds of swab samples collected from fomites at our facilities to affirm effectiveness and identify areas for improvement.

We supplied masks and hand sanitiser for use across EGA premises whilst our medical teams were supplied with advanced PPE such as pressure breathing apparatus, protective medical gowns and face shields.

We also installed thermal imaging cameras at entry points and provided thermometers for staff to regularly check their own body temperature for any signs of fever.



Education, awareness and open communication

Amongst all of our preventative measures, employee awareness and education were recognised as being amongst the most important as ultimately all of us are responsible for beating COVID-19. The greatest threat to our control measures was ignorance or complacency.

Throughout 2020, we prioritised educating and motivating employees through awareness and engagement programmes including regular alerts, notices, extensive visual communication, videos, toolbox talks, CEO briefings and regular updates regarding the findings from our on-site testing facilities. We also created a dedicated COVID-19 information microsite on our intranet.

In addition to our on-site medical facilities, we provided free 24/7 access to doctors to all of our employees through an online application.

How to put on, use, take off and dispose of a mask

- Before putting on a mask:** Wash hands with soap and water or sanitiser for 20 seconds.
- Cover mouth and nose with mask:** Make sure there are no gaps between your face and the mask.
- Avoid touching the mask or face while using it:** If you do, wash hands with soap and water or sanitiser.
- To remove the mask pull the strings:** Do not touch the front of the mask; discard immediately in a closed bin; wash hands with soap and water or sanitiser.

CALL THE MEDICAL CENTRE IF YOU DEVELOP ANY SIGNS AND SYMPTOMS OF COVID-19
 AT MEDICAL CENTRE - 02 308 3145 | JA MEDICAL CENTRE - 04 802 2344

¹⁰ Any and all personnel who were assessed as potential high risk by our medical staff due to a pre-existing condition were required to work from home, regardless of their role.

¹¹ Such as clinics, testing sites, busses and areas of high footfall.

Supporting mental health

Recognising the impact the pandemic and associated lockdowns could have for mental health, we developed a series of initiatives to support employee well-being and resilience. These included a mental health first aider programme, webinars and training sessions, a mental health newsletter and a dedicated resource hub on the EGA intranet. We also provided our staff and their families with free, confidential counselling in the year, we were also able to provide our employees with free access to a licensed therapist.

“
The physical and mental well-being of our employees is our top priority. The dedication of all our staff in adapting to the new ways of working and maintaining such a safe environment has been commendable.
”



Dr. Mohammed Firdouse
Chief Medical Officer

Vaccination

Towards the end of 2020, we started work on establishing vaccination centres on EGA premises to vaccinate employees, contractors and their families if they chose. We began vaccination on-site early in 2021.



FEELING STRESSED OUT DUE TO COVID-19?

EGA’s EAP service offers free, confidential counselling services to help you and your family manage issues that can cause stress and worry in daily life, such as around COVID-19.





Harnessing the power of the desert sun to make aluminium

Aluminium production is energy intensive with electricity generation accounting for more than 60 per cent of the global aluminium industry's greenhouse gas emissions¹². Across the world, much of this energy is derived from fossil fuels, with attributable greenhouse gas emissions, or hydropower which can be devastating for local natural ecosystems.

In 2020, we worked on developing the world's first commercial production of aluminium using the power of the sun. We began production of this metal, which we will market under the product brand, Celestial, early in 2021.

The sunny climate of the UAE and its extensive tracts of desert provide an excellent opportunity for large-scale development of solar power. The UAE receives very high average hours of sun per day, and there are minimal impacts from land use change compared to more temperate regions.

EGA procures solar power through a partnership with the Dubai Electricity and Water Authority (DEWA), with an agreement to provide 560,000 MWh of solar power every year from the Mohammed bin Rashid Al Maktoum Solar Park. This is sufficient to make

40,000 tonnes of aluminium in the first year and there is potential for significant expansion in the future.

The Mohammed bin Rashid Al Maktoum Solar Park, located in the desert on the edge of Dubai, has a current installed capacity of 1,013MW using photovoltaic solar panels. Eventually, this capacity is planned to reach 5,000MW by 2030 with additional photovoltaic solar panels and concentrated solar power.



¹² IAI sourced for global average.



EGA's governance

EGA has a strong corporate governance structure and works with a range of stakeholders worldwide. This ensures we account for a diverse range of experience, expertise, interests and expectations.



Our corporate governance

EGA's Board of Directors has 12 members, including our Chairman, Vice Chairman and Managing Director. The Board provides strategic direction and management supervision, ensuring there are adequate controls to realise our vision and achieve a long and prosperous future for EGA.

In 2020, EGA's Executive Committee consisted of 11 members, many of whom have extensive operational experience and have contributed to EGA's growth over decades-long careers. This committee is responsible for implementing the Board's direction and decision-making on day-to-day environmental, social, and governance issues.

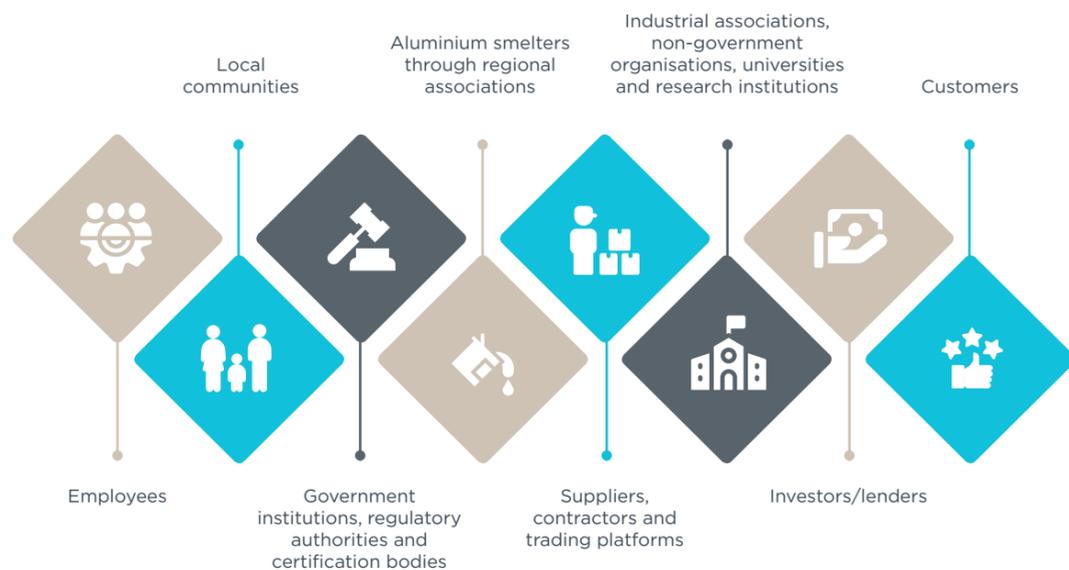
In 2020, the Executive Committee comprised:

- Chief Executive Officer
- Chief Financial Officer
- Chief Commercial Officer
- General Counsel
- Executive Vice President – Midstream Operations

- Acting Executive Vice President – Product and Casting Operations
- Executive Vice President – Human Capital
- Executive Vice President – Health, Safety, Sustainability, Environment and Quality (HSSEQ) and Business Transformation
- Executive Vice President – Upstream and Capital Projects
- Chief Executive Officer – Guinea Alumina Corporation
- Senior Vice President – Corporate Affairs

EGA has 10 departments, which report to the CEO. EGA's sustainability team is part of the HSSEQ department and reports directly to the Executive Vice President – HSSEQ and Business Transformation.

Our stakeholders



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 2020, 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'¹³.

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 2020, we engaged with a total of 357 stakeholders.



¹³ 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 ● Very important ● Important



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 2020.

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 2020 report covers all ASI Performance Standards disclosure requirements for EGA's operational facilities.

In 2020, 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 change¹⁴. 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. ¹⁵	Sustainability topic ¹⁶	Disclosures	Alignment	Reporting boundary ¹⁷	Page reference
1	A safe and healthy workplace at EGA	Occupational health and safety management approach	GRI	A	78-81, 86-88
		Occupational health services	GRI	A	86-88
		Participation, consultation and communication on occupational health and safety	GRI	A	80, 110, 128
		Safety performance figures	GRI	A	82-85
		Health related figures	GRI	A	86,88
2	Business integrity and ethics	Occupational health and safety training	GRI	A	80
		Compliance management including approach to anti-corruption and anti-competitive behaviour	GRI	A	96-98
		Significant fines, judgments, penalties and non-monetary sanctions for failure to comply with applicable law	GRI & ASI	A	98
		Communication and training related to EGA code of conduct and anti-corruption policies	GRI	A	97
3	Air quality and emissions	Any confirmed instances of corruption and actions taken	GRI	A	98
		Management approach for the control and monitoring of significant emissions that could have adverse environmental or human health impacts	GRI	A	58-63
		Performance figures for significant emissions to air that could have adverse environmental or human health impacts	GRI & ASI	A	60-63
		Actions taken or plans in place to minimise significant air emissions	GRI & ASI	A	60-63
4	Our employees	Employee relations, benefits and welfare	GRI	A	110-117
		Training and development	GRI	A	112-113
		Diversity and affirmative employment	GRI	A	104-107
		Employee engagement	GRI	A	80, 110-111, 128

¹⁴ For further information, please refer to external assurance report (pages 134-135).

¹⁵ Numbering is for reference purpose and does not indicate the ranking of material topics.

¹⁶ For comparison against previous years material topics, please refer to our published 2019 report available at <https://www.ega.ae/media/2356/ega-2019-sustainability-report.pdf>

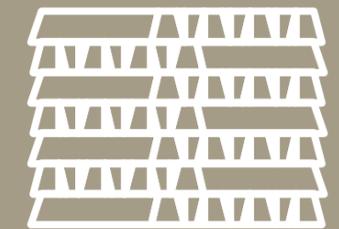
¹⁷ For the reporting boundary, 'A' covers all EGA activities; 'B' covers EGA's activities in UAE; and 'C' covers activities in Guinea.

No. ¹⁵	Sustainability topic ¹⁶	Disclosures	Alignment	Reporting boundary ¹⁷	Page reference
5	Environmental controls and management systems	Management approach to safeguarding the environment	GRI	A	58-77
		Our response to environmental incidents	GRI	A	75
		Details of any significant spills including associated impact assessments and remediation actions taken	GRI & ASI	A	75
		Any fines or non-monetary sanctions for non-compliance with environmental laws or regulations	GRI	A	75, 98
		Stakeholder grievances regarding aspects of our environmental management practices	GRI	A	60, 95, 98
6	Waste management	Waste management approach	GRI	A	72-74
		Hazardous and non-hazardous waste generated and associated waste disposal methods	ASI	A	73-74
7	Community engagement	Management approach for impacts on people in local communities	GRI	A	90-91, 94
		Local community engagement	GRI	A	90-95
		Social and environmental impact assessment	GRI	A	59, 90
		Community feedback and grievance management	GRI	A	95
		Community development programmes including training and awareness	GRI	A	90-95
8	Water consumption and discharge	Water withdrawal and use	GRI & ASI	A	70-71
		Discharges to water bodies	GRI & ASI	A	70-71
9	Respecting human rights	Respecting rights of our employees, those in our value chain and the communities in which we operate	GRI	A	54, 90, 110-111
		Incidents of discrimination and corrective actions taken	GRI	A	98
		Controls and assessment of risks associated with forced or child labour	GRI	A	54
		Security personnel trained in human rights policies or procedures	GRI	C	93
		Respect of the rights of the community and any indigenous peoples	GRI	A	90,94
		Operations that have been subject to human rights reviews or impact assessments	GRI	A	58, 90
10	Contribution to local economic development	Proportion of spending on local suppliers and nationals hired in senior management	GRI	A	55, 103
		Infrastructure investments and services supported	GRI	A	53, 90-92
11	Climate change	GHG emissions and energy use	GRI & ASI	A	64-69
		Time-bound GHG emissions reduction targets	GRI & ASI	B	68
12	Openness and transparency	Payments to governments and policy regarding political contributions	GRI & ASI	A	52, 96
		Any instance of non-compliance regarding marketing communications	GRI	A	45
13	Our metal	Product reliability, quality and feedback	EGA topic	B	42-45
		Material stewardship	GRI	B	20
14	Economic performance	Direct economic value generated and distributed	GRI	A	51-52
		Indirect economic benefits and contributions	GRI	A	53
15	Wildlife conservation and biodiversity	Significant impacts of activities on biodiversity	GRI	A	76-77
		Achieved outcomes from biodiversity management efforts	GRI & ASI	A	76-77
16	Technology and innovation	Research and development	EGA topic	B	120-127
		Innovation	EGA topic	B	128-131
17	A responsible supply chain	Management approach to ensuring appropriate governance, social and environmental performance within supply chain	GRI	A	54
		Suppliers screened according to environmental and social criteria and any negative impacts identified	GRI	A	54





02



Quality products

Aluminium makes modern life possible





Quality products

Our products and our customers

EGA is the world's largest producer of 'premium aluminium'.



EGA supplied primary aluminium to 408 customers in 57 countries in 2020.

In 2020, we produced around 2.51 million tonnes of cast metal and 1.92 million tonnes of alumina at our UAE facilities. It was the first full year of production for our alumina refinery in Abu Dhabi.

In Guinea, 2020 also marked our first full year of production, with 10.3-million tonnes of bauxite sold an increase of 8.6 million over the previous year, making EGA the second largest supplier in the world of bauxite to the third party market. We export to Asia, Europe and the UAE.

EGA is the world leader in the production of 'premium aluminium', known in our industry as value-added products. Premium aluminium includes ingots, billets and sheets that have been alloyed or enhanced, or are very high purity. We create these products to customer specifications for use in the automotive, aerospace, electronics, packaging and construction industries. EGA's customers

2020 metal production

CAST METAL PRODUCED (million tonnes) **2.51**

AVERAGE PURITY RATING **99.88%**

2020 raw material production

ALUMINA PRODUCED (million tonnes) **1.92**

BAUXITE EXPORTED (million tonnes) **10.3**

“ 2020 was a very challenging year, but we succeeded in maintaining a relatively high value-added product sales ratio considering the impact of COVID-19 across different markets and industries. This is a true reflection of customer confidence in EGA's 'premium aluminium' and high-quality services. ”



Mohammed Qanbar
Senior Director, M&S Asia

also benefit from our technical expertise, as we help customers determine which specifications and alloys can maximise cost and performance efficiencies of intended applications.

In 2020, the COVID-19 pandemic affected demand for 'premium aluminium' across the globe, particularly in the second quarter of the year as lockdowns sent production levels in industries from automotive to aerospace plummeting. EGA responded quickly, pivoting production from 'premium aluminium' to commodity P1020 metal, which remained in demand. Our sales of 'premium aluminium' recovered later in the year as end-user industries returned to production.

For 2020 as a whole, our sales of 'premium aluminium' declined by 15 per cent compared with 2019. However, 'premium aluminium' still accounted for 72 per cent of EGA's total 2020 metal sales, and EGA remained the world's biggest premium producer. Looking ahead to 2021, our outlook is bullish, with a post-pandemic industrial ramp-up forecast to support 'premium aluminium' sales.



2020 was GAC's first full year of production – and we exported 10.3 million metric tonnes of bauxite



EGA's primary aluminium was shipped to **408 customers in 57 countries** around the world

EGA products



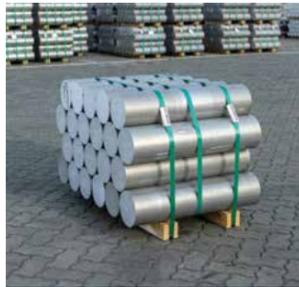
Re-melt aluminium

EGA primarily supplies high-purity and foundry-remelt products to manufacturers in the aerospace, automotive and electronics industries.



Rolled products

For the packaging and printing industries, we produce rolled products as sheet ingots, which are used to make foil and lithographic printing plates. The automotive industry also uses EGA's lightweight aluminium sheet ingots to manufacture vehicles that weigh less and are therefore more fuel efficient.



Billets

EGA supplies billets to end-users in industries including transportation and automotive, construction, engineering and consumer durables.



Molten metal

EGA delivers molten metal to nearby customers including Ducab Aluminium Company in Khalifa Industrial Zone Abu Dhabi (KIZAD). Molten metal is delivered in sealed trucks via a dedicated hot metal road. This direct delivery of molten metal eliminates customers' need to re-melt the metal upon receipt from EGA, thereby significantly reducing customers' energy consumption and, thus, environmental emissions.



Bauxite ore

Bauxite is the ore from which aluminium is derived and is refined into alumina, the feedstock for aluminium smelters. GAC's bauxite has one of the highest ratios of alumina to silica, as well as relatively low boehmite. These properties make it suitable for processing in a wide range of refinery operating conditions, from low to high temperatures as well as double-digestion refineries at comparably low operating costs.

Customer satisfaction

To monitor quality and identify areas for improvement, EGA conducts an annual customer-satisfaction survey. To ensure objectivity, a dedicated in-house team in our Quality department conducts the survey independently of EGA's Marketing team.

Over the years, EGA has repeatedly recorded a high level of satisfaction in quality and service.¹⁸

Originally due for completion in early 2020, EGA's 2019 Customer Survey was postponed so that management could focus entirely on maintaining operational resilience and keeping our on-site workers safe throughout the COVID-19 pandemic. The 2019 survey is now on track to be amalgamated into 2020's, results of which we expect to gather, analyse and communicate to all relevant stakeholders in 2021. We will publish the results in our 2021 sustainability report.

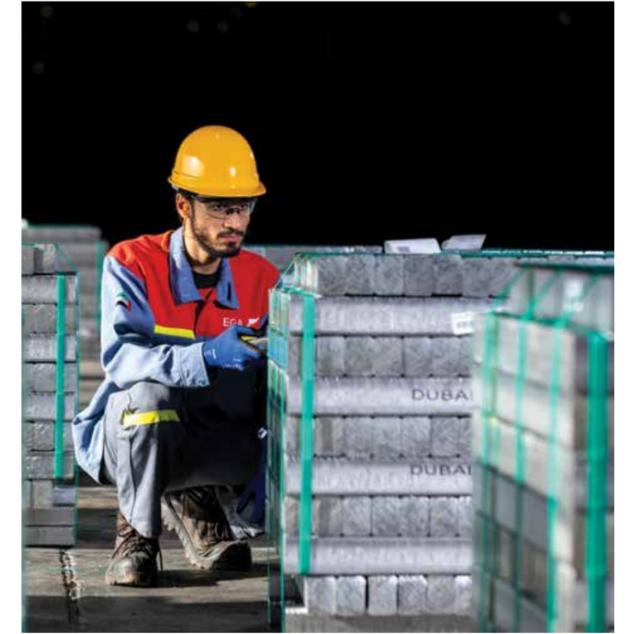
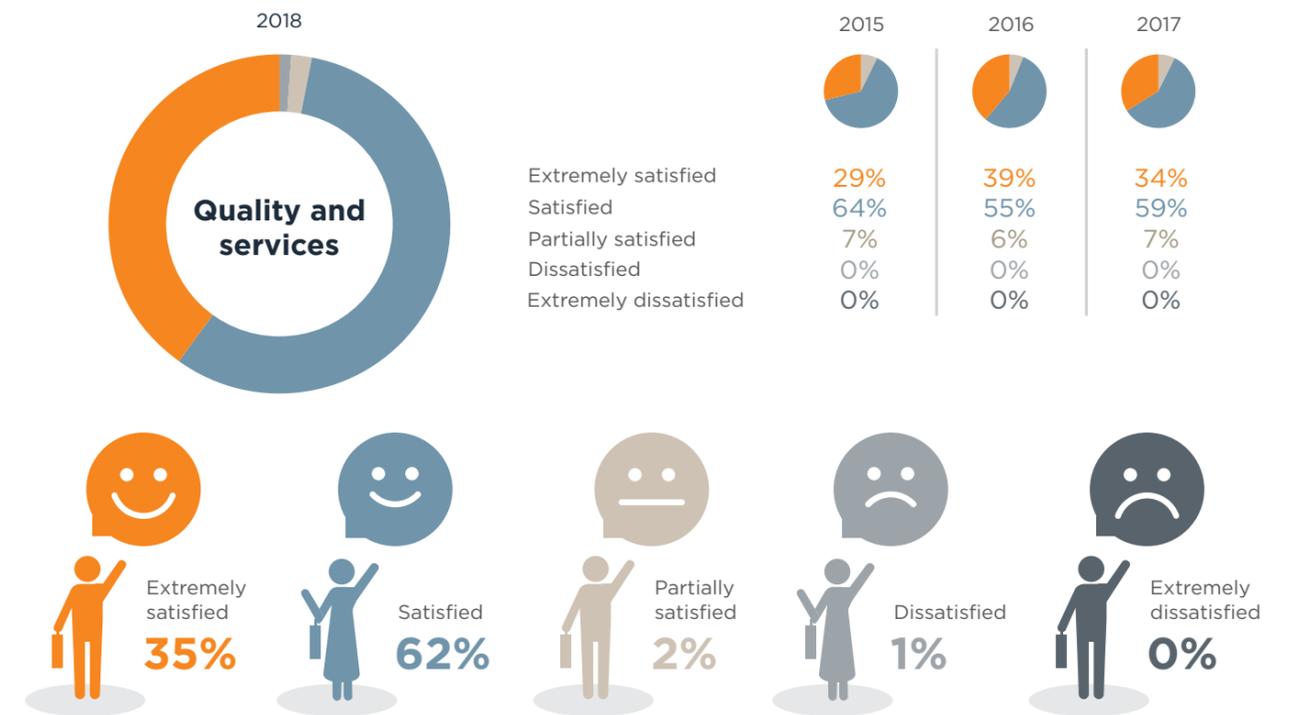


Figure 1: Customer quality and services satisfaction



¹⁸ In 2020, we did not identify any non-compliance with regulations and/or voluntary code concerning marketing communications.

Meeting international quality standards



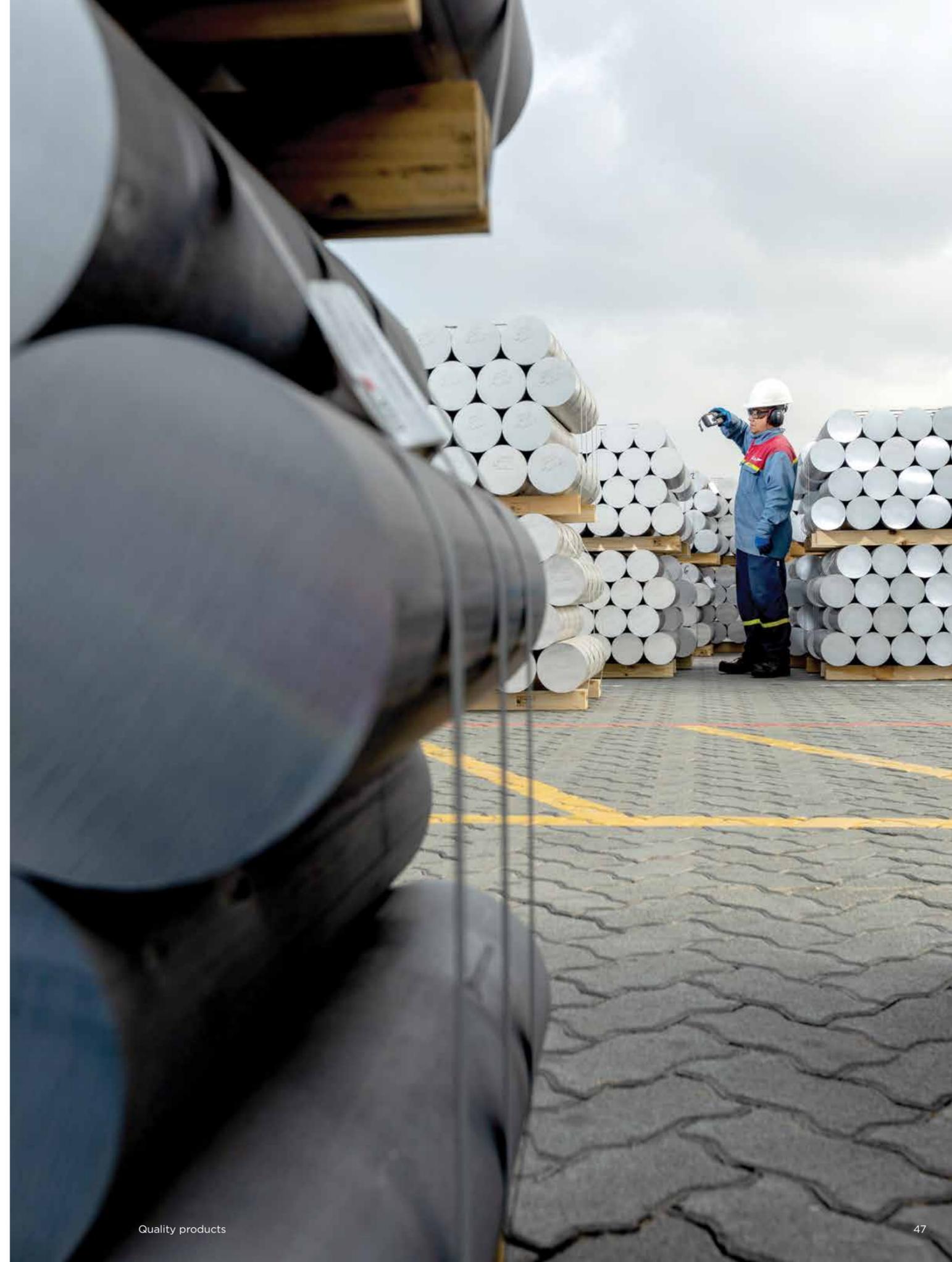
EGA's UAE facilities are certified to ISO 9001:2015 and IATF 16949:2016 standards

ISO 9001:2015 is the international standard for quality management systems. In order to achieve certification, an organisation must demonstrate an ability to systematically provide products and services that meet customer and regulatory requirements and to demonstrate continuous improvement.

The International Automotive Task Force (IATF), is a group of trade associations and leading companies including BMW Group, General Motors, Ford and Volkswagen. The IATF has developed standards detailing best practice when designing, developing, manufacturing, installing and servicing automotive products. Certification is a requirement for supplying value-added products to companies operating in the automotive supply chain.

At EGA, we operate our own laboratories to test and confirm that our products meet the expectations of our customers. All EGA laboratories are also certified to ISO/IEC 17025:2017, the single most important standard for testing laboratories. Accreditation demonstrates to customers, regulators and other stakeholders that we are technically proficient and able to produce precise and accurate test data. As part of the accreditation process, our laboratory quality management system is thoroughly evaluated on a regular basis. The 2020 ISO/IEC audit was conducted virtually and affirmed our continued technical competence and compliance.

We comply with the European Union's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and Restriction of Hazardous Substances (ROHS) standards. We also comply with US Security and Exchange Commission's (SEC) disclosure requirements relating to conflict minerals. In addition, EGA provides customers with material safety data, which detail the specific chemical composition associated with each EGA product.



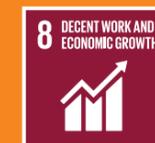


03



Economic value generated and distributed

Contributing to a modern, diversified economy





Economic value generated and distributed

Our economic contribution

The aluminium industry, like much of the global economy, faced many challenges in 2020.

Our product flexibility, focus on controllable costs and cash generation, and strong ramp-up performance at our upstream projects enabled us to significantly improve our financial performance despite these challenges.

Lockdowns affected production in end-user industries such as automotive and aerospace, reducing demand for our 'premium aluminium'. We adjusted our market focus, increasing production and sales of commodity P1020 aluminium early in the pandemic.

In the second half of the year, as end-user industries recovered, we increased the proportion of value-added products in our production and sales mix. For the year as a whole, 'premium aluminium' accounted for 72 per cent of our total sales (compared to 87.4 per cent in 2019) and EGA remained the world's largest producer by volume.

Throughout 2020, we worked to substantially reduce our cost base, successfully renegotiating supplier contracts and improving efficiency across our operations through our Najah ("success" in Arabic) transformation initiative.



Adjusted EBITDA¹⁹
AED 4.1 billion

Najah comprises more than 500 projects focused on cost reduction and revenue creation. Projects are organised into seven workstreams, each sponsored by a member of the Executive Committee.



Despite the challenges of COVID-19, EGA delivered an improved financial performance in 2020 due to our flexible response to market fluctuations, operational performance, and cost control.



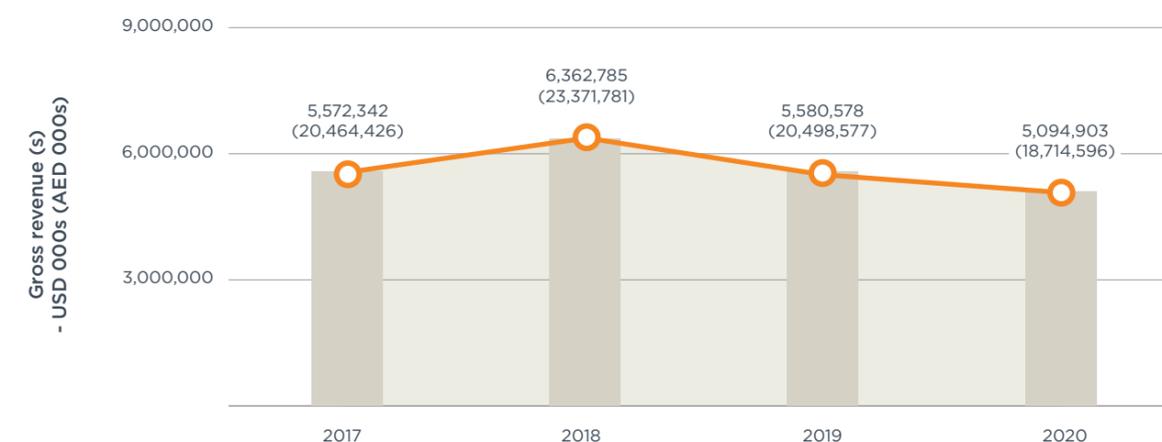
Mohamed Almarzooqi
Senior Manager - Planning & Reporting, FP&R and Group Accounting



2020 was the first full year of production at both Al Taweelah alumina refinery and Guinea Alumina Corporation, which reduced our reliance on imported alumina and increased our revenue from the sale of bauxite ore to third parties.

EGA's revenue in 2020 was AED 18.7 billion, a reduction of nine per cent from 2019. However, our adjusted EBITDA was AED 4.1 billion (USD 1.13 billion), an increase of 62 per cent compared to 2019.

Figure 2: Direct economic value generated



¹⁹ Earnings before interest, taxes, depreciation, and amortisation (EBITDA).

Figure 3: Economic value distributed

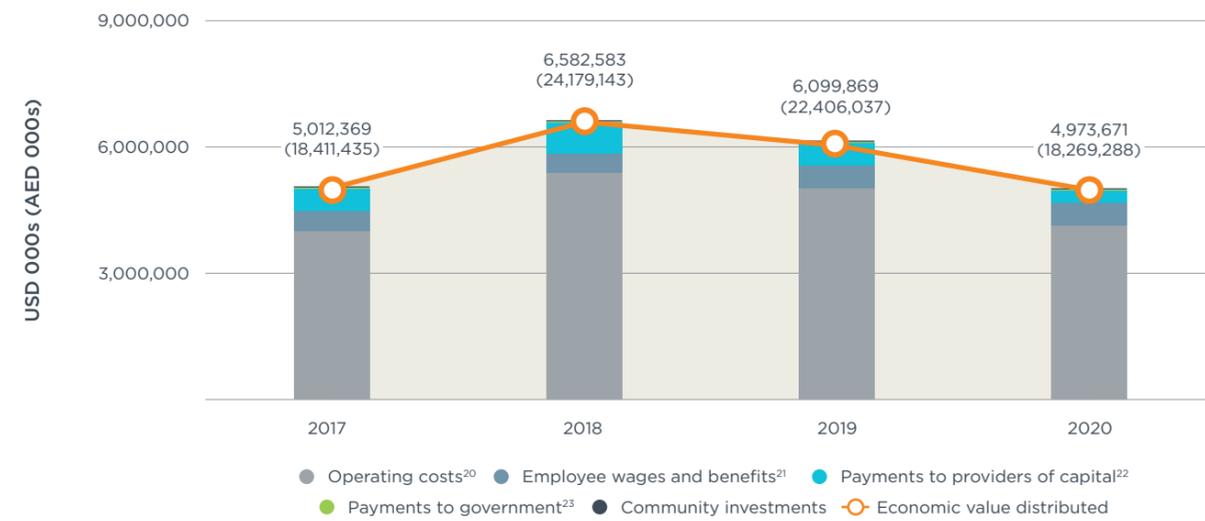
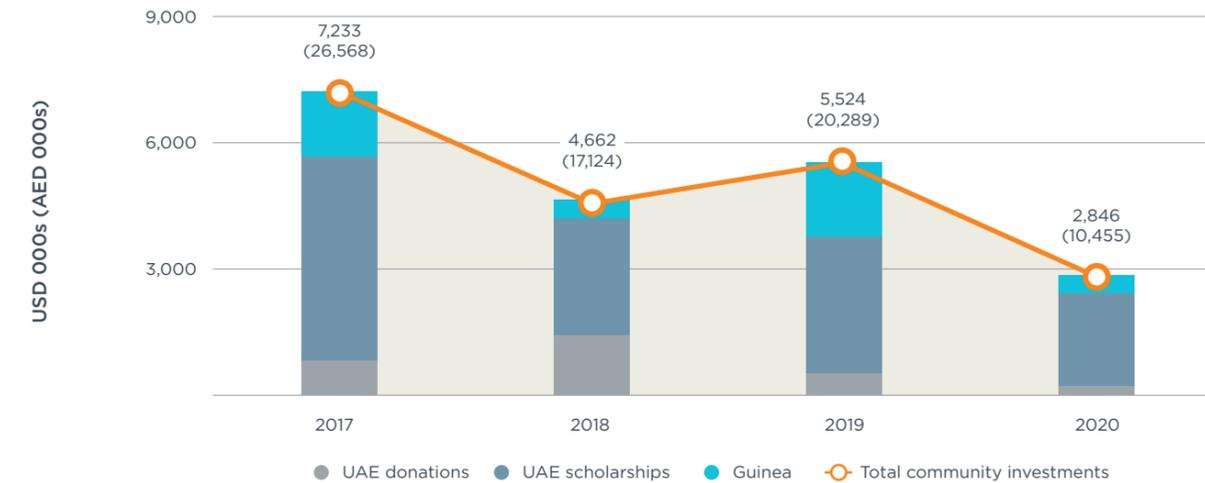


Figure 4: Breakdown of community investments



²⁰ Operating costs include cost of goods sold, sales and distribution costs and general and admin expenses.
²¹ Employee wages and benefits comprise the total costs for EGA employees and staff directly contracted by EGA.
²² Payments to providers of capital are the payments made to EGA shareholders and lenders.
²³ Payments to government are tax expenses/returns paid by EGA's international subsidiaries.

EGA has played an important role in the economic development of the UAE for decades.

Our aluminium is the biggest made-in-the-UAE export after oil and gas. Our new CelestiAL product makes the UAE the first country in the world to make aluminium commercially using solar power. We were also the first industrial company in the UAE to license its core process technology internationally, in a national step forward for creating value from knowledge. This year, Al Taweelah alumina refinery had its first full year of operations, with 589 permanent jobs, 11 per cent of which are held by UAE nationals.

EGA is also a significant contributor to economic development in Guinea. The development of GAC was one of the largest greenfield investments in the country in the past four decades. 2020 was the first full year of production at GAC. At full production, we estimate GAC contributes a five per cent boost

USD 2.85 million
 spent on community investments in 2020

to Guinea's economy. In operations, we have created more than 2,000 on-site jobs. Our on-site workforce grew in 2020 to support the production ramp-up.

Of our direct GAC employees, 82 per cent are Guinean nationals, which is helping drive skills development and economic growth in Guinea.

From health awareness programmes to vocational training and environmental projects, we have invested more than USD 54 million in community initiatives and helped more than 190,000 people since EGA started operating in Guinea.



Economic value generated and distributed



Responsible sourcing and our supply chain

An effective supply chain is key to EGA's competitiveness. We are committed to responsible sourcing, and our core policy requires that all suppliers adhere to our values.

Established in 2016, our Responsible Sourcing Standards detail the commitments we require from our business partners in relation to human rights, labour rights, environmental performance, conflict-free minerals, health and safety, workplace integrity including anti-corruption, anti-bribery, harassment, discrimination and worker welfare.

In 2020, 100 per cent of new suppliers signed up to our Responsible Sourcing Standards (or provided comparable assurances).

We reserve the right to audit supplier premises to ensure compliance with EGA's Responsible Sourcing Standards. In 2020, we audited just three suppliers against our standards due to restrictions associated with the COVID-19 pandemic. No significant actual or potential environmental impacts were identified from these audits. However, one of our suppliers failed their audit principally due to measures deemed insufficient to protect their workforce from COVID-19. At the time of the audit, this breach of our health and safety standards did not warrant termination of the contract, but we have set strict improvement requirements for this supplier.

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 our utilisation of the local supply chain.

In the UAE, we spent over AED 6 billion (USD 1.6 billion) in 2020 on goods and services procured locally, an 18 per cent increase compared to 2019. This was mostly due to an increase in local procurement of smelter-grade calcined petroleum coke.

However, the production of aluminium requires some raw materials that are not produced 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 businesses 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. In 2020, we spent USD 92.87 million with local suppliers in Guinea, a 14 per cent increase from 2019.



USD 92.87 million
spent on local suppliers
in Guinea

Figure 5: Percentage of EGA procurement budget spent in UAE

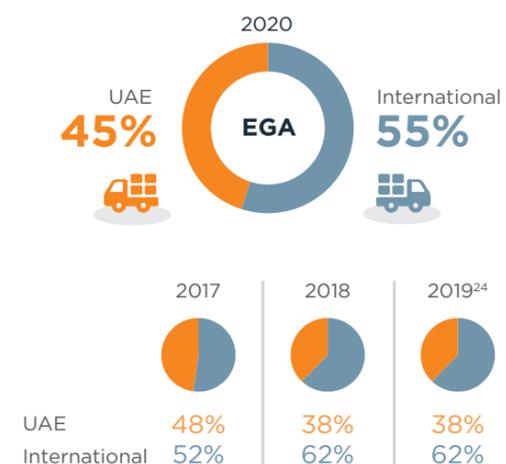
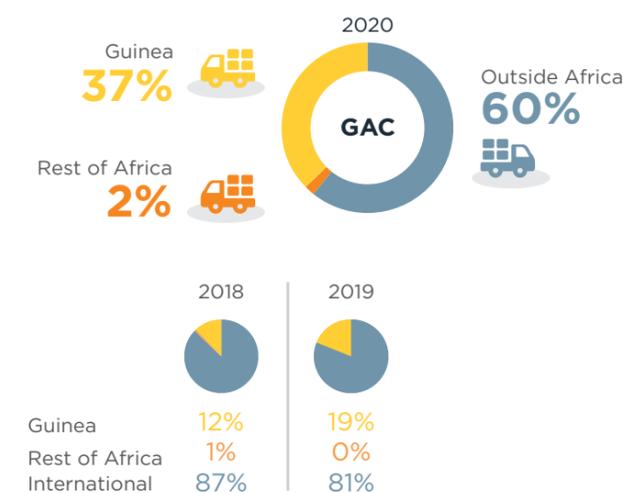


Figure 6: Percentage of GAC procurement budget spent in Guinea



²⁴ EGA 2019 procurement budget numbers have been adjusted, to reflect locally produced good excluding alumina produced at ATA from the figures reported in our 2019 report. This adjustment did not have any material impact on the 2019 report.



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 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 regulators²⁵. 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 14001:2015²⁶ with plans to certify our alumina refinery in 2021.

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



2020 was the year of determination to change, to improve and overcome obstacles while maintaining both operational and environmental targets and standards.



Maryam Sharif
Senior Supervisor – Environment & Waste Management



In Al Taweelah, the environmental performance of our smelting and casting has been confirmed as meeting the ASI Performance Standards²⁷. We aim to achieve this certification for all of our other 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 government²⁸.

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, water management, rehabilitation and reforestation.

In both Guinea, and for 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 Principles²⁹.

²⁵ Including federal and emirate level regulatory requirements and technical guidelines.
²⁶ Certificate available at <https://www.ega.ae/en/about-us/our-policies-and-certifications>

²⁷ Al Taweelah was certified in May 2019. Certificate is available for review at <https://aluminium-stewardship.org/wp-content/>
²⁸ These assessment and mitigation commitments are made publicly available through disclosure on the International Finance Corporation website <https://disclosures.ifc.org/#/projectDetail/ESRS/24374>
²⁹ 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.

Protecting air quality



Power generation and industrial processes associated with aluminium smelting can adversely impact air quality if not adequately managed. 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 generation. We have run simulated computer dispersion models in order to help us avoid potential local impacts associated with NO_x and SO_x emissions and identify suitable locations for air quality monitoring stations, and to ensure controls for dust suppression are sufficient.

Nitrogen oxides from power production in the UAE

Nitrogen oxides (NO_x) are produced from a reaction between nitrogen and oxygen in the air at high temperatures. EGA's NO_x emissions are primarily a result of the combustion of natural gas at our power stations.

In 2020, our NO_x intensity increased by 6.45 per cent compared to 2019. This was primarily due to a temporary shutdown of one of our steam turbines in Jebel Ali³⁰, during which we had to rely on additional gas turbines to provide power.

Currently, our reliance on older gas turbines at Jebel Ali means that we are not able to meet standards set by the environmental regulator in Dubai³¹. However, in 2020, we continued the construction of a new power block that will be the first in the UAE equipped with a highly efficient Siemens Energy H class gas turbine, significantly reducing our NO_x emissions and ensuring we meet the requirements of the regulator. Once this project is operational, we will place some older, less efficient gas turbines on emergency standby.

Figure 7: NO_x emissions from power plant operations in UAE³²



³⁰ EGA use the heat from gas turbines to generate steam, which in turn, can be used to generate power and so reduce overall gas demand.
³¹ In 2016, we received a notice of violation from the environmental regulator, Dubai Municipality, regarding NO_x 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. These units will be placed on 'emerging standby' once our new H class gas turbine is fully operational.
³² Emissions data are direct readings from analysers or manual balance estimations. The total volume of NO_x emissions depends predominantly on how much electricity we are generating to meet our requirements for aluminium production.

Sulphur dioxide from smelting and casting in the UAE

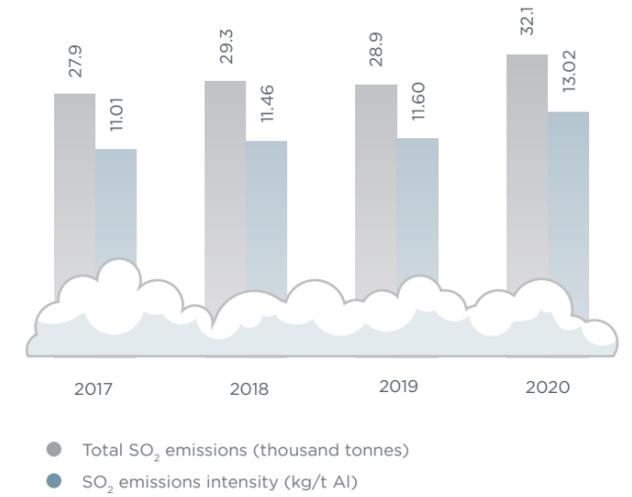
EGA manufactures its own anodes³³ for use in the electrolytic process of aluminium smelting. The raw materials required to make anodes contain sulphur. During manufacture, these raw materials are heated to very high temperatures resulting in the release of sulphur dioxide (SO₂). The majority of our SO₂ emissions are generated in the electrolytic process, as anodes are consumed during the reduction of alumina to form aluminium.

We control our SO₂ 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 SO₂.

In 2020, our SO₂ emissions intensity increased 12.24 per cent, mainly due to changes in material specifications and operational parameters during anode production, which led to unplanned disruption during the smelting process.

Despite this increase, our emissions remained well within regulatory limits.

Figure 8: SO₂ emissions from anode production and smelting operations in UAE³⁴



Throughout 2020, we continued with a rolling programme of significant refurbishments at our anode baking kilns with planned completion by 2022. These refurbishments will allow us to improve our anode baking process and better control SO₂ emissions in the future.



³³ EGA may purchase anodes should the need arise from some circumstances such as during refurbishment of baking kilns.
³⁴ Emissions data are direct readings from analysers or manual balance estimations.

Fluoride emissions from smelting operations in the UAE³⁵

During the smelting process, it is important to get electrolyte chemistry just right. The aluminium industry uses cryolite based electrolytes consisting of a fluoride salt to which it is necessary to add aluminium fluoride to maintain optimal chemistry and maximize resource efficiency. However, a consequence is the generation of fluoride emissions.

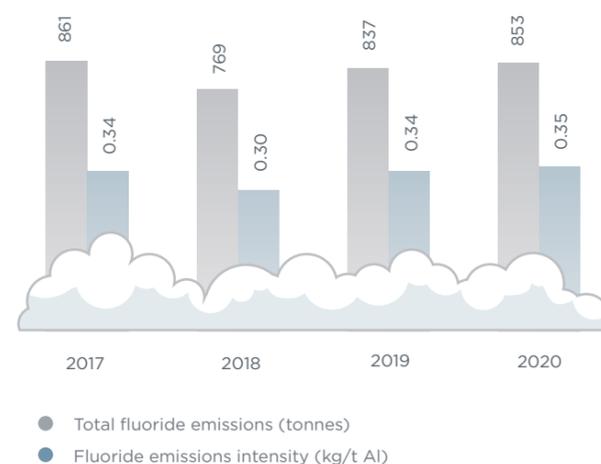
EGA's fluoride emissions are carefully controlled and monitored to ensure compliance with UAE regulatory requirements and relevant international standards. We control our fluoride emissions through gas treatment facilities and the application of advanced smelting technology developed by EGA.

We regularly monitor our fluoride emissions according to the requirements stipulated by our environmental management system. We also conduct regular vegetation material sampling in and around our smelting facilities to further ensure the adequacy and robustness of our control measures.

In 2020, our monitoring identified increases in our fluoride emissions with an increase in emissions intensity of 2.94 per cent. Our subsequent investigation attributed this increase to unplanned disruption during the smelting process.

Our fluoride emissions at Al Taweelah remained well within regulatory limits throughout 2020, however, we reported one exceedance in Jebel Ali. This exceedance was confirmed as having negligible risk to the environment and was addressed through amendment to process operations or improved maintenance.

Figure 9: Total fluoride emissions from smelting operations in UAE³⁵



Dust management from alumina 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 use 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 alumina 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.

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 have upgraded conveyor dust suppression systems and implemented improvements at our bauxite unloading area. In 2020, we have also made improvements to the facade of our bauxite storage shed to further reduce fugitive dust emissions. Looking ahead to 2021, we will continue to monitor the situation and where necessary, look into other suitable controls.

Power production, vehicular and equipment emissions from mining operations in Guinea

In Guinea, our principle gaseous emissions are NO_x and SO_x associated with the use of diesel for power production, vehicles and mining equipment.

During much of the construction phase of GAC, we were largely dependent on the use of diesel-powered mobile generators for the production of power. In late 2019, we commissioned two small diesel-powered package power plants, centralising the production of power and improving overall efficiency, with 2020 being the first full year of centralised power production.

Unfortunately, given travel restrictions associated with COVID-19, exacerbated by the remote location of our mining facilities, we were unable to arrange annual stack emissions testing at our package power plants. Emissions monitoring will be conducted from 2021 and associated data will be included in future reports.

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.

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 2020, we received a non-conformance from the regulatory authority in Guinea relating to excessive dust generation. Subsequently, we increased dust suppression efforts and our level of monitoring. Our response was organised in collaboration with the local community to ensure that our efforts were sufficient in addressing any causes for concern. Our response included the provision of fixed monitoring stations for the local community to use so that community members have the opportunity to directly monitor the outcomes from our enhanced efforts.



³⁵ Emissions data are derived from direct readings from a site analyser, laboratory analysis of manual stack sampling and/or mass balance estimations.

Energy consumption

Energy consumption in the UAE

The majority of EGA's 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 foundation of our organisation more than 40 years ago. This is achieved through our technology development and operational improvements.

In 2020, our total energy consumption in the UAE increased predominantly due to our new alumina refinery in Al Taweelah becoming fully operational.



The energy intensity of our DX+ Ultra technology is 12.8kwh/kg.



Figure 10: UAE energy consumption from non-renewable resources³⁶

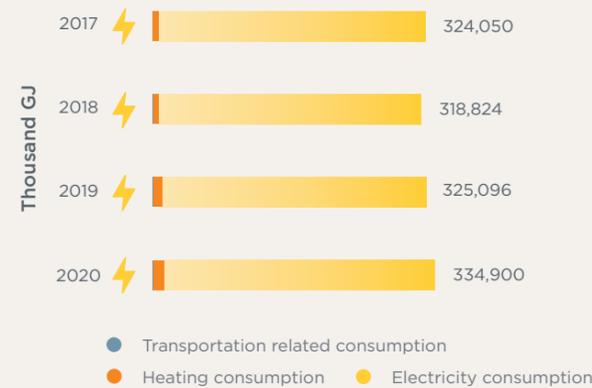
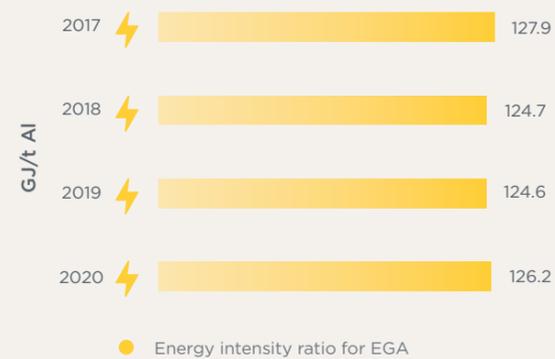


Figure 11: UAE total energy intensity³⁷

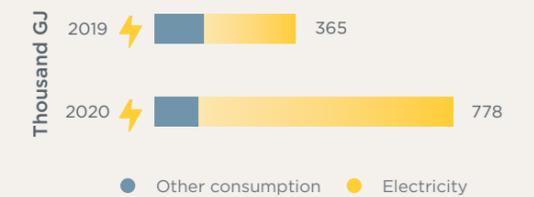


Energy consumption in Guinea

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.

In 2020, our total energy consumption in Guinea increased predominantly due to it being the first year of full operations that included a ramp up in production from three million tonnes in 2019 to 11 million tonnes in 2020.

Figure 12: Guinea energy consumption from non-renewable resources^{38 39}



³⁶ Energy consumption includes transportation, heating and electricity. Heating consumption includes activities associated with the operation of alumina refinery calciners, anode baking furnaces, casthouse furnaces.

³⁷ Energy intensities include consideration of gaseous and distillate fuel consumed and are based on fuel energy consumed during power generation which takes into consideration efficiency and thermal loss.

³⁸ As 2019 was the first year of operation, we are only able to provide data for 2019 and 2020.

³⁹ Other consumption refers to equipment is for mobile equipment for mine and transport activities.

Greenhouse gas emissions

Greenhouse gas emissions in the UAE



Carbon dioxide released to the atmosphere from fuel consumption at our natural gas power plants accounts for the majority of our greenhouse gas emissions. However, there are several other sources of greenhouse gas emissions in the production and consumption of anodes and the electrolysis process.

In 2020, our absolute greenhouse gas emissions increased due to a temporary and unplanned shutdown at one of our steam turbines in Jebel Ali⁴⁰, during which we had to rely on additional gas turbines to provide power. In addition, it was also the first year of full operations at our new alumina refinery in Al Taweelah, and we experienced a minor increase in energy demand linked to some unplanned disruptions in our smelting process.

Our Perfluorocarbon (PFC) emissions increased from 110 thousand tCO₂e in 2019 to 228 thousand tCO₂e in 2020 due to changes in operational parameters during anode production that led to unplanned disruption in the smelting process.

Commonly associated with the aluminium industry, PFCs are a group of potent greenhouse gases produced during the smelting process with a global warming potential thousands of times higher than CO₂.

However, thanks to EGA's technology and our operational controls, our PFC emissions are already significantly lower than the global average. In 2020, our PFC emissions intensity was 88.45 per cent lower than the global industry average⁴³.

As we are able to generate our own power at each of our sites in the UAE, we produce little in the way of Indirect (Scope 2) emissions. However, we are accountable for some Scope 2 emissions as a consequence of energy exchange agreements through which we mutually exchange energy with the grid. These exchange agreements are in place 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



The greenhouse gas intensity associated with our metal is 39.42% lower than the global average

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.

Increases in our Scope 1 and 2 emissions in 2020 resulted in a 1.37 per cent increase in the intensity of greenhouse gas emissions associated with our metal. Despite this increase, our greenhouse gas emissions associated with metal production remained 39.42 per cent lower than the published global industry average⁴⁴.

Figure 13: Direct (Scope 1) GHG emissions in UAE (thousand tonnes of CO₂e)⁴¹

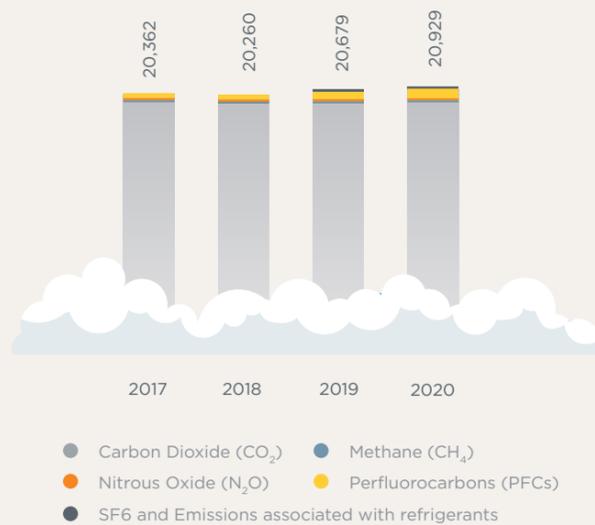


Figure 14: Indirect (Scope 2) greenhouse gas emissions in UAE (thousand tonnes of CO₂e)⁴²

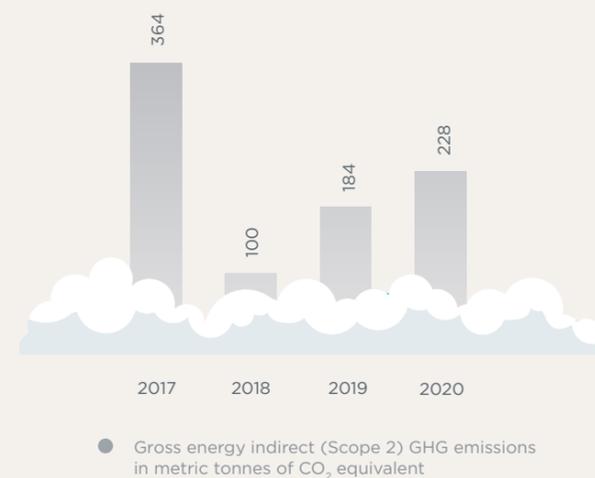


Figure 15: PFC emissions intensity

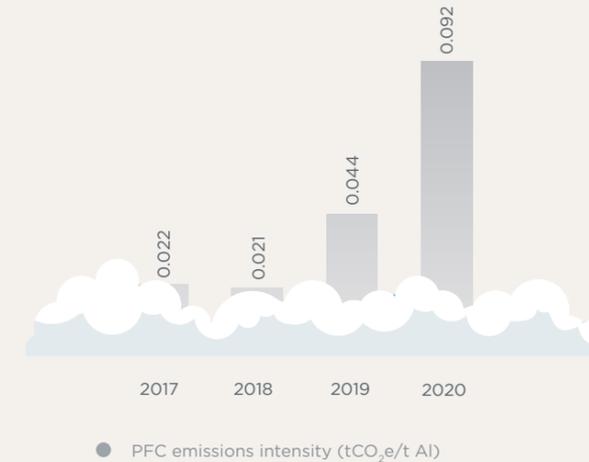
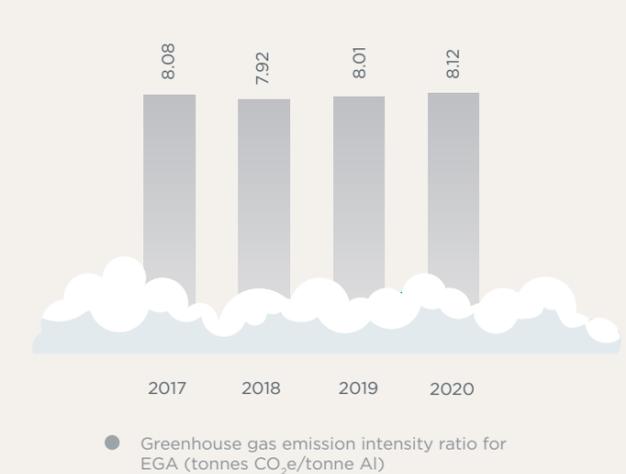


Figure 16: Greenhouse gas emissions intensity for our metal (Scope 1 and 2) - (tCO₂e/t Al)



⁴⁰ Typically, we use the heat from gas turbines to generate steam, which in turn, can be used to generate power and so reduce overall gas demand.

⁴¹ Global Warming Potential (GWP) for CO₂, CH₄, and N₂O are based on the Intergovernmental Panel on Climate Change (IPCC) 2nd 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. Scours of emission factors are based on IAI and ISSP Guidelines.

⁴² Variation in our reported indirect greenhouse gas emissions are a consequence of the total amount of energy exchanged. Local grid factors used to ascertain scope 2 emissions data. Scours of emission factor are based on grid emission factors.

⁴³ IAI referenced for the global industry average as of 2019.

⁴⁴ IAI referenced figure for the global industry is 13.40 tCO₂e/tAl.



EGA 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 Plan (CAP). This plan 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 and are reviewed every year by our operational and environment teams with progress regularly monitored and reported to our senior management.

Due to the unforeseen increases in emissions from energy production and smelting, we did not meet our 2020 intensity reduction target. However, with the completion of our new power block in Jebel Ali in 2021, we are hopeful that we will be able to meet next year's target.

Greenhouse gas targets (Scope 1 and 2) (tCO₂e/t Al)⁴⁵

2020	2021	2022	2023
7.95	7.89	7.54	7.53

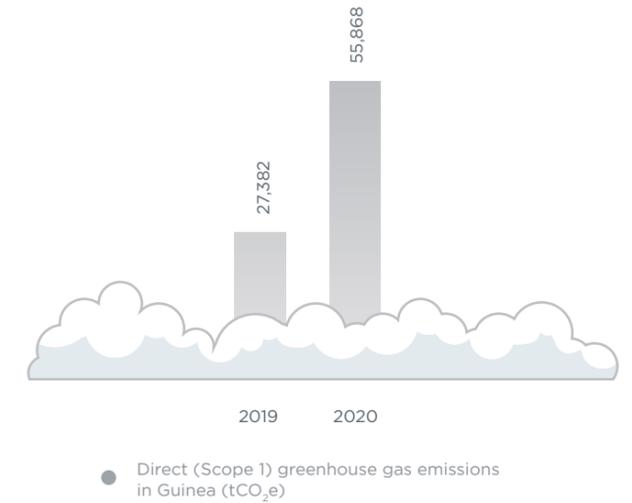
⁴⁵ 2021 and 2022 targets have been adjusted from the figures reported in our 2019 report to include production improvement forecasts.

Greenhouse gas emissions in Guinea

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

Despite improvements in efficiency of power production from the use of centralised package power plants, in 2020 our greenhouse gas emissions significantly increased. This was due to 2020 being the first full year of operations, during which we ramped up production from three million tonnes of bauxite to 11 million tonnes.

Figure 17: Direct (Scope 1) greenhouse gas emissions in Guinea (tonnes of CO₂e)⁴⁶



⁴⁶ Global Warming Potential (GWP) is based on the Intergovernmental Panel on Climate Change (IPCC) 2nd assessment report, 1996. 2019 was the first year of operations for GAC, and so we are only able to provide data for two years.

Water use

Water use in the UAE

In the UAE, the majority of our water use 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, steam generation, as well as for office and residential use on our sites. We supply some of the water generated at our Jebel Ali facility to local customers in Dubai.



In 2020, our total water consumption in the UAE was 89,969 megalitres.

We regularly monitor the quality of the water we return to the sea for various parameters including temperature, salinity and dissolved oxygen.

In 2020, from our regular seawater discharge analysis, we identified and investigated 93 exceedances above target limits⁴⁷, with 17 at our facilities in Jebel Ali and 76 at Al Taweelah. These exceedances were each confirmed as having negligible risk to the environment and each was addressed through amendments to operations processes or improved maintenance.

Our wastewater recycling activities include the use of treated effluent from our sewage treatment plant to meet our irrigation needs⁴⁸ and the reuse of some of our casthouse wastewater from our Fume Treatment Centre in Al Taweelah.

Figure 18: Water withdrawal and discharge in UAE⁴⁹



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 2020, we met our water needs through extraction from the Tinguilinta Reservoir and several groundwater boreholes⁵⁰. We also extracted seawater at the Kamsar port area to generate freshwater through a site-based reverse osmosis facility.



549 megalitres of water recycled and reused in the UAE

Equivalent to water storage capacity of 24,000 large water tankers

⁴⁷ Related to one parameter in Al Taweelah and two parameters in Jebel Ali.

⁴⁸ Water quality is tested and assured for suitability.

⁴⁹ Data derived from flow meters.

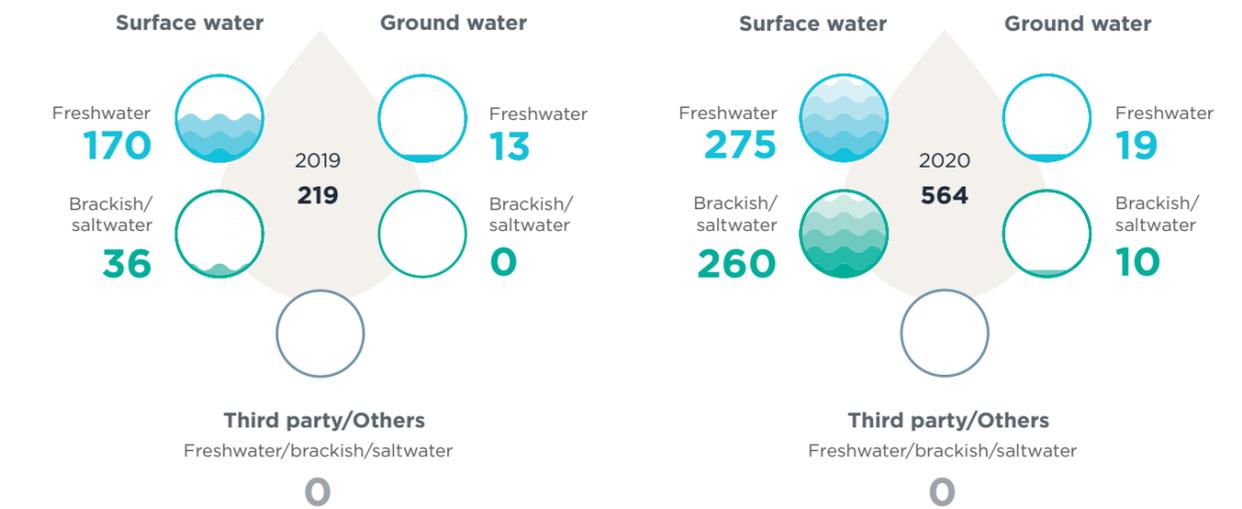
⁵⁰ Our environmental and social impact assessment has not identified any of our abstraction sites as being in areas of likely 'water stress'.

We 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 are compared against Guinean regulations and international standards.

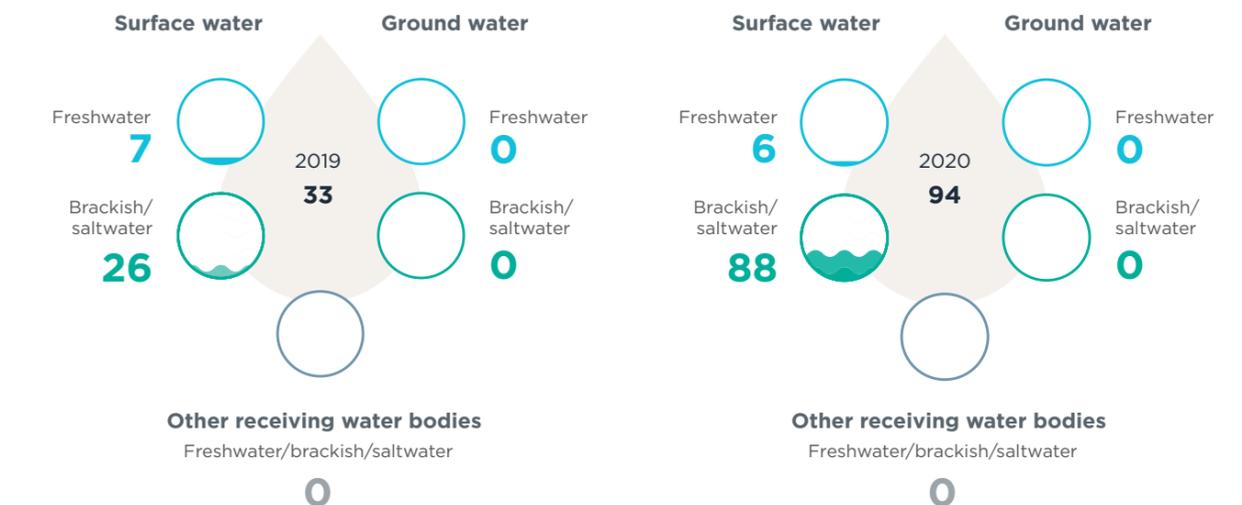
In 2020, we identified 16 exceedances above target limits, all of which were confirmed as having negligible risk to the environment. These exceedances were subsequently addressed through a facility sewage treatment plant optimisation programme.

Figure 19: Water withdrawal and discharge in Guinea⁵¹

Water withdrawal (megalitres)



Water discharge (megalitres)



⁵¹ During the reporting period, we did not withdraw any water from water stress areas. The calculation of total water withdrawal is based on flow and totaliser meters.

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 landfill⁵². As part of this plan, we are exploring and developing various opportunities for our waste streams as feedstock for other industries.

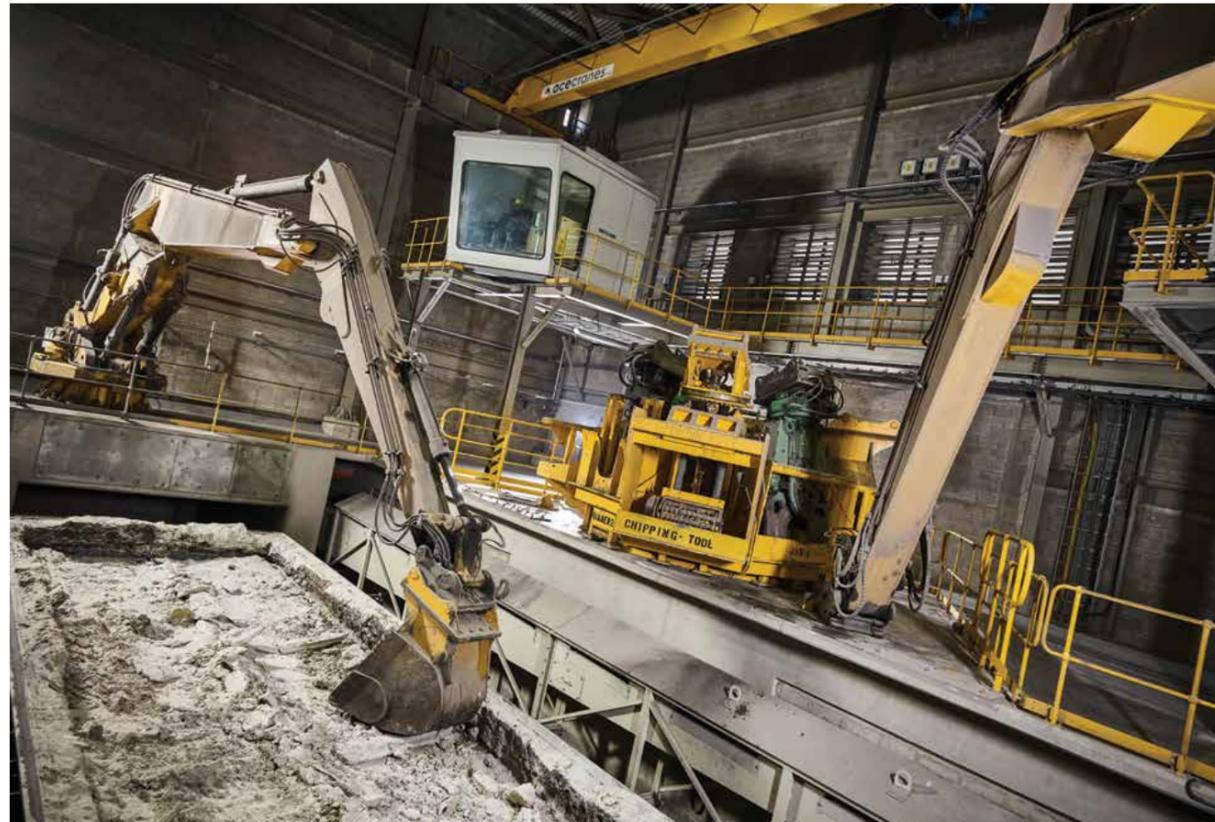
The smelting of aluminium generates a range of hazardous waste materials. In terms of volume, the two most significant hazardous waste streams are spent pot lining and dross.

Spent pot lining is the used inner lining of reduction cells, which needs to be replaced after several years of operation. In 2020, as with previous years, we did not send any spent pot lining to landfill. In total, we recycled 26,040 tonnes of spent pot lining,

equating to 50 per cent of our total in-year generation, the remainder being stored onsite for future recycling. Due to COVID-19, movement restrictions and an economic slowdown in the cement industry limited in-year recycling options.

Dross is a mass of impurities that floats to the top of molten aluminium and is removed prior to the casting process. In 2020, 100 per cent of our dross was sent to a specialised recycling facility to recover any aluminium from the material. Recovered aluminium is returned to EGA's facilities; no aluminium is wasted.

The dross recycling process also generates a salt slag by-product. Throughout 2020, we stored this waste at a salt slag recycling facility and on-site and in order to avoid sending any to landfill. In October 2020, this recycling facility commenced operations and started recycling EGA's salt slag.



⁵² Waste disposal method has been determined through consultation waste disposal form.

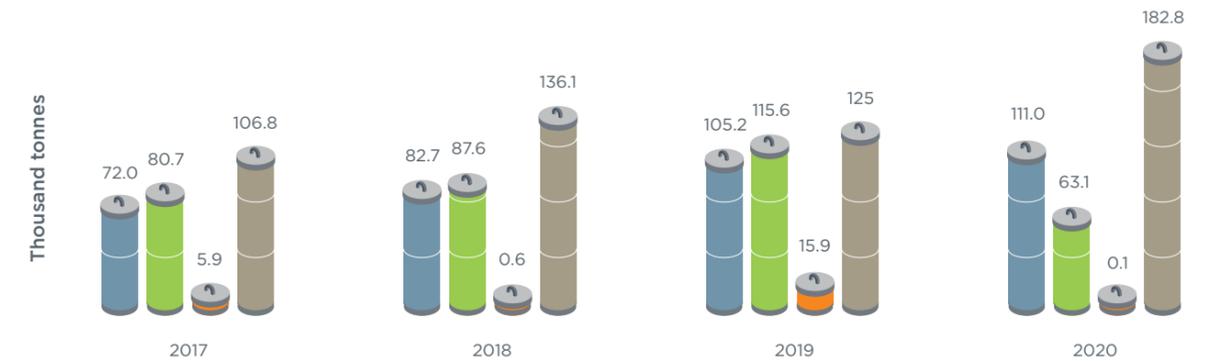
The most significant, and often challenging, waste material generated during the alumina refining process is bauxite residue. This material consists of the remaining ore fraction once alumina has been extracted through the Bayer process and is comprised of several metal oxides, including iron oxide, 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.

At EGA, our bauxite residue is washed, pressed into a dry cake, and transported using a fleet of sealed trucks to a purpose-built 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 2020, we deposited 2.35 million 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 storage⁵³.

Figure 20: Waste types and disposal methods in UAE^{54 55}

● Total waste generated ● Recycled ● Landfilled ● Total stockpiled volume

Hazardous waste



Non-hazardous waste



⁵³ Further information provided in the Technology and innovation Chapter.

⁵⁴ Excludes bauxite residue. All waste weights are measured at a weighbridge.

⁵⁵ Total stockpiled' includes the cumulative total of waste stored onsite in-year as well as from previous years.



Waste management in Guinea

In Guinea, our comprehensive Waste Management Plan was developed in accordance with both national and international standards⁵⁶. 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 incinerated⁵⁷.

In comparison with 2019, our waste generation reduced significantly, predominantly due to our transition from construction-related activities to full operations.

Figure 21: Waste types and disposal methods in Guinea⁵⁸



⁵⁶ Including the Equator Principles, the International Finance Corporation Performance Standards and regulatory requirements of the Guinean government.

⁵⁷ 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.

⁵⁸ Total stockpiled' includes the cumulative total of waste stored onsite in-year as well as from previous years.

⁵⁹ Total recycled includes generation from 2019.

Our response to environmental incidents

In 2020, EGA did not receive any fines or non-monetary sanctions for non-compliance with environmental laws or regulations. Nevertheless, we did encounter several 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

In 2020, we did not encounter any significant⁶⁰ environmental incidents at any of our sites in the UAE. However, we did raise several non-conformances associated with minor spills at our facilities in the UAE, reporting each to the regulatory authorities. None of these spills resulted in any adverse environmental impacts and were quickly remedied by control procedures defined under our environmental management system.

In 2020, we continued with pump and treat remediation efforts associated with two previous significant diesel spills at our facilities in Al Taweelah. Remediation efforts had been ongoing since the initial spills in 2015 and 2016 which were caused by corroded underground pipelines. These have now been replaced with new above-ground pipelines and thankfully, the diesel spill was limited to the soils and groundwater directly beneath our facilities. This groundwater is not used for any abstraction purposes nor have we identified any

evidence of this spill affecting any marine or terrestrial habitats. Neither of the spills 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. Following independent third party review and approval from the regulatory authorities, our remediation efforts were deemed successful and were subsequently concluded during the second quarter of 2020.

Environmental incidents in Guinea

In Guinea, during 2020, we did not encounter any spills or significant environmental incidents. However, we did receive a non-conformance raised by the regulatory authority in Guinea associated with excessive dust generation. This was subsequently addressed through improvements in dust suppression and monitoring with oversight from the local community to ensure our efforts were sufficient.



⁶⁰ Significance is defined according to internal standards established as part of our 14001 certified Environmental Management System. Significant incidents include those with attributable adverse impacts to environmental receptors.



Biodiversity

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

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 Sanctuary⁶¹. Both these protected areas support important clusters of coral, mangrove and seagrass.

At both of our operational sites in the UAE, our discharge monitoring efforts take account of these valuable conservation areas and, to date, we have not identified any adverse impacts associated with our operations after almost 40 years of operating.

In 2020, the turtle nesting season coincided with peak COVID-19 transmission rates in the UAE. Due to movement restrictions, we were unable to undertake our usual conservation efforts associated with the

critically endangered⁶² Hawksbill turtle. Ordinarily, our conservation efforts include regular surveys and implementation of protection measures to safeguard the turtle's nests and habitat, in addition to rescuing any diseased or distressed turtles. This important work will continue in 2021.

In 2020, we did update our local knowledge of the local biodiversity value in and around our facility in Jebel Ali through several habitat and targeted species surveys, subsequently improving on the information available from our previous environmental impact assessment and developing our first Biodiversity Action Plan for our site in Jebel Ali. Unlike in Al Taweelah, our survey efforts did not identify any endangered species or critical habitats affiliated with our site, but we did identify that our site supports healthy assemblages of endemic flora, despite the area being heavily industrialised for several decades.

⁶¹ Confirmed as a wetland of international importance for biodiversity in accordance with the Ramsar Convention (an intergovernmental environmental treaty established in 1971 by UNESCO).

⁶² Categorized by the International Union for Conservation of Nature as facing an extremely high risk of extinction in the wild.

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 23⁶³ IUCN Red List and National Conservation List species. These species include the West African chimpanzee, the hooded vulture and the Atlantic humpbacked dolphin.

For the construction of our mine, operational phase and associated infrastructure, it was necessary to clear 10.54km² of vegetation, all in accordance with plans and controls established following our SEIA. We have subsequently restored a total of 0.87km² of vegetation that was disturbed during the construction and operational phase, using species of local provenance grown in our own nursery.

All our biodiversity conservation work is documented, published and governed through our Biodiversity Management Plan, prepared in accordance with IFC Performance Standards, with mitigation measures designed to achieve no net loss for biodiversity and a net gain for critical habitats.



At GAC, our environmental performance is in harmony with our production objectives. While at the same time being respectful of the local communities, the various stakeholders as well as the national and international norms and standards required.



Bintia Bangoura
Senior Environment Specialist



⁶³ In our 2019 report, a total of 27 critically endangered species was reported in error, this did not affect the outcomes of the 2019 report.

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 policies⁶⁴.

In 2020, all our doctors, nurses, clinic staff, occupational health and safety professionals worked exceptionally hard in the fight against COVID-19 and were instrumental in safeguarding the health of everyone at EGA⁶⁵.

Throughout the year, we had to both fight COVID-19 whilst also remaining diligent of the hazards commonly associated with our industry. These hazards include 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, while hazards associated with the smelting and casting of aluminium include exposure to strong electromagnetic fields, high voltage, molten metal, and heat.

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.

All of our power, anode production, smelting and casting facilities in the UAE operate according to an occupational health and safety management system certified to the International Organization for Standardization's ISO 45001:2018⁶⁶.

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



Over the years, we have developed a strong safety culture at EGA, and I believe each of us across the organisation truly believes that we are responsible for our own safety and the safety of those around us. We promise each other that we will be safety leaders and if we all live this every day, we can reach our goal of zero harm.



Elizabeth Bredell
Associate Manager - Safety



In all our Abu Dhabi operational sites, we also adhere to legal requirements set by Abu Dhabi's Occupational Safety and Health Centre (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 the ASI Performance Standards⁶⁷.

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 Guidelines⁶⁸.

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 the 1,290 directly supervised contractors we worked with in 2020. Indirectly supervised contractors are required to work to a health and safety system compliant with EGA's core requirements, as defined in our Responsible Sourcing Standards.

⁶⁴ Our core policies are published on our website <https://www.ega.ae/en/about-us/our-policies-and-certifications>

⁶⁵ Full details regarding our efforts to fight COVID-19 are included in section 1.

⁶⁶ Certificate is available at <https://www.ega.ae/en/about-us/our-policies-and-certifications>

⁶⁷ Certificate and public summary report is available for review at <https://aluminium-stewardship.org/wp-content/uploads/2020/11/ASI-Summary-Audit-Report-EGA-PJSC-Al-Taweelah-27-PS-Rev-2.pdf>

⁶⁸ Details available at <https://www.ifc.org/>



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, and 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 risk⁶⁹. 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.

Also, in 2020, on our online micro-learning platform 'Axonify', we added specific modules covering working at height, slips trips and falls as well as confined spaces awareness. We also rolled out 'E-learning' safety training specifically for our leadership, to further promote understanding of the roles for executive leadership, management and supervisors in promoting our safety culture.

Figure 22: Safety training in 2020 (total number of attendees at safety courses)



⁶⁹ All safety training is free of charge and is provided during paid working hours.

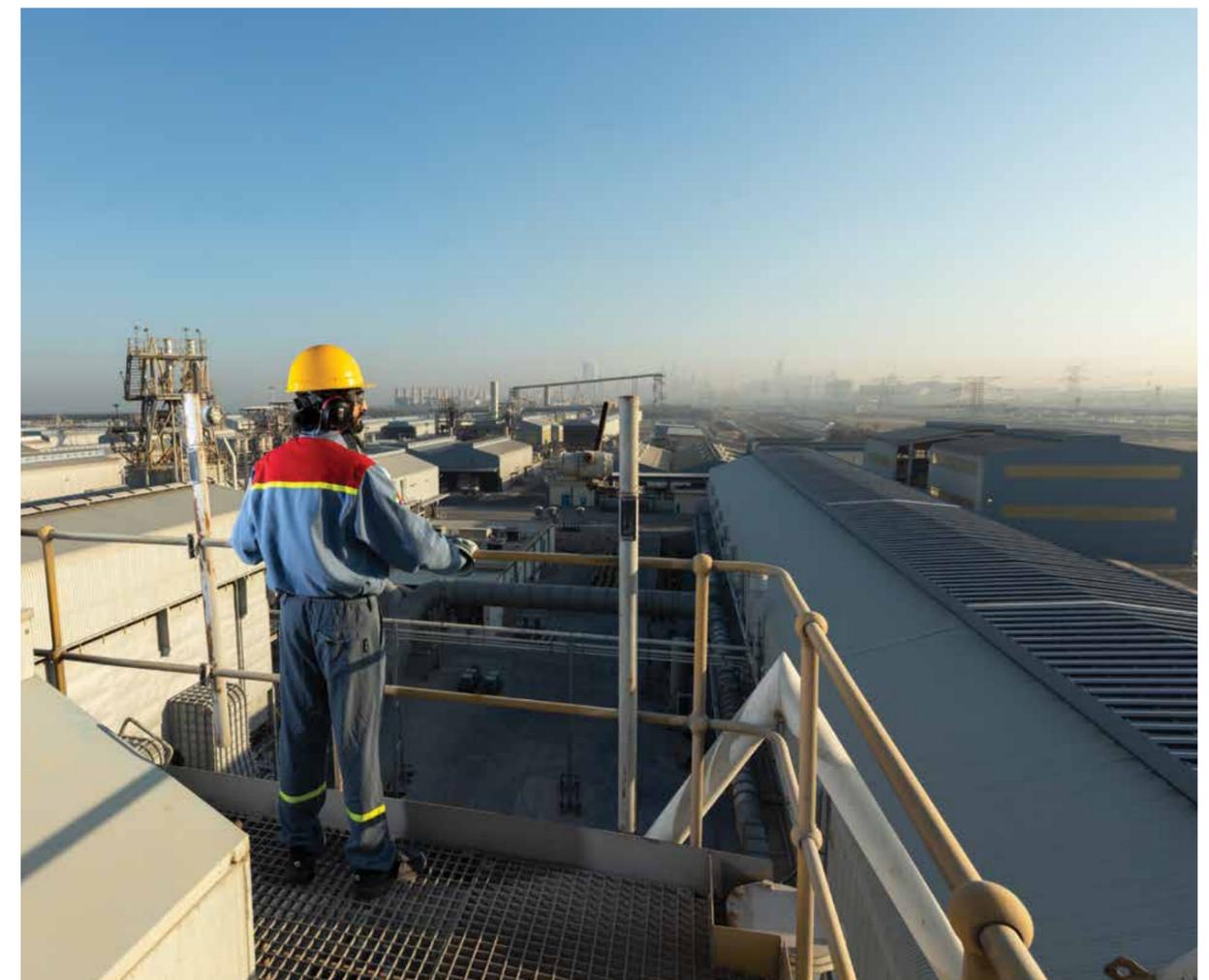
As part of our core policy, we emphasise that anyone and everyone at EGA has the authority to refuse or stop any activity perceived to be unsafe⁷⁰. This message is included as part of our induction and safety refresher training.

Our safety team continually reviews safety data from across all of our operational and project sites to identify hazards, trends, potential concerns, opportunities for 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. The results of each of these investigations are reviewed by our Executive Committee and the Technical and Projects Committee of our Board. 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.

At EGA, we aim to record all incidents and near misses no matter how small so we can track our performance accurately and continually improve the safety of our workplace.



⁷⁰ Our core policy is published online at <https://www.ega.ae/en/about-us/our-policies-and-certifications/>

Safety performance in the UAE

Despite the COVID-19 pandemic, in 2020 we achieved one of our best ever safety records. All safety incidents that occurred involved either no injury, or only minor injuries treatable by first aid. Our main types of injuries were hand and finger injuries often associated with the use of hand tools. There were zero fatalities or high-consequence work-related injuries at any EGA site.

During 2020, our total recordable injury rate decreased by 23.35 per cent compared with the previous year. We attribute this success to the diligence of our employees and the continued efforts of our safety teams and our safety representatives in spreading awareness and highlighting the importance of a constant focus on safety, despite the distractions of COVID-19.



In the UAE, our TRIFR decreased by **23.35%**

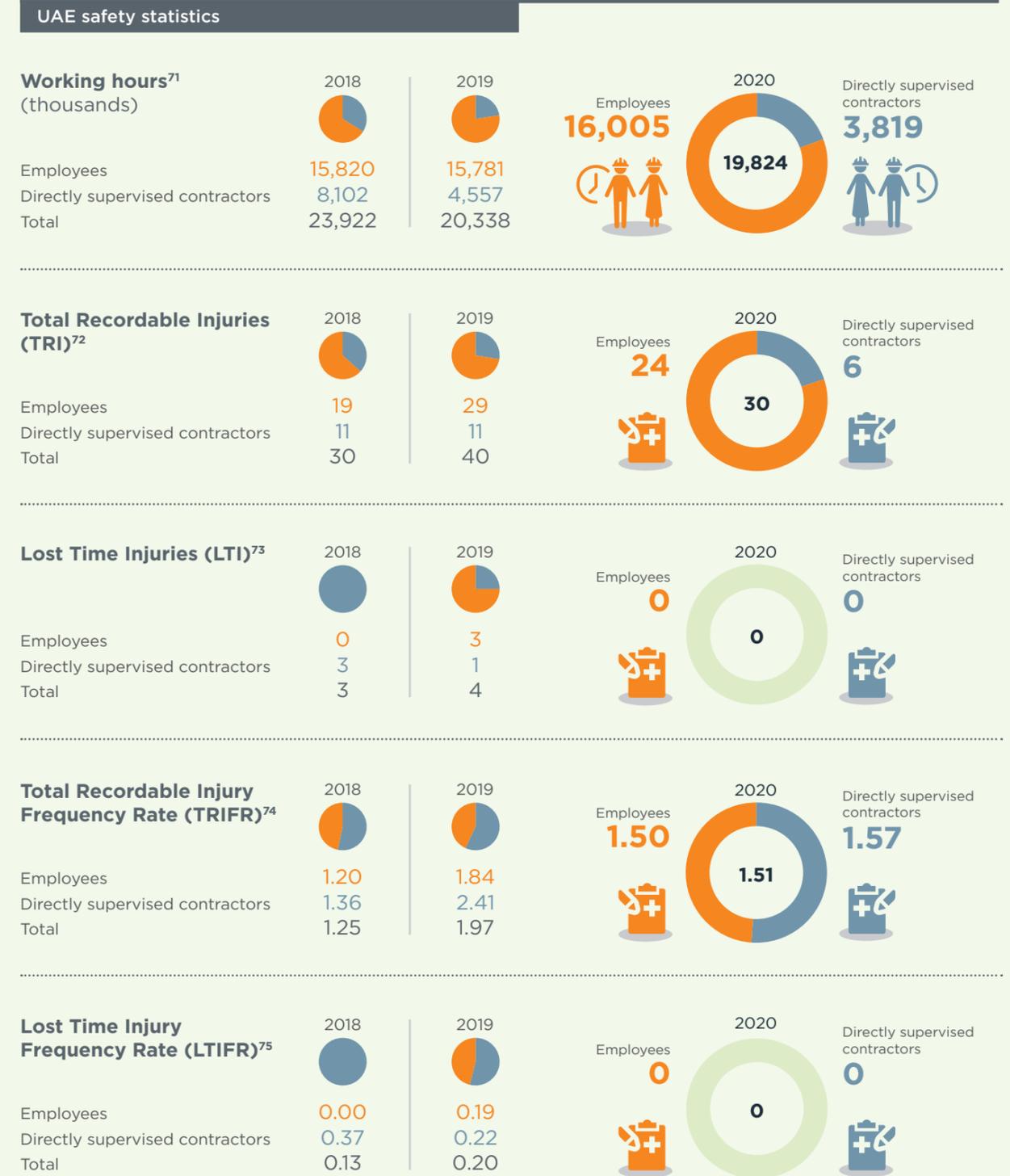
Case study

Improving hand and finger safety

On 14 June 2020, one of our colleagues suffered a finger injury while operating a winch used in potline maintenance. Subsequently we isolated and barricaded the winch while we ran an investigation into root causes and how to reduce the likelihood of a similar incident occurring again. The investigation identified opportunities for substantial risk reduction by making relatively simple adjustments to the controls and the installation of guards. Following our improvements, there have been no subsequent hand or finger injuries associated with this equipment.



Figure 23: Safety performance statistics



⁷¹ Working hours for employees have been calculated according to total hours paid.

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

⁷³ Lost time injuries is the sum of all work-related injuries or illnesses 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.

⁷⁴ Total recordable injury frequency rate is the total number of recordable injuries per million hours worked during the reporting period.

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

Safety performance in Guinea

In 2020, despite it being our first full year of operations at GAC and the potential distractions associated with COVID-19, we continued to maintain an extremely low number of injuries associated with our activities.

Most of the safety incidents that occurred involved either no injury, or only minor injuries treatable by first aid. Our main types of injuries were common hand and finger injuries often associated with 'pinch points'.

As in the UAE, there were zero fatalities or high-consequence work-related injuries at GAC in 2020.

During 2020, our total recordable injury rate decreased by 15.28 per cent compared with the previous year. We attribute this success to commitment of our employees to keep themselves and each other safe, and the work of our safety teams and safety representatives to spread awareness of the importance of safety and our safety processes and procedures.



In Guinea, our TRIFR decreased by **15.28%**



Throughout 2020, the COVID-19 pandemic has brought some additional challenges to the way we normally operate, but GAC was able to overcome and adapt to the new reality.



Kaliva Zoumanigui
Health & Safety Trainer

Case study

A continued focus on driver safety

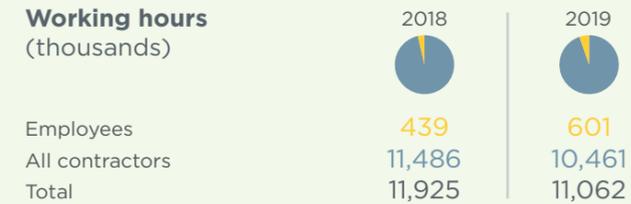
The potential for road traffic accidents to our staff and our contractors is one of our key safety risks associated with our operations in Guinea, not just within our facilities but also for our colleagues travelling to and from work and between our sites.

Throughout 2020, our safety teams and safety representatives continued to uphold our vehicle safety standards and highlight the importance of defensive driving amongst our employees and contractors.

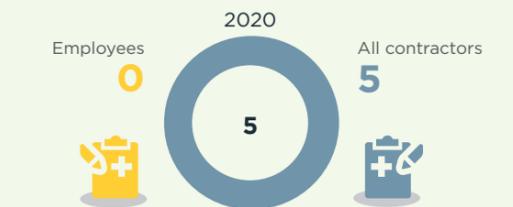
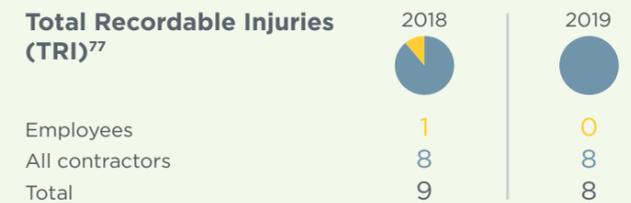


Guinea safety statistics⁷⁶

Working hours (thousands)



Total Recordable Injuries (TRI)⁷⁷



Lost Time Injuries (LTI)⁷⁸



Total Recordable Injury Frequency Rate (TRIFR)⁷⁹



Lost Time Injury Frequency Rate (LTIFR)⁸⁰



⁷⁶ We have reported safety performance in Guinea for all contractors, considering that the majority of the key operational works are undertaken by indirectly supervised contractors.

⁷⁷ 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.

⁷⁸ 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.

⁷⁹ Total recordable injury frequency rate is the total number of recordable injuries per million hours worked during the reporting period.

⁸⁰ Lost time injury frequency rate is the total number of lost time injuries per million hours worked during the reporting period.

Healthcare 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.

In 2020, our clinics provided support from over 60 doctors, nurses and other support staff⁸¹ as well as specialist teams to run on-site testing facilities for COVID-19.

Figure 24: Occupational disease rate (ODR) in UAE⁸²



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 2020, we provided more than 1,786 medical check-ups.

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'. During 2020, we recorded three instances of occupational disease, all of which were heat-related illness. In each instance, our colleagues made a full recovery after rest and rehydration. In 2020, we conducted more than 39,703 hydration tests to ensure our people remained suitably hydrated.

Our goal is zero cases of heat-related illness. We have decades of experience in managing working safely in hot conditions, controlling exposure times and making sure our employees and our contractors remain hydrated.

Figure 25: Heat-related illness cases in UAE



Health promotion campaigns in the UAE

In addition to our frequent awareness and educational campaigns regarding COVID-19, we also ran a series of other salient health awareness campaigns in the UAE for our employees and contractors.

As with every year, we promote health and hydration awareness during the summer months in the UAE, reminding everyone working at our sites to regularly hydrate, take regular breaks and to immediately take rest should anyone suspect any symptoms of heat-related illness.



Hope is our strength. While keeping faith, working together, caring for others and innovating effective measures, we are hopeful that we will get through this hard time and beat COVID-19.



Dr. Ejaz Hussain
Senior Medical Officer

During 2020, mindful of the toll that the pandemic may have on mental health, we also ran a comprehensive Mental Well-being campaign that included a series of webinars, E-learning activities, and videos to complement our long-standing Employee Assistance Programme.

Focus areas for our mental well-being and resilience campaign



Work-based factors
Manage practices that promote organizational resilience and improve mental health conditions amongst employees



Protective factors
Provide support factors which are aimed at increasing employee resilience and help-seeking in the face of stress and other mental health concerns



Psychological distress surveys
Measure at individual and organizational level which screens for mood and anxiety disorders



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)



⁸¹ Please refer to section 1 for full details regarding our COVID response.

⁸² ODR is calculated per million work hours. These figures contribute to EGA's TRIFR in the safety section.

Healthcare 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 diseases and healthy living. The International Red Cross also provides first aid training to employees and contractors.

In 2020, 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, whenever 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.



Zero occupational diseases in Guinea



Worldwide 2020 was a very challenging year, as a result of the COVID-19 pandemic, GAC was not an exception.

Throughout the year, we had to constantly adapt to new realities. This brought some added strain to the medical team, which was only successfully overcome because of our commitment to each other.

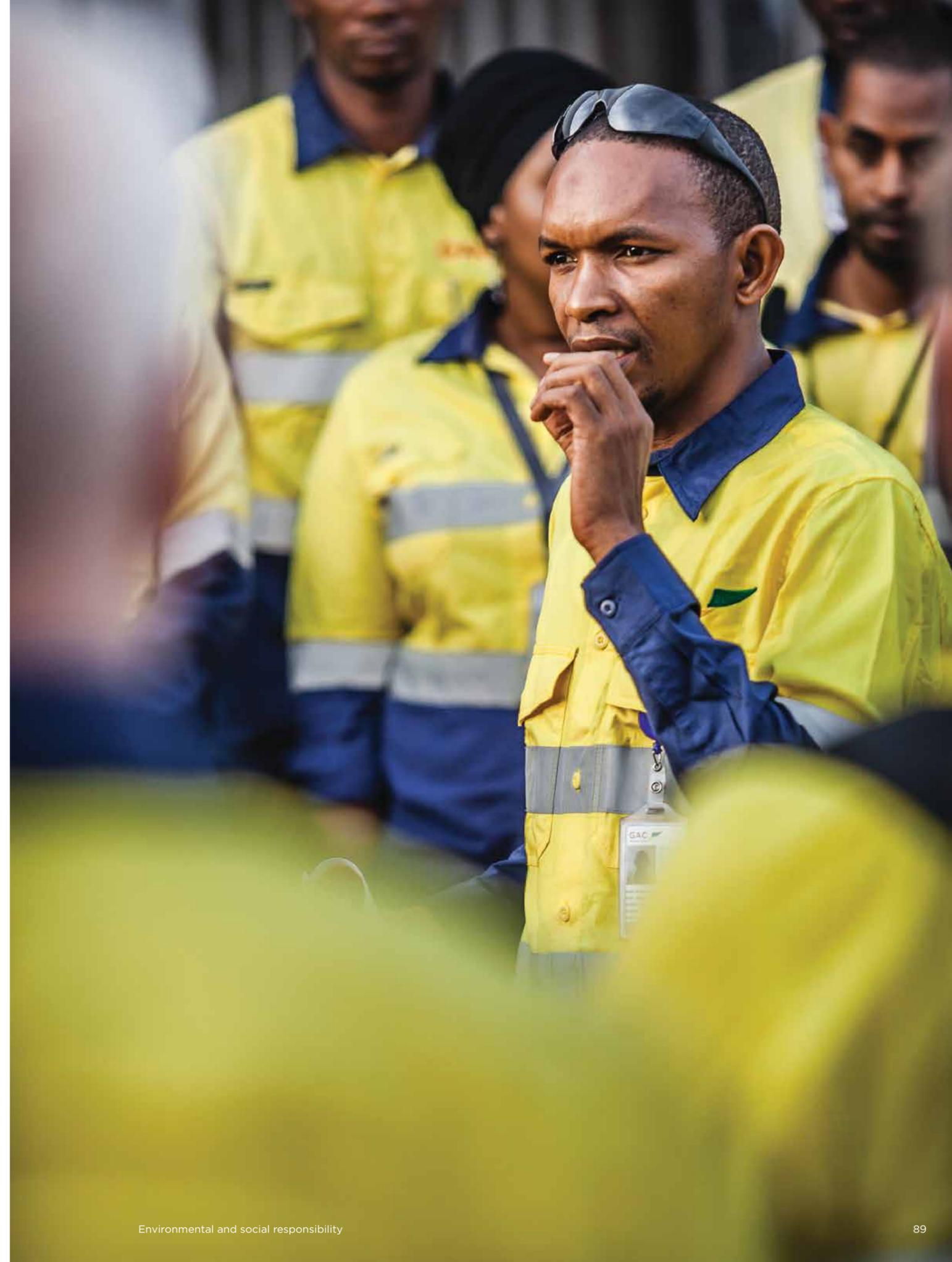
The medical team was essential to maintain healthy and sustainable operations. In addition to the usual medical care we provide, we also were in the frontline for COVID-19: from the testing to the follow-up of positive cases.



Salematou Tolno
Clinic Nurse

Health promotion campaigns in Guinea

In previous years, we have run a series of different promotional health campaigns for our employees and contractors in Guinea. However, in 2020 our principal focus with respect to health awareness was linked to the risks and controls associated with COVID-19. However, given the endemic nature and seriousness of the disease, we continued to run our regular malaria prevention campaign.





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 to maximise the benefits of our presence while mitigating potential adverse impacts.

We operate planned and targeted corporate social responsibility programmes across all of our sites 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 neighbouring communities. We actively seek to minimise these impacts. Where they are unavoidable, we have developed and implemented plans to alleviate or compensate for the impact.

We maximise our positive impact with grassroots-outreach initiatives that generate economic opportunities and enhance quality of life through infrastructure improvements, local business engagement, educational programmes and the employment of members of the community wherever possible within our operations.

We also take into consideration the potential indirect impacts of our operations, such as increased migration to local towns and communities as economic opportunities and quality of life in these areas increase.

All of our community impact assessments and project planning in Guinea are 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 website⁸³, with implementation regularly monitored⁸⁴ by an independent third party to ensure that we are meeting our commitments.

Community engagement in Guinea

In Guinea, EGA's Social and Human Rights Impact Assessments⁸⁵ confirmed that no indigenous people⁸⁶ are likely to be affected by our operations. However, some parts of our bauxite mine's concession area, as well as the land required for its associated port, rail and other infrastructure facilities, overlap with pre-existing villages and communities.

⁸³ For more information, please visit the IFC Project Information Portal website: <https://disclosures.ifc.org/project-detail/ESRS/24374/guinea-alumina-corporation>

⁸⁴ Approximately every 6 months.

⁸⁵ In addition to our human rights impact assessment in Guinea, we also conduct human rights impact assessments for new projects in the UAE in accordance with the ASI Performance Standards.

⁸⁶ As defined by IFC Performance Standards.

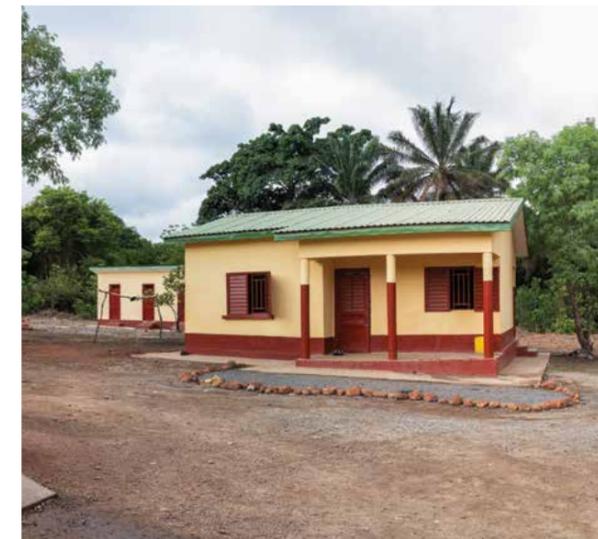
“

We would like to thank GAC, which has built modern houses equipped with electricity and has supported socioeconomic development. By the end of 2021, it will have built the school, the mosque, the multi-purpose centre and road access for opening up the village. Through this resettlement project, GAC has created many opportunities for women and young people.

”



Oury Diouma Diallo
President of the Women's Association of Sinthiourou Thiouladji, Community



“

GAC vaccinated my herds and other support is underway, such as developing water points, structuring farmers and setting up small dairy units. All these initiatives show that GAC is a responsible company to be encouraged and supported, and I would like to say thank you.

”



Ibrahim Sory Touré
Community Member

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 IFC⁸⁷ and GAC⁸⁸ websites. To date, we have built 354 new houses, 12 new schools, 8 new health facilities, 76 new groundwater boreholes, 600 solar pumping devices and protected over 100 hectares of agriculture land from saltwater intrusion.

We also established four committees uniquely focused on working closely with affected communities and local authorities throughout the resettlement planning and implementation process, to identify potentially vulnerable groups, witness compensation payments and advise on resettlement site planning and housing design.

Although we ordinarily hold in-person, community-engagement forums, we could not do so in 2020 due to the COVID-19 pandemic. Instead, most of our community outreach and engagement efforts were carried out over the phone, by email or, in some cases, through letters. Despite the engagement challenges posed by the pandemic, we nonetheless succeeded over the course of 2020 in engaging over 4,500 local community members, keeping them informed of our planned activities, potential for foreseen impacts, proposed mitigation activities, and to help us identify projects that could help contribute towards an improved quality of life.

⁸⁷ For more information, please visit the IFC Project Information Portal website: <https://disclosures.ifc.org/project-detail/ESRS/24374/guinea-alumina-corporation>

⁸⁸ Please visit GAC website through: <https://gacguinee.com/en/about-us/sustainability/>

Projects identified through previous community-engagement forums are all overseen by a steering committee including representatives from communities, GAC and the prefect of Boké. Projects undertaken in 2020 included:

- A nursery project providing training associated with forestry, the possibility for the community to engage in reforestation activities and several associated new job opportunities.
- Teaching sewing skills to local community members, enabling them to produce masks to help in the fight against COVID-19. This project grew and by the end of the 2020, we supplied sewing machines and provided training on tailoring, supporting the local production of clothing.

GAC's community relocation projects also include livelihood restoration measures focused on land-based means of support in line 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.

In 2020, GAC assisted 32 cowherders with the relocation of more than 3,000 cattle, identifying suitable alternative grazing sites, helping with livestock vaccination, providing additional water supplies for animals, and constructing night hooding areas and shelters.

Other livelihood restoration projects included promoting skills and opportunities associated with farming practices, arboriculture, market gardening, beekeeping, dyeing, saponification, improving waste management and sanitation.

In 2020, GAC also initiated a largescale project to generate rice-farming opportunities for 91 farmers on a 78-hectare area of land, ensuring land rights and providing associated training on threshing, packaging, storage and crop conservation practices as well as tools and equipment.



Community health

Since GAC first embarked on our mining project in Guinea, we have run health awareness campaigns, reaching more than 5,000 people across dozens of surrounding local communities. Themes for these campaigns are designed to address the specific needs of the community and are therefore planned in close coordination with the community.

In 2020, GAC's principle health-related focus was the fight against COVID-19. In partnership with the IFC, we initiated an information and awareness campaign for communities throughout the region.

Our campaign included interactive radio broadcasts through a local radio station in both French and Susu, covering 780 minutes of airtime and reaching more than 30,000 listeners.

We also conducted door-to-door visits and community focus groups, all while ensuring appropriate social distancing and suitable use of PPE. Our campaign ran for four weeks, during which we visited 135 villages amongst the rural communes of Sangarédi, Tanéné and Kamsar, as well as the urban commune of Boké. In total, our campaign reached more than 5,000 people.

Improving career opportunities

Since 2014, GAC has trained more than 500⁸⁹ people from communities in Guinea through a series of vocational programmes designed to improve opportunities and career prospects including by giving people the skills to start their own businesses. Given the required classroom and hands-on activities, we decided not to undertake any vocational training programmes in 2020 given the risks associated with transmission of COVID-19.

Security practices in Guinea

As part of our Human Rights Risk Assessment, GAC also seeks to reduce and eliminate negative interactions between our security personnel and members of the local community. Security for our operations is provided by both an external security provider and GAC's own security staff, all of whom have been trained to follow the Voluntary Principles on Security and Human Rights⁹⁰.

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.

⁸⁹ This figure has been adjusted from our 2019 report due an error in the raw data, the previously reported figure of 1,200 was found to include data prior to 2014. This error did not have any material impacts for EGA or the conclusion of the 2019 report.

⁹⁰ Details available at: <https://www.voluntaryprinciples.org/>

Community engagement in the UAE

In the UAE, EGA has a corporate social responsibility team that actively and regularly engages with local communities to gather feedback and understand how we can best contribute to the quality of life. This is conducted through various channels including regular public meetings⁹¹.

School outreach programme

We launched the school outreach programme in 2017, collaborating with the Ministry of Education and Edutech⁹² to promote awareness and understanding of the importance of science, technology, engineering and mathematics-related subjects (STEM) amongst UAE high school students. Unfortunately, we were unable to hold any school outreach programme engagements in 2020 given the potential risks associated with transmission of COVID-19. We hope to resume the programme again in 2021.

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.



Early on during the 2019–2020 academic year, EGA hosted two INJAZ innovation camps at UAE schools, benefitting a total of 119 students. Several EGA employees from various departments volunteered to take part in these innovation camps.

Ambassador Programme

EGA launched its Ambassador Programme in 2019, sending young engineers and professionals to UAE universities to explain to students how the STEM subjects they are studying are applied in industry. The aim of the programme is to inspire STEM students to pursue careers in UAE industry.

The UAE has a high proportion of women studying STEM subjects at university compared to other countries. We encourage female EGA employees in operational roles to participate in the Ambassador Programme to encourage young women to follow in their footsteps.

In response to the COVID-19 pandemic and to support distance learning at UAE universities, the Ambassador Programme pivoted to online engagement early in 2020. By the end of the year, some 600 students had participated in online Ambassador Programme events, with many more reached through broadcasting some sessions on social media channels.



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 2020, 65 EGA volunteers actively participated in community improvements or engaged with students in our education and youth development programmes.

Figure 26: Volunteering efforts in UAE



Community grievance management

EGA has a formal grievance mechanism at all of our locations in both the UAE and Guinea, giving anyone within the community the opportunity to raise concerns or queries including 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 website⁹³. Calls are monitored and picked up by our in-house dedicated corporate social responsibility team. In 2020, 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 2020, we received 24 grievances, all of which were substantiated and closed out during the year. Substantiated grievances were mainly associated with environmental concerns associated with dust management as well as compensation and local transport restrictions. The average complaint was resolved within 18 days, our target being to address all complaints within 30 days.

⁹¹ There are no indigenous people (As defined by IFC Performance Standards) within the vicinity of any of our facilities in the UAE.

⁹² Transforming education with hands-on and technology based learning solutions in educational campuses and organizations across the Middle East.

⁹³ For more information, please visit: <https://www.ega.ae/en/contact-us/>

Embedding ethical practices



At EGA, we believe 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.

Our in-house Legal and Compliance department implements a risk-based ethics and compliance programme reflecting the specific challenges encountered within our industry and in the countries in which we operate, and oversees the identification of compliance risks and associated controls across all of our operations. We apply our standards across all areas and geographies and continue to look for ways to improve how we detect, prevent and respond to compliance issues.

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



Integrity and fairness matter at EGA, which is why they are core values. Encouraging people to speak-up and raise any concerns, without fear of retaliation, is an integral part of the culture we are building.



Alexandra Robak
General Council
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 anti-corruption, complying with competition laws, and behaving with integrity in all dealings with customers, partners, suppliers and governments⁹⁴. Our Code of Conduct is available on our website⁹⁵.

⁹⁴ EGA does not involve itself directly or indirectly with any form of political or electoral activity.

⁹⁵ Learn more about the EGA Code of Conduct: <https://www.ega.ae/en/about-us/our-policies-and-certifications>.

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.

Regular risk assessments are a key part of an effective compliance programme and all 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 2020 Corruption Perception Index⁹⁶. In 2020, in addition to our annual internal EGA assessments, we also completed assessments on three of our contractors in Guinea.

Also, in 2020, we conducted a specific COVID-19 compliance risk assessment to determine the potential for the pandemic to impact our normal business operations and adherence to our Code of Conduct. In addition, we refreshed our risk assessments in regard to conflict minerals and our fraud-related risk assessments across key corporate functions including Finance, Supply, Human Capital and Marketing.

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. Since the start of the pandemic in 2020, most of our compliance training has been delivered through EGA's e-learning platforms.

The induction training introduces EGA's ethics and compliance programme including compliance issues such as 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 2020, training included focus on anti-bribery and anti-corruption, and harassment and discrimination. We also provided additional ethics and governance training specifically for our Executive Committee through our micro-learning online platform, Axonify.

In Guinea, EGA continued to provide compliance-focused induction training to a number of contractor staff to increase awareness of our values, Code of Conduct, and to encourage anyone to speak up if they suspect any illegal or unethical behaviour. Also, in December 2020, to coincide with International Anti-Corruption Day, our senior managers in Guinea delivered anti-corruption messages in their toolbox talks with staff.



⁹⁶ For more information, please visit <https://www.transparency.org/en/cpi/2020/index/gin>.

Monitoring, reporting and how we respond

EGA's Compliance team consists of qualified lawyers and certified compliance officers. Our team investigates all concerns reported, either directly or through our 'Your Voice' 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 2020, our Compliance team recorded a total of 19 cases of "lack of respect", including instances of harassment and discrimination. Following investigations by our compliance team, three of these cases were substantiated, two in Guinea and one in the UAE.

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

Our response to incidents of corruption

In 2020, our compliance team recorded a total of five reports of alleged corruption and/or alleged lack of controls to prevent corruption. On investigation, two cases were partially substantiated. The first involved a contractor who, in working on the establishment of a national park, failed to obtain required approvals and maintain adequate records in relation to expenses and equipment donations. Corrective actions included a financial audit, improvements to record keeping, and anti-bribery and anti-corruption training. The second revealed a breach of our internal processes that led to a strengthening of internal controls. Another investigation, carried over from 2019, was not substantiated.

In 2020, there were no substantiated incidents of corrupt behaviour that involved EGA employees.

Fines, judgments, penalties or sanctions

In 2020, EGA received no fines, judgments, penalties or non-monetary sanctions for non-compliance with laws and/or regulations. We had no legal actions, threatened or ongoing, relating to 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_x emissions from our power plant at Jebel Ali exceeding regulatory thresholds. These emissions are associated with older gas turbines that were installed before the implementation of relevant emissions regulations applicable to the Emirate of Dubai⁹⁷.

“

Last year was an exceptional year for GAC, managing a global pandemic at the same time as our operational ramp-up, nevertheless, we continued with our compliance efforts.

”



Yaya Bangoura
Compliance Manager

⁹⁷ Please refer to page 60 for more details.



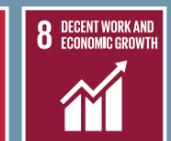


05



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.

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.



There is nothing more important at EGA than the people who work here. A positive work environment, professional fulfilment, equity, well-being and teamwork are amongst the most important attributes for any business to prove successful. COVID-19 has brought many new challenges during 2020, it is the positivity of the people at EGA that has helped us all rise to these challenges.



Iman Al Qasim
Executive Vice President - Human Capital

Of our 6,937 employees in the UAE, 1,205 are UAE nationals. In Guinea, of our 428 employees, 353 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.



7,300+ people in EGA from over 64 different nationalities

Figure 27: Supporting local recruitment (UAE)

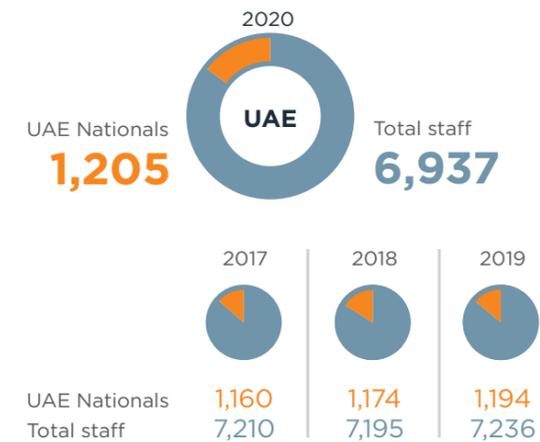
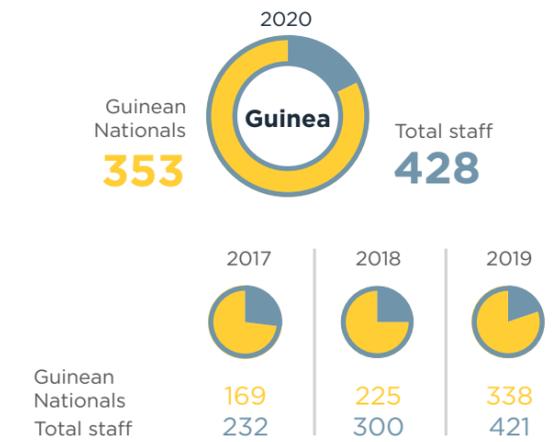


Figure 28: Supporting local recruitment (Guinea)



18% of supervisory and management roles in the UAE are held by women



82% of our staff at GAC are Guinean nationals



Figure 29: Employee diversity in the UAE



Senior management hired from the local community⁹⁸



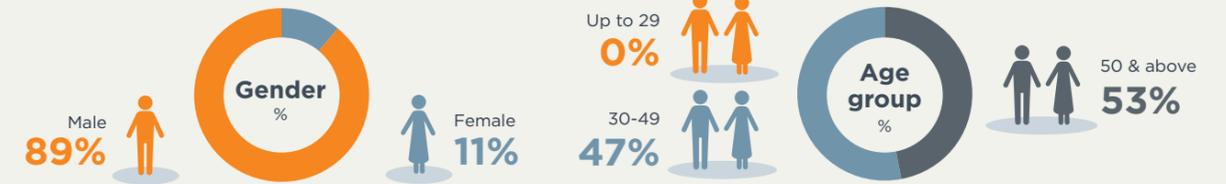
Total employee workforce by gender⁹⁹



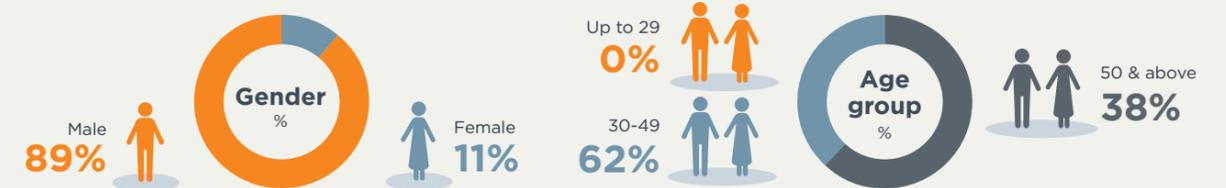
⁹⁸ Programmes to attract, develop and retain nationals are considered contributions to local community. Senior management is grades F and above and excludes Executive Committee.
⁹⁹ No part-time employees during the reporting period. There were 6,516 full-time male and 421 female employees during reporting period.

Employee category

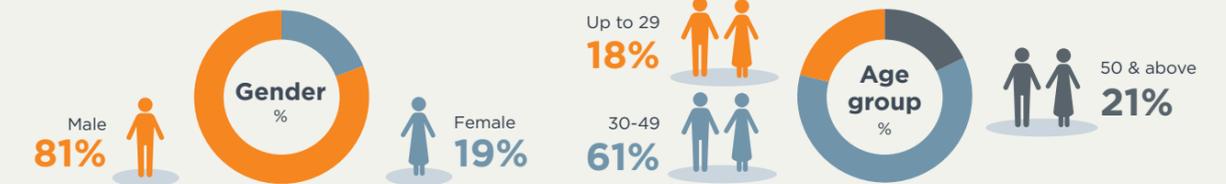
Executive Committee



Senior management (excluding Executive Committee)



Middle management



Non-managerial staff

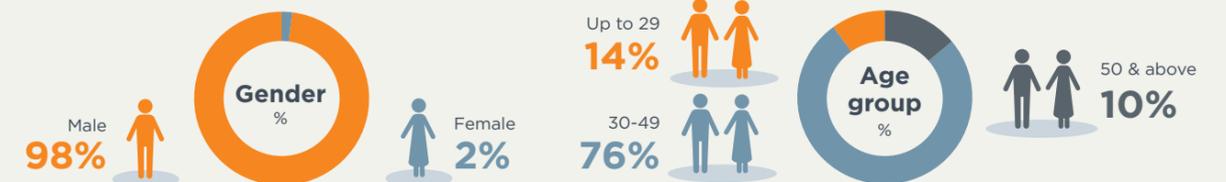
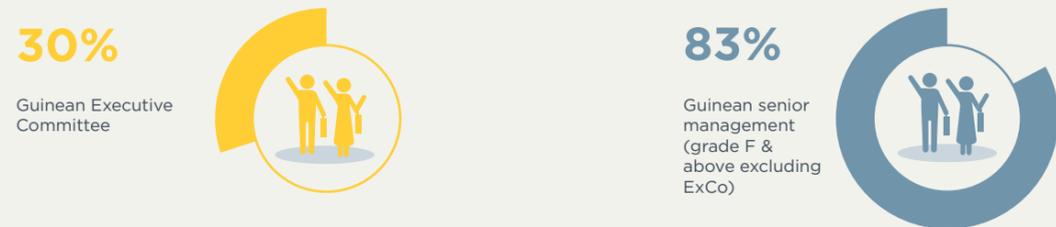


Figure 30: Employee diversity in Guinea



Senior management hired from the local community¹⁰⁰



Total employee workforce by gender¹⁰¹

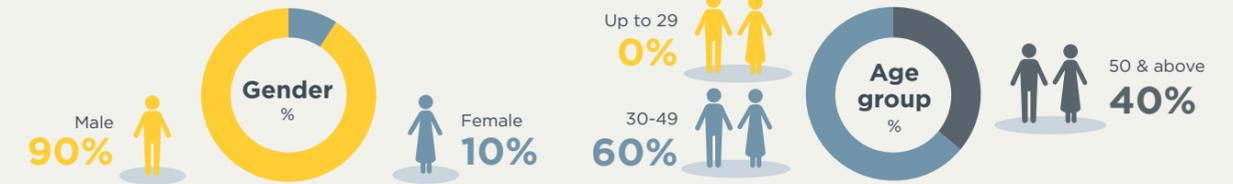


¹⁰⁰ Programmes to attract, develop and retain nationals are considered contributions to local community. Senior management is grades F and above and excludes Executive Committee.

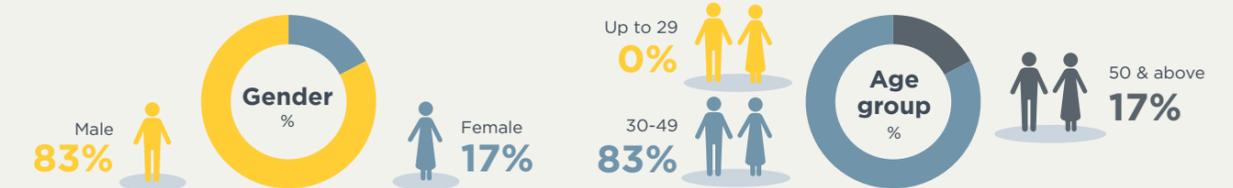
¹⁰¹ No part-time employees during the reporting period. There are 384 full-time male and 44 female employees during reporting period.

Employee category

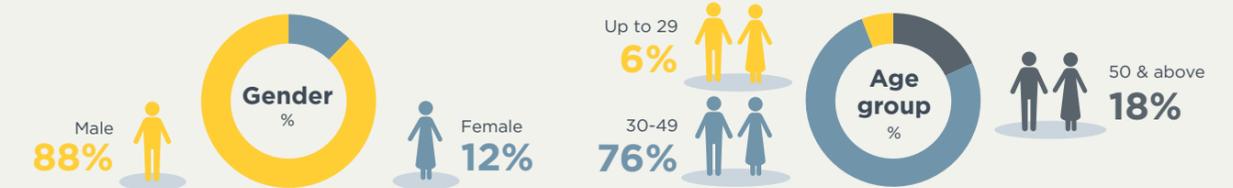
Executive Committee



Senior management (excluding Executive Committee)



Middle management



Non-managerial staff

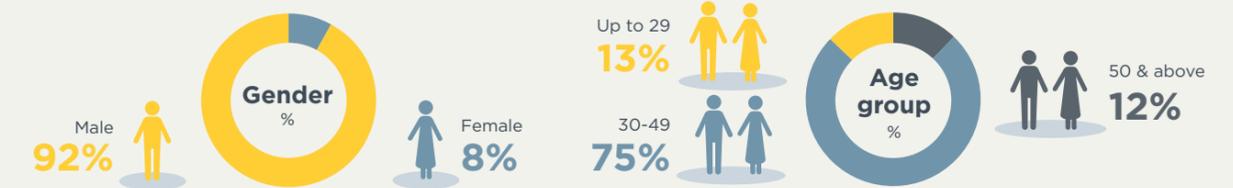
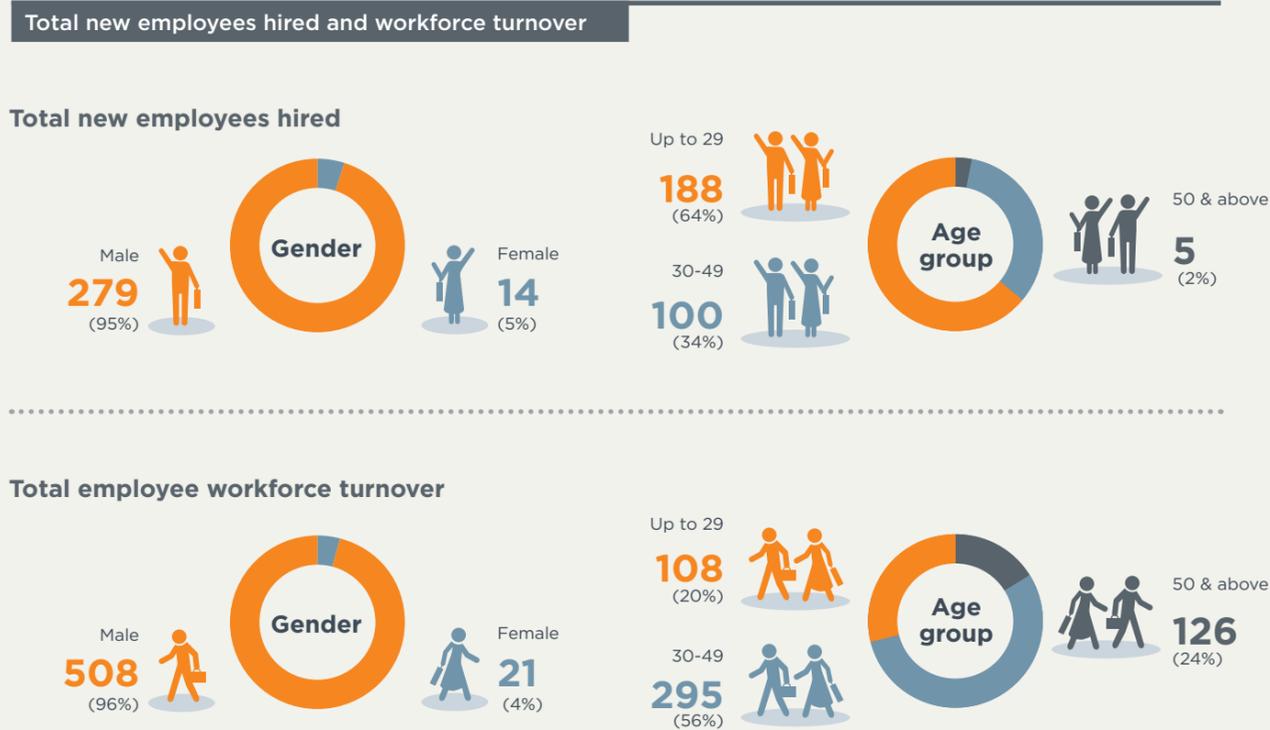


Figure 31: Employee retention in the UAE



Attrition rate (%)

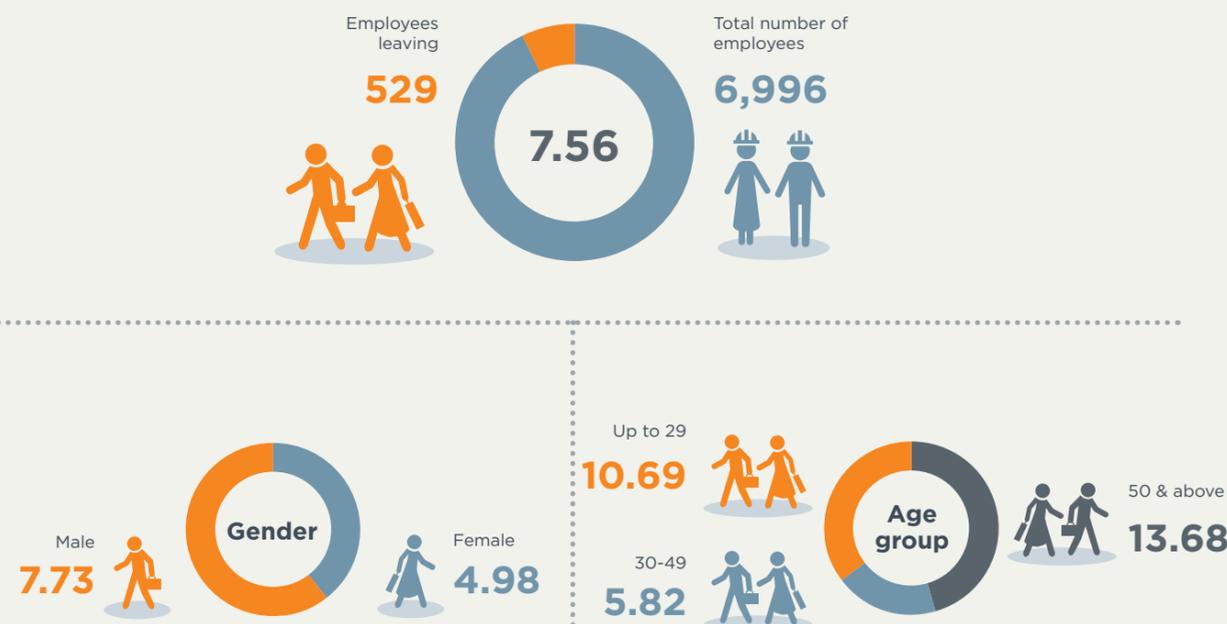
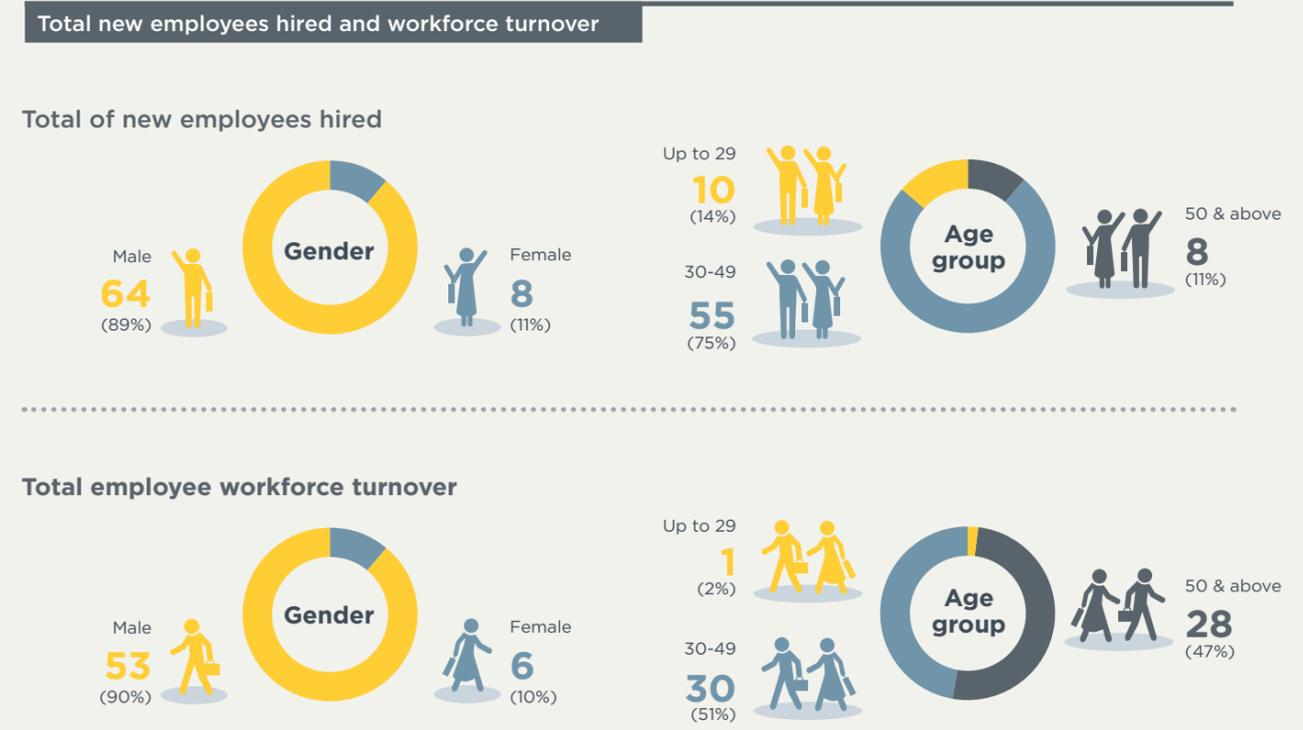
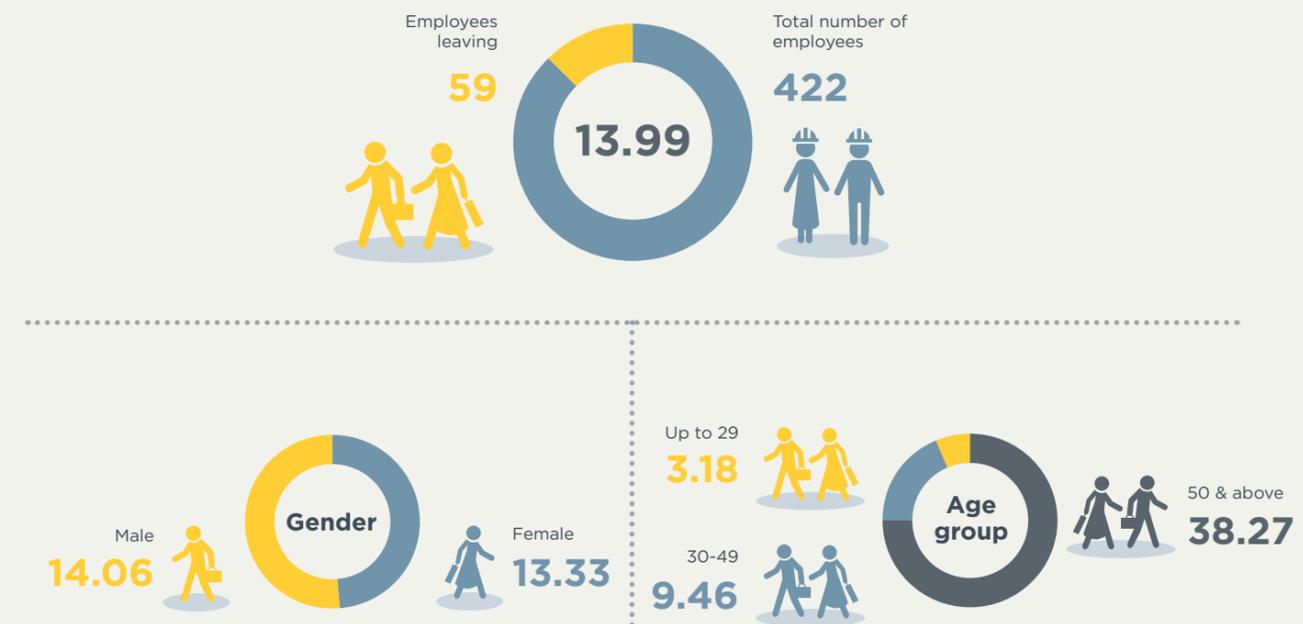


Figure 32: Employee retention in Guinea



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 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 maternity leave policies exceed statutory requirements while many aspects of our remuneration packages compare favourably with industry norms¹⁰². EGA does not discriminate in remuneration based on gender.

Freedom of association and collective bargaining are restricted under UAE law¹⁰³. 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 Organisation and IFC Performance Standards. The majority of our employees are members of one of the national trade unions for the mining sector and 100 per cent of GAC's employees are covered by collective bargaining agreements¹⁰⁴. GAC has established a rapport with unions, 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.

In the past, we have regularly sought employee feedback through an employee engagement survey called 'Mashura'. This was designed to enable employees to confidentially provide opinions on a wide range of topics with findings being reviewed by our Executive Committee and targets set and shared to deal with concerns or opportunities for improvements raised by staff.

In 2020, we did things slightly differently. As part of our Najah initiative ('success' in Arabic), instead of Mashura, we ran a 'EGA People Survey'¹⁰⁵ wanting to not only gather employees feedback, but also to understand how best to shape EGA's organisational culture, future bold aspirations and organisational purpose by listening directly to the people at EGA. In total, we gathered feedback from more than 6,000 of our staff across EGA.

EGA People Survey



¹⁰² Contract notice periods range from one to three months depending on role.

¹⁰³ Federal Law no. 3 of 1987 (as amended).

¹⁰⁴ In Guinea, minimum notice periods regarding operational changes and provisions for consultation and negotiation are specified in collective bargaining agreements.

¹⁰⁵ People Survey was conducted to measure our organisational health index in a range of employee engagement markers.

Training and career progression

Skills development and career planning are facilitated through EGA's Performance Management Framework, which is available to all EGA staff¹⁰⁶. Our aim is to provide a positive and fulfilling 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 progression¹⁰⁷.

In the UAE, EGA's Emiratisation programme includes internships, summer work experience for high school and university students, the Eadad¹⁰⁸ programme (training opportunities for fixed periods), scholarships for employees and students, national trainee programmes¹⁰⁹ and a graduate trainee programme.

During 2020, unfortunately opportunities for in-person training were limited given the risks associated with COVID-19. However, our Learning and Development team rapidly converted many of our in-person training modules into virtual instructor-led training.

“Our success depends on the skills and commitment of each of us. Over the last years, we have focused on developing leaders based on EGA's leadership expectations, and making modern blended learning easily accessible to all employees. We are on a journey to build a culture of lifelong learning, which can strengthen EGA and employee's lasting success.”



Ki Jeoung Nam
Manager - HC Projects, Organisational Effectiveness & Talent Development

We also continued with our various online Learning platforms such as edX, LinkedIn Learning, Axonify and 'My Learning', and recorded an increase in uptake compared with 2019.

We also developed bespoke training modules for Axonify, informing people how to minimise COVID-19 transmission risk.

Figure 33: Average hours of employee training in the UAE in 2020



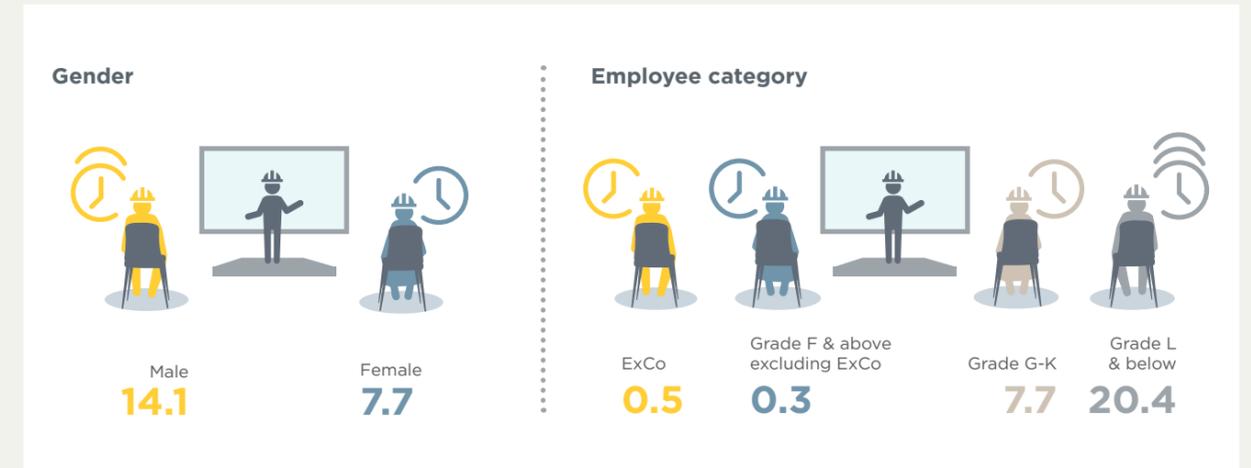
¹⁰⁶ Staff meet with their line managers to set goals in a performance agreement at the start of each year. Progress and success in achieving these goals is assessed in interim and full-year review meetings.

¹⁰⁷ All technical training programmes for the operational facilities in Dubai are accredited by the Knowledge and Human Development Authority.

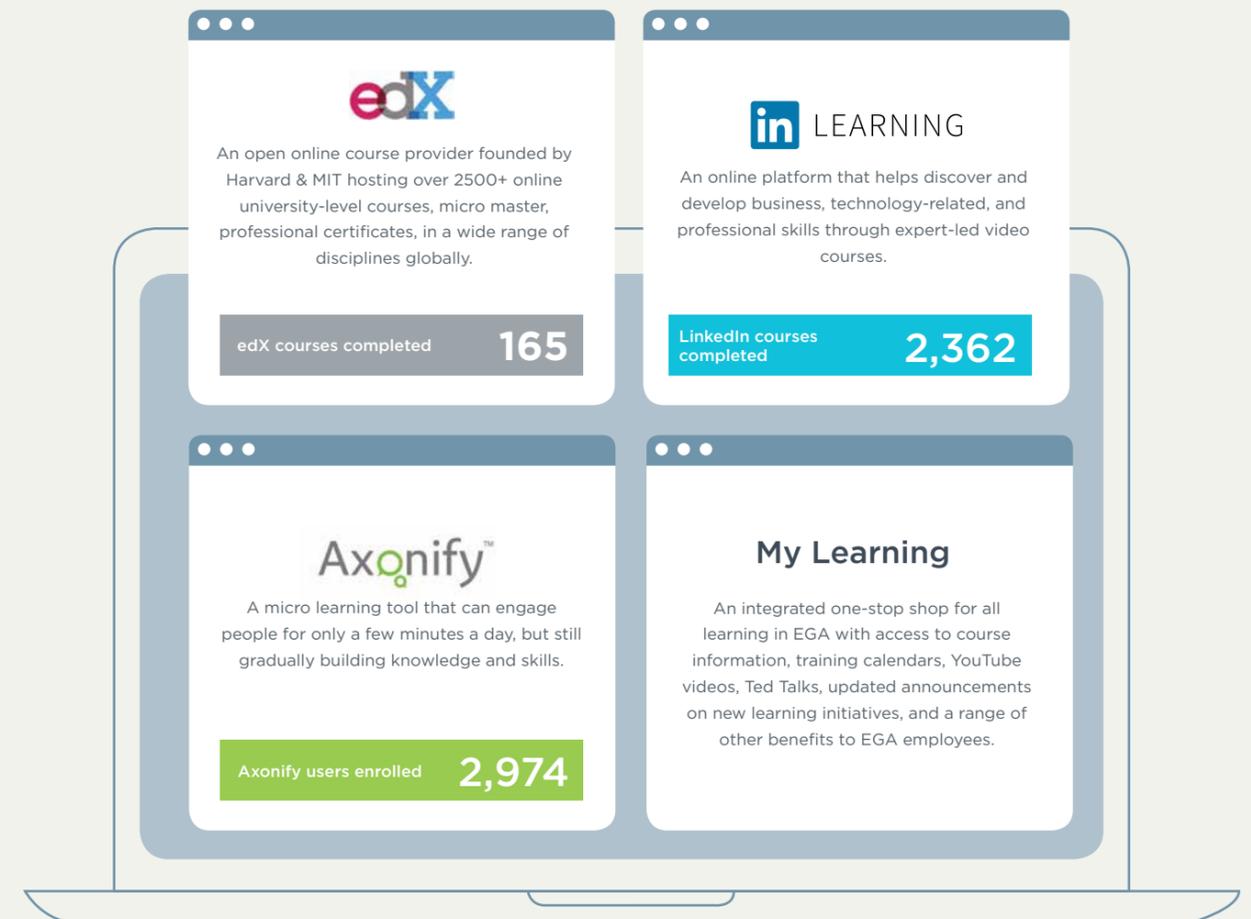
¹⁰⁸ Eadad is an Arabic word meaning preparation.

¹⁰⁹ A government initiative to promote opportunities for UAE nationals in the labour market.

Figure 34: Average hours of employee training in Guinea



E-learning



Our UAE residential facilities

Our employees come from countries across the world to join EGA. We provide accommodation for more than 3,000 people¹¹⁰ of various nationalities and cultural backgrounds. Accommodation is provided for both employees and contractors staff.

At the height of the COVID-19 pandemic in April 2020, the Government imposed travel restrictions between Abu Dhabi and the other Emirates, to mitigate the spread of the virus. With a number of our Al Taweelah-based staff and regular contractors living outside the Emirate of Abu Dhabi, we chose to provide accommodation in Abu Dhabi to ensure people could still get to work. Consequently, we rented accommodation on Al Saadiyat Island in Abu Dhabi, approximately 45 minutes from our site in Al Taweelah, and assisted both our employees and contractor staff to move in.

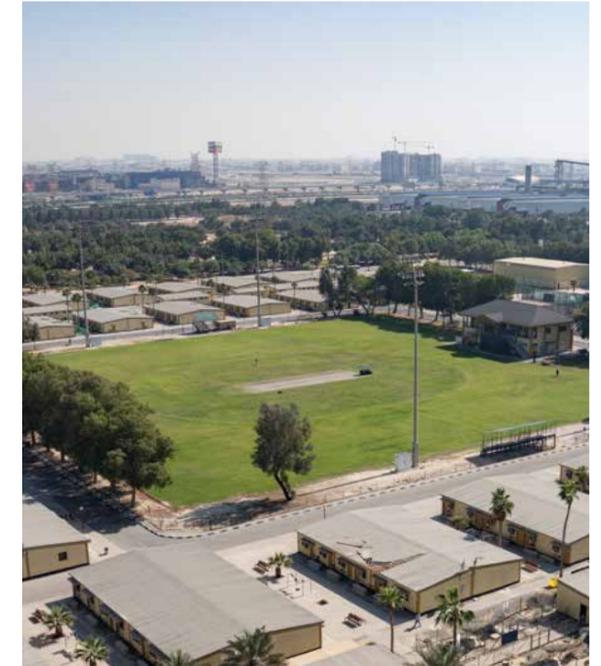
While some of these employees were previously living in our accommodation in Jebel Ali, others had been living with their families elsewhere in the UAE. For many, moving from their homes in UAE to Al Saadiyat Island has been challenging.

Response to satisfaction surveys highlighted additional efforts we needed to make around maintenance requirements, transport provisions, pest control and catering services. Consequently, we have ensured access to maintenance teams available on call-out every day of the week, provided free laundry services with delivery twice a week, overhauled air conditioning systems, improved pest control, increased transport services from Al Saadiyat Island to destinations in Abu Dhabi, and made extensive improvements to canteen facilities, including hiring new chefs. We also provided all residents with free internet access to make sure all could keep in touch with loved ones throughout 2020.

We prioritised the proactive gathering of feedback from Saadiyat residents and were committed to ensuring that feedback was addressed appropriately.

Meanwhile, at Jebel Ali, we have always provided a variety of recreational facilities for residents, including a swimming pool, golf course, tennis courts, cricket ground amongst others and we wanted to ensure similar, sufficient recreational facilities were available at Al Saadiyat Island.

Unfortunately, at both Jebel Ali and Al Saadiyat Island, given potential transmission risk and associated local regulations, access to recreational facilities for much of 2020 was limited. However, as the year progressed and restrictions were lifted, we opened up recreational facilities wherever we could, while limiting capacity in order to ensure social distancing could be maintained.



¹¹⁰ During 2020, we provided accommodation for 1,484 people in Al Saadiyat and 1,702 in Jebel Ali.

Keeping people safe



At both residential areas in Jebel Ali and in Al Saadiyat Island, we implemented extensive COVID-19 health and safety protocols to protect our residents. All accommodation areas and shared facilities were regularly disinfected and training was provided to all residents regarding the risks of COVID-19 and how to avoid infection.

At both sites, all residents had access to free, 24-hour medical care at our onsite clinics staffed by qualified doctors and nurses.

Our safety teams conducted daily inspections of both residential areas to ensure disinfection standards were maintained and that adequate facilities were in place to encourage social distancing.



I have been living in the EGA residential area since 2006 and have enjoyed a happy and peaceful life. The onsite facilities are top quality and well-maintained. I would like to thank EGA for providing a home away from home where employees can live and relax in a brotherly environment.



Waheed Akhtar
Senior Operator - Potlines, Reduction



I have been living in the EGA residential area for one year. The site is a well-equipped, modern living facility. From healthcare and personal care to recreation, everything is available. Maintenance and resident care are praiseworthy. Thanks to the onsite management for providing such amenities.



Mohammad Sajid Khan
Senior Operator - Heavy Equipment, Carbon and Port



Our Jebel Ali residential area facilities include:

- Swimming pool
- Golf course
- Cricket pitch
- Gym
- Squash courts
- Billiard
- Hockey court
- Badminton courts
- Football pitch
- Tennis courts
- Basketball court
- Volleyball court
- Music room
- Gardening Club
- Fishing pier
- Local shop
- BBQ area
- Laundry service
- Travel desk
- 24-hour concierge
- Free Wi-Fi
- Allotments
- Clinic
- ATM
- Post office



Our Al Saadiyat Island residential area facilities include:

- Football pitch
- Tennis court
- Basketball court
- Gym
- Four TV rooms
- Indoor recreation room
- Local shop
- Midnight Snack Bar
- Barber shop
- Laundry service
- 24-hour concierge
- Free internet service
- Clinic





06



Technology and innovation

Contributing to a modern, knowledge-based economy





Technology and innovation

Made-in-the-UAE technology



EGA's in-house research and development (R&D) department has an established track record of increasing productivity, reducing costs, boosting resource efficiency and minimising environmental impact.

EGA has developed its own aluminium smelting technology for more than 25 years. Over the years, we have developed and industrialised eight reduction technologies and filed 32 patents related to aluminium smelting enhancements.

Since 1990, EGA's technology development has more than doubled the size of reduction cell that is technically and commercially viable. Our technology development, and earlier work that started in 1980, has reduced the amount of electricity required to produce each tonne of aluminium by 37.5 per cent, improving both cost and environmental performance.

Our latest industrialised technology, DX+ Ultra, has more than double the productivity of our first D18 technology developed in 1990 from the original technology used to build our Jebel Ali smelter.

Through our technology development and transfer team, we also contribute to industry-wide development across engineering, construction, start-up and operation, technology advancement and continuous improvement. The team members each have between ten and 45 years' experience in aluminium smelting R&D.



Part of my job requirements are continuous learning and seizing technological enhancement opportunities. Today, I am proud to say our reduction technology is well known worldwide for its low implementation cost, high metal productivity, low energy consumption and low emissions.

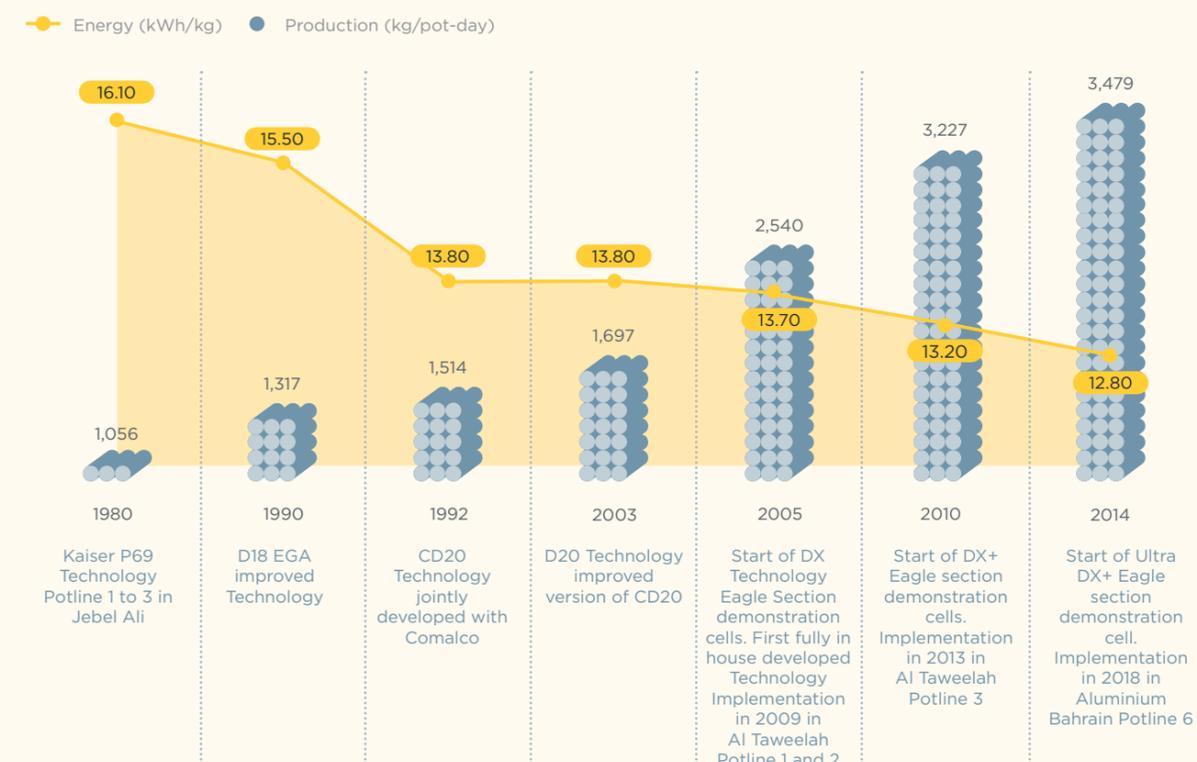


Abdulaziz Sarhan
Lead Engineer - R&D, Technology Development & Transfer

Evolution of EGA technologies

This figure shows the impact of our technology development milestones from 1980 to the first implementation of DX+ Ultra reduction cells in 2014.

Figure 35: Evolution of technology and increased efficiency



Exporting energy-efficient technology solutions

EGA was the first UAE industrial company to license its core process technology internationally. In 2016, Aluminium Bahrain (ALBA) selected EGA's DX+ Ultra for its Potline 6 expansion project. DX+ Ultra substantially reduces energy consumption by introducing various voltage drop reductions. EGA's technology at Potline 6 passed a final performance guarantee test in December 2019, with results exceeding our commitments under the technology licensing agreement.

In 2020, EGA engineers continued to support ALBA in enhancing Potline 6's performance for higher amperage and production. The line produced more than 500,000 tonnes of aluminium in its first full year of operation.

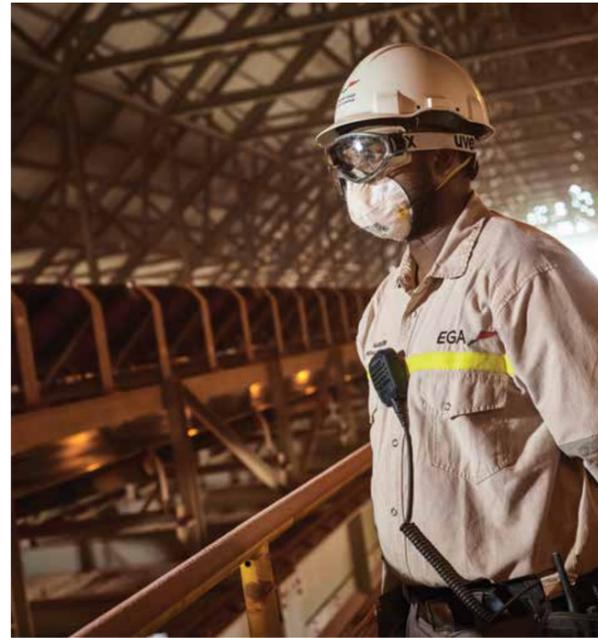
In December 2020, EGA signed a technology licence agreement with PT Indonesia Asahan Aluminium (Inalum) to help optimise existing reduction cells. The initiative will start with a pilot scheme using EGA know-how and expertise on a subsection of pots, followed by commercial-scale application.

Given our successes to date, our long-term aspiration is to grow our business related to technology development, generating revenue, reducing energy consumption, minimising greenhouse gas emissions and helping develop the UAE's knowledge-based economy.

Bauxite residue R&D

Bauxite residue is the primary waste product generated by the alumina refining process. Globally, the most common approach to managing this material is large-scale storage in specially constructed dams and impoundments, with associated risks of environmental degradation of local watersheds and ecosystems. For decades, the industry has sought more sustainable and commercially viable methods.

EGA has a dedicated R&D group tasked with identifying viable applications for bauxite residue generated at our Al Taweelah alumina refinery. At present, our bauxite residue is dried and stored in a purpose-built, state-of-the-art facility located in the desert approximately 30 kilometres inland from our alumina refinery. However, our goal is to identify ways of converting this material into useful products, reducing or eliminating the need for storage and unlocking bauxite residue as a new material resource for the UAE.



Optimised bauxite residue

The conversion of bauxite residue into optimised bauxite residue (OBxR), an environmentally benign raw material, is an important part of the development of potential products. In 2020, we began engineering studies for the Ra'ed (Arabic for "pioneer") pilot OBxR production plant. Ra'ed will give EGA the capability to produce several tonnes per day of OBxR and enable large-scale trials of the material in potential applications including manufactured soil, road base and more.

A pre-feasibility study for the pilot plant project was completed in the second quarter of 2020 and the full feasibility study started soon after. Our full feasibility study was supported by laboratory studies to further define the OBxR process, as well as pilot trials of equipment critical to plant operation.



EGA's approach to bauxite residue is unique in the global alumina industry. We have focused on seeking large-scale solutions that use this novel resource to address specific needs within the UAE, and create synergies with other sectors who are also trying to minimise wastes.



Dr. Steven Rosenberg
Director - Bauxite Residue R&D

Manufactured soils

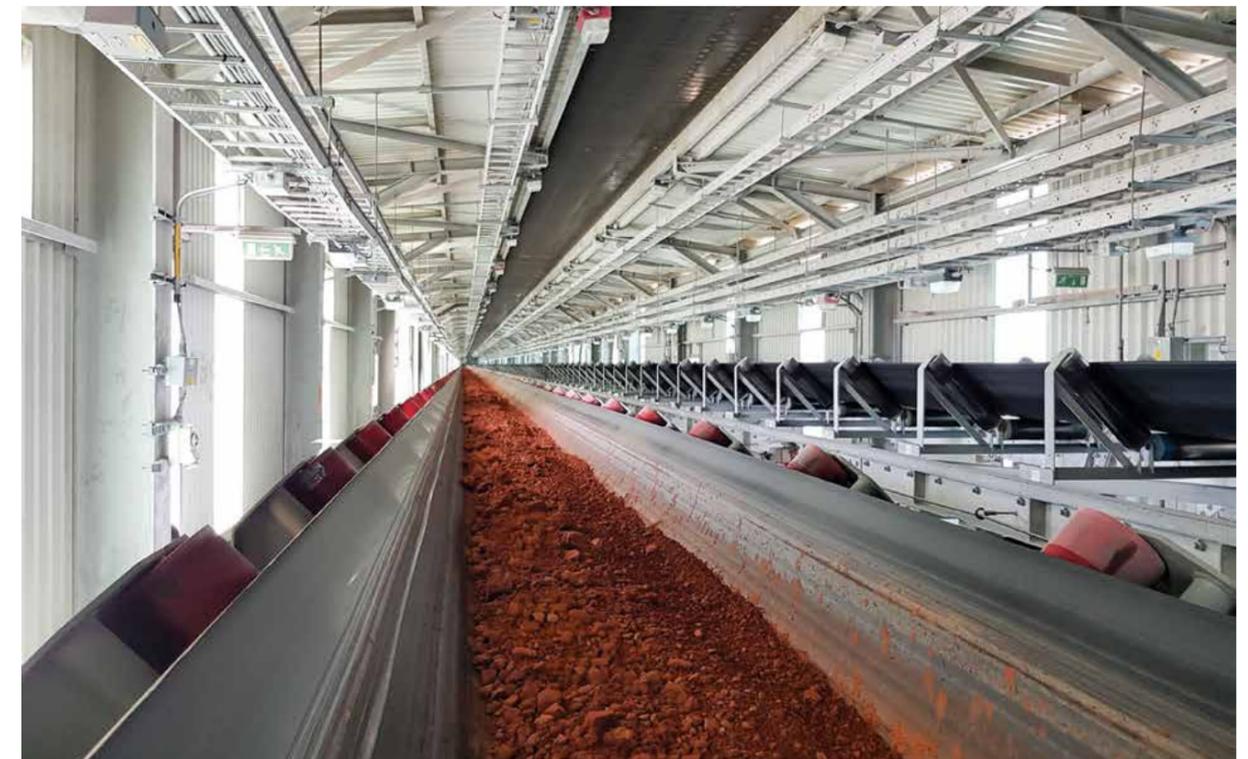
EGA has engaged with the University of Queensland's School of Agriculture and Food Science since 2017 on a project to manufacture soil (turba) from bauxite residue. The turba project continued to gather momentum in 2020, with a senior research technician and a PhD student joining the team.

More than half a tonne of bauxite residue was shipped to the university during 2020 and converted to OBxR for soil and plant studies. A range of plant types have demonstrated robust growth in the turba prototypes being developed.

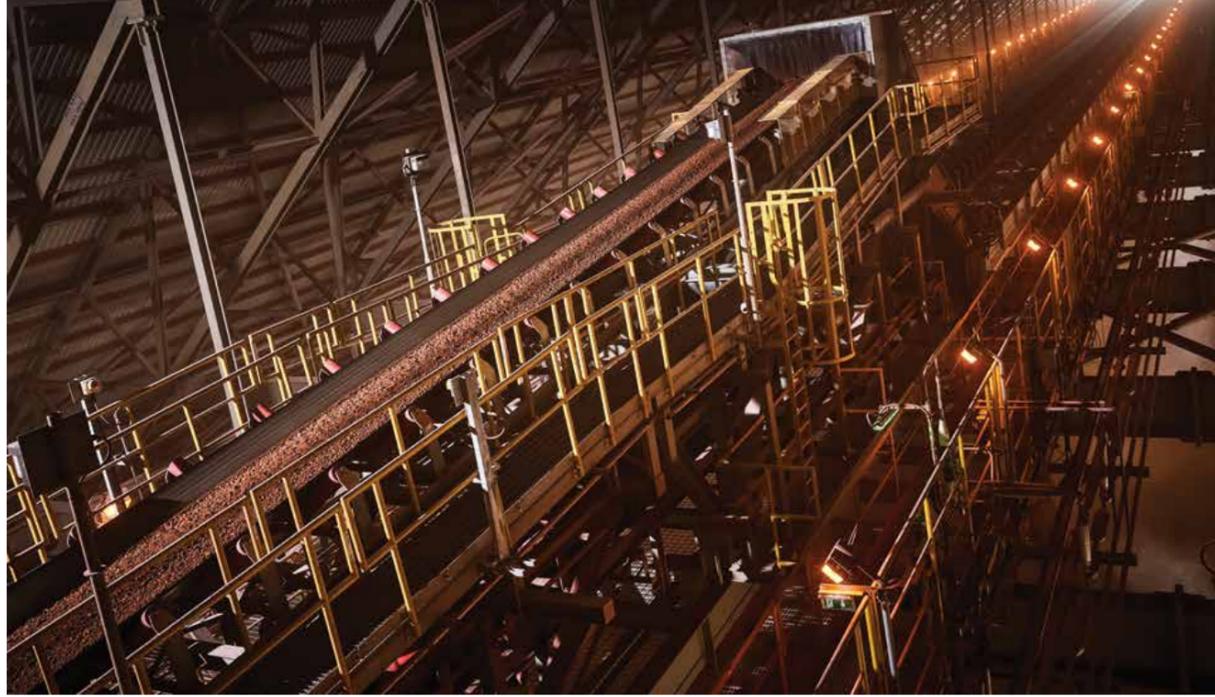
Much of the food waste in the UAE is currently either incinerated or landfilled, both resulting in greenhouse gas emissions. In 2018, EGA sponsored a study at the American University of Sharjah that focused specifically on the conversion of food waste into biochar, a charcoal-like material used to improve soil stability and water retention that ultimately helps plants grow better. We are anticipating that biochar,

locally produced from food waste, could eventually be utilised in EGA's manufactured soil. The American University of Sharjah study was completed in 2020 and successfully developed a technology to convert food waste into biochar, together with a type of 'bio-oil'¹¹¹ as a side-product.

Also, in 2020, we sponsored a new project with the University of Western Australia that aims to use natural biological processes to assist the conversion of bauxite residue into OBxR. Globally, alumina refineries that currently practise residue remediation in their bauxite residue storage areas have implemented similar natural processes, but they currently take decades and require an abundance of rainfall. In addition, the effects are often limited to the top layer of the residue deposits. This new study aims to use organic waste materials common in the UAE to feed microbes that will convert bauxite residue into OBxR in just a few days.



¹¹¹ With potential applications for energy production, amongst other uses.



Construction products

EGA has also been exploring the technical and commercial viability of using bauxite residue to develop products for the construction industry.

In 2020, work progressed with Vlaamse Instelling voor Technologisch Onderzoek (VITO) on the development of materials for road base construction using untreated bauxite residue. The project produced a number of formulations that met the performance requirements of the Abu Dhabi construction code. However, plans to conduct field trials were postponed when it was found that the environmental behaviour of these formulations did not meet certain regulatory requirements. Subsequent laboratory tests using OBxR, instead of untreated bauxite residue, gave a product with excellent physical and environmental performance. Field testing of this road base material will be deferred until our Ra'ed plant is fully operational and trial quantities of OBxR become available.

We also continued our collaboration with VITO to develop lightweight aggregates, focusing on methods of upscaling production and developing techniques required to produce commercial quantities. This

proved more difficult than anticipated, but good progress was made in the latter half 2020 with improved yields and a number of promising developments that reduced scale formation in prototype kilns.

Also, in 2020, we developed a high-density aggregate with high strength and good chemical resistance. This can be used as a construction aggregate in concrete, as well as for specialised applications in the oil and gas industry. Proof of concept has been achieved for the production of this material, and plans are being made to develop the process further at pilot scale in the next few years.

In late 2020, we held discussions with UAE cement manufacturers about the prospective use of bauxite residue as a raw material for cement production. A number of laboratory and field trials were performed, aimed at producing a feedstock that better met cement producer requirements. These trials culminated in the production of solar-dried bauxite residue (SBxR), which has a low pH, low moisture content, and is safer plus is easier to handle and transport.

Industry 4.0

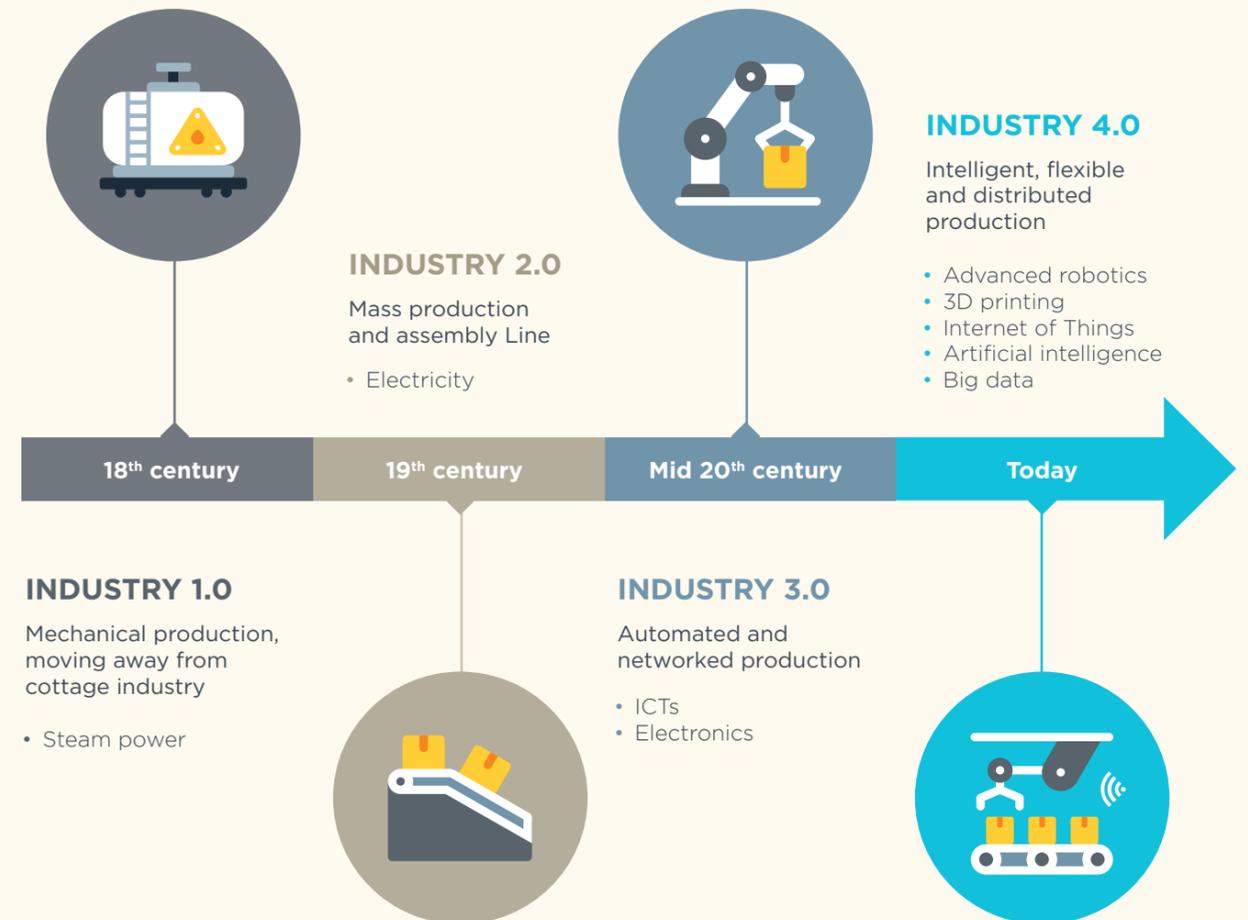
The industrial sector is rapidly evolving as businesses leverage the power of digitalisation. This transformation of industry is commonly referred to as the fourth industrial revolution (Industry 4.0) which is the next evolutionary step after the computerisation of industrial processes (the third industrial revolution) during the second half of the 20th century.

EGA has developed an initial Industry 4.0 road map aligned with the UAE's Fourth Industrial Revolution Strategy. It includes plans for unlocking huge gains in efficiency by leveraging the power of digital capabilities and unprecedented levels of real-time connectivity, analytics and data.

These innovations are expected to improve business visibility and transparency, increase productivity, reduce energy consumption as well as safety risks and costs while upskilling staff in cutting-edge technology.

Industry 4.0 spans multiple business areas and covers many use cases. For example, in our alumina refinery, a digital control room uses Internet of Things (IoT) connectivity and advanced analytics to monitor operations in real time. For our potlines, we started the development of our first advanced analytics use case to predict anode spikes in order to improve pot stability and productivity.

Industrial revolution



Centre of Excellence

EGA's Centre of Excellence is located in Al Taweelah and houses our Research Centre. Through our Centre of Excellence, all EGA employees also enjoy full access to EGA's Knowledge Hub, an online library offering free, unlimited access to a wide range of books, magazines, technical articles and journal papers. The centre also conducts extensive research into practical challenges across EGA operations, facilitating employee-driven solutions that optimise internal processes, minimise environmental impact and reduce costs.



Collaborations

The Centre conducts research in collaboration with established academic institutions in the UAE and internationally. Over the years, it has developed partnerships with the American University of Sharjah, Abu Dhabi University, Heriot-Watt University, Khalifa University, Massachusetts Institute of Technology (MIT) and the University of New South Wales. Every year, we collaborate with UAE undergraduate students on new research topics, including through knowledge exchange sessions, project sponsorship and competitions.

For over five years, EGA has partnered with MIT on five research projects relevant to the aluminium value chain. The projects include a hyperspectral analysis of bauxite residue properties and a study on utilising evaporators after power plant expansion. However, due to the COVID-19 pandemic, projects were put on hold this year. We hope to resume in 2021.

Elsewhere in 2020, despite the global pandemic, we continued working with the Emirates Scientists Council and other government agencies on the Open Lab initiative. EGA was one of 16 organisations that participated in this online platform promoting collaboration between academia and industry.

Research

Since 1985, EGA has prepared and submitted more than 167 research papers to international committees and conferences specific to the aluminium industry, including:

- Minerals, Metals and Materials Society
- International Committee for the Study of Bauxite, Alumina and Aluminium
- Australasian Aluminium Smelting Technology Conference
- Alumina Quality Workshop

TMS holds an annual conference that provides an important platform for aluminium industry professionals to network and learn about advancements. We presented six papers in 2020:

- An advanced non-linear control approach for the aluminium reduction process
- Environmental benefits of using spent pot lining in cement production
- Fault detection and diagnosis of an alumina feeding system using current individual anode measurements
- History of inventions and innovations for aluminium production
- Study of heat distribution due to anode-to-cathode distance variations for anode setting
- Towards minimising the co-evolution of PFC emission in EGA smelters

AI Robot Competition

Case study



In 2020, we held the third annual AI Robot Competition, first established in 2017 to increase awareness of and interest in both EGA and the broader aluminium industry among UAE university students. Each year, we encourage students to think creatively as they develop new tools, techniques and solutions for use in an aluminium smelter. The competition aims to:

- Expose students to the aluminium industry, including the technology, work environment and culture
- Give students an opportunity to put theory into practice
- Build students' collaboration skills in a real-world scenario
- Help students build their CVs and expand their career opportunities

Beginning in August 2020 and ending in March 2021, last year's competition tasked participating students with developing an autonomous tool

(i.e. a drone or robot) capable of capturing 3D images of EGA's baking furnace pits. The drone or robot needed to be able to record accurate aerial images of the flue walls and construct a map of the furnace. Software then needed to use artificial intelligence and computer-vision algorithms to analyse the images, identifying deflections and deformations indicating the need for maintenance. Students were asked to demonstrate their drones and robots, as well as related software, in a presentation to judges.

The winning prototype will be developed into a fully-functional machine and manufactured for use at EGA smelters, increasing the level of furnace pit detail available to EGA teams and reducing the need for manual inspections.

Continuous improvement

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

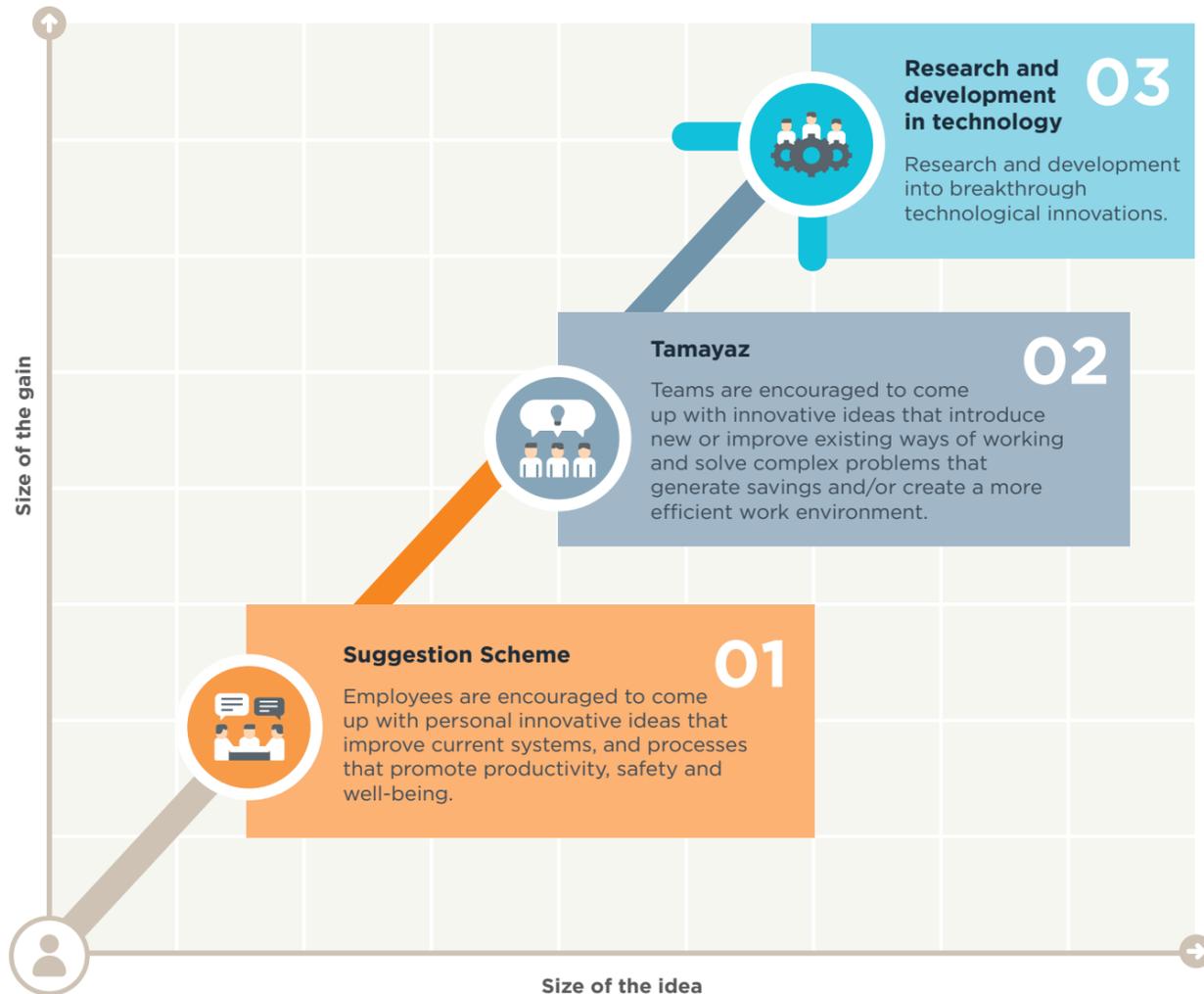
We believe that the people closest to a work process are often in an ideal position to identify what improvements are required and to create the best solution. We have therefore put in place a system to encourage and reward innovative thinking at all levels of our organisation. As part of this system, EGA operates two continuous improvement programmes, the Suggestion Scheme and Tamayaz programme.

“At EGA, the efforts of employees like me are recognised almost instantly following the implementation of suggestions and management encourages ideas irrespective of whether they are minor or major.”



Dinil Kumar
Technician Control Room

EGA Innovation Journey



EGA's Suggestion Scheme

EGA's Suggestion Scheme is a reward-and-recognition programme that encourages and empowers employees to bring forward their ideas for both incremental and large-scale improvements. It was first launched in 1981, making it one of the world's longest running structured suggestion schemes.

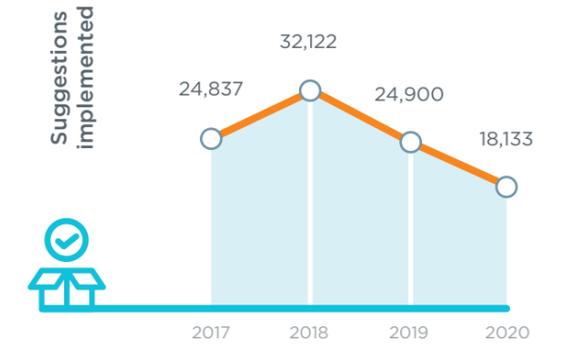
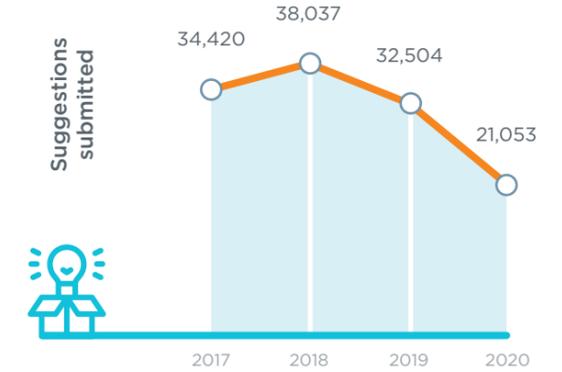
In 2020, we received 21,053 suggestions, of which 18,133 were implemented, saving the organisation more than AED 39.6 million (USD 10.7 million). Approximately, 83 per cent of EGA employee's in the UAE participated. These employees have improved every facet of our business, with their suggestions generating cost-savings, as well as strengthening our safety and environmental performance. Employees whose suggestions are selected for implementation are rewarded and the best suggestions are recognised in company-wide communications and annual events.

“We are motivated when management ask us what we think should be done to solve a problem, reduce costs, or improve performance. We are quite proud to suggest what we think and extremely happy to see that we are also part of a bigger picture contributing to the success of our organisation.”



Lurajim Jimenez
Mechanical Technician - Port Maintenance

Figure 36: Suggestion Scheme achievements



Tamayaz programme



Tamayaz, meaning “to differentiate or distinguish oneself” in Arabic, is the name of an employee reward-and-recognition programme which we launched in 2016 to encourage mid-level managers and their teams to find potential solutions to overlooked problems through structured, scientific analysis. Tamayaz teams are also coached by EGA’s lean manufacturing experts.

In 2020, the programme recorded a record number of 286 submitted projects, of which 133 were implemented, generating savings of AED 40.1 million (USD 10.9 million).

2020 Tamayaz scheme figures	
SUBMITTED PROJECTS	286
IMPLEMENTED	133
AUDITED FINANCIAL SAVINGS (USD million)	10.9

Figure 37: Tamayaz projects’ audited financial savings



As a lean engineer, nothing makes me as happy as seeing improvements to our processes and problems implemented in a short time.

On a personal level, Tamayaz has enhanced my analysis skills, and made me live by the maxim that there is always a room of improvement and there is a solution to every problem faced.



Hala Al Hashmi
Engineer I - Quality & Lean, Innovation

Generating cost savings while increasing production through Tamayaz

Case study



In 2020, one of our Tamayaz projects involved a cross-functional team* of ten employees from different departments who worked over a period of six months to improve the lifespan of our reduction cells through a combination of brainstorming and systematic trial-and-error problem solving. From this process, the team compiled a detailed action plan to increase the average lifespan of a pot from 1,700 to 2,085 days, reducing waste and generating cost savings of approximately USD 2.4 million.

*The cross-functional team included employees from the operations, pot repair and technical departments.



The world we have created is a product of our thinking; it cannot be changed without changing our thinking. As an Operations professional, lean methodology helped me to understand systematic problem solving to reduce waste from our manufacturing process and create more value for customers.



Majid Khalid Al Khaja
Senior Supervisor - Potlines, Reduction





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 supplemented by the information in the footnotes of the pages listed in the below table, as disclosed in Emirates Global Aluminium's ("EGA's") Sustainability Report 2020 for the year ending 31 December 2020.

Assured Sustainability Information

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

Selected performance area	Associated Pages where information on selected performance area is disclosed	Associated Pages where information on reporting criteria of selected performance area is disclosed
2020 GHG Emissions (Total Scope 1 and 2)	66 – 69	66 - 69
2020 Safety Statistics - Injury Rate, Fatalities, and Occupational Disease Rate	78 – 88	78 – 88
2020 NO _x , SO _x , Fluoride Emissions, and Particulate Matter	60 – 63	60 – 63

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, supplemented with the information in the reporting criteria as listed in the above table.

Basis of Conclusion

We conducted our work in accordance with *International Standard on Assurance Engagements ("ISAE") 3000 and 3410 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 2020;
- 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 and with the information in the reporting criteria as listed in the above table. In accordance with the ISAE 3000 and ISAE 3410 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
12 October 2021

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 omission
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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, 44, 121	
102-3	Location of headquarters	15	
102-4	Location of operations	14-15	
102-5	Ownership and legal form	14	
102-6	Markets served	42-44	
102-7	Scale of the organization	15, 42, 51, 103, 121	
102-8	Information on employees and other workers	85, 104, 106	
102-9	Supply chain	54-55	
102-10	Significant changes to the organization and its supply chain	51	
102-11	Precautionary principle or approach	22, 58, 78	
102-12	External initiatives	17, 58, 78	
102-13	Membership of associations	17	
	Strategy		
102-14	Statement from senior decision-maker	9, 11	
	Ethics and integrity		
102-16	Values, principles, standards and norms of behaviour	17	
	Governance		
102-18	Governance structure	34	
	Stakeholder engagement		
102-40	List of stakeholder groups	34	
102-41	Collective bargaining agreements	110	
102-42	Identifying and selecting stakeholders	34	
102-43	Approach to stakeholder engagement	34-35, 45, 90-94, 110-111, 114	
102-44	Key topics and concerns raised	35-38, 114	
	Reporting practice		
102-45	Entities included in the consolidated financial statements	14-15	
102-46	Defining report content and topic boundaries	35-37	
102-47	List of material topics	36	
102-48	Restatements of information	55, 93	
102-49	Changes in reporting	37	
102-50	Reporting period	6	
102-51	Date of most recent report	37	

GRI standard #	Disclosure	Page number	Reason for omission
102-52	Reporting cycle	6	
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	136-139	
102-56	External assurance	134-135	

Most material topics

A safe and healthy workplace at EGA

GRI 103: Management approach 2016	103-1	Explanation of the material topic and its boundary	37, 78-81	
	103-2	The management approach and its components	78-82, 84, 86-88, 95	
	103-3	Evaluation of the management approach	78-88, 95, 98, 110-111	
GRI 403: Occupational health and safety 2018	403-1	Occupational health and safety management system	15, 78-79,	
	403-2	Hazard identification, risk assessment, and incident investigation	78-81	
	403-3	Occupational health services	86-88	
	403-5	Worker training on occupational health and safety	80	
	403-6	Promotion of worker health	79, 86-88	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	54, 79	
	403-8	Workers covered by an occupational health and safety management system	79, 103	
	403-9	Work-related injuries	78-79, 82-85	
	403-10	Work-related ill health	78-79, 84, 86, 88	

Business integrity and ethics

GRI 103: Management approach 2016	103-1	Explanation of the material topic and its boundary	37, 96-98	
	103-2	The management approach and its components	96-98	
	103-3	Evaluation of the management approach	96-98	
GRI 205: Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	97	
	205-2	Communication and training about anti-corruption policies and procedures	54, 97, 106-109	
	205-3	Confirmed incidents of corruption and actions taken	98	
GRI 206: Anti-competitive behaviour 2016	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	98	
GRI 406: Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	98	
GRI 415: Public policy 2016	415-1	Political contributions	96	
GRI 419: Socioeconomic compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	98	

GRI standard #		Disclosure	Page number	Reason for omission
Air quality and emissions				
GRI 103: Management approach 2016	103-1	Explanation of the material topic and its boundary	37, 58-59	
	103-2	The management approach and its components	58-63, 95	
	103-3	Evaluation of the management approach	58-63, 95	
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	66	
	305-2	Energy indirect (Scope 2) GHG emissions	66-67	
	305-4	GHG emissions intensity	64, 66-67	
	305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	61-63	
Our employees				
GRI 103: Management approach 2016	103-1	Explanation of the material topic and its boundary	37, 102, 110-112	
	103-2	The management approach and its components	110-117	
	103-3	Evaluation of the management approach	110-117	
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	108-109	
GRI 402: Labor/management relations 2016	402-1	Minimum notice periods regarding operational changes	110	
GRI 404: Training and education 2016	404-1	Average hours of training per year per employee	112, 113	
	404-3	Percentage of employees receiving regular performance and career development reviews	112	
GRI 405: Diversity and equal opportunity 2016	405-1	Diversity of governance bodies and employees	105, 107	
GRI 407: Freedom of association and collective bargaining 2016	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	110	
Environmental controls and management systems				
GRI 103: Management approach 2016	103-1	Explanation of the material topic and its boundary	38, 58-59	
	103-2	The management approach and its components	58-77, 95	
	103-3	Evaluation of the management approach	58-77, 95	
GRI 306: Effluents and waste 2016	306-3	Significant spills	75	
GRI 307: Environmental compliance 2016	307-1	Environmental Compliance: Non-compliance with environmental laws and regulations	75, 98	
Waste management				
GRI 103: Management approach 2016	103-1	Explanation of the material topic and its boundary	38, 58-59	
	103-2	The management approach and its components	58-59, 72-75, 95	
	103-3	Evaluation of the management approach	72-75, 95	
GRI 306: Effluents and waste 2016	306-2	Waste by type and disposal method	72-74	

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
Sustainability reporting	3.1	Governance approach and material, environmental, social and economic impacts	34, 37-38
Non-compliance and liabilities	3.2	Information on significant fines, judgments, penalties and non-monetary sanctions for failure to comply with applicable law	98
Payments to governments	3.3 b	Payments to governments, building on existing audit and assurance systems	52
Disclosure of GHG emissions and energy use	5.1	Material GHG emissions and energy use by source	64-69
GHG emissions reductions	5.2	Time-bound GHG emissions reduction targets	68
Emissions to air	6.1	Emissions to air	60-63
Discharges to water	6.2	Discharges to water	70-71
Reporting of spills	6.4 b	Impact assessments of any significant spills and remediation actions taken	75
Waste management and reporting	6.5 b	Quantity of hazardous and non-hazardous waste generated and associated waste disposal methods	73-74
Disclosure of water usage and risks	7.3	Water withdrawal and use. Material water related risks.	70-71
Biodiversity management	8.2 c	Biodiversity action plan outcomes	76-77



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