



Corporate
Responsibility
Report

2020



About this report

This Corporate Responsibility report (CR Report) has been prepared in accordance with the Global Reporting Initiative (GRI) Standards 'Core' option, the United Nations Global Compact (UNGC) reporting requirements, and the Sustainability Accounting Standards Board (SASB) Metals and Mining Sustainability Accounting Standard. This is the 15th annual sustainability / corporate responsibility report published by Golden Star.

The report scope, boundaries, and performance data cover Golden Star's operating activities in Ghana and, unless otherwise indicated, do not consider the company's exploration, development, and closed properties.

Except where indicated otherwise (including with respect to certain initiatives advanced by the company in early 2021 described herein), all information and performance data in the report are current as of December 31, 2020, and unless noted otherwise, all currency amounts are stated in U.S. dollars. Following the completion of the sale of the Bogoso Prestea mine in September 2020, performance data for 2020 shows the performance for the continuing business, unless indicated otherwise.

The GRI, Mining LPRM and SASB indexes are included as appendices in this report. Additional performance data tables are available at www.gsr.com/responsibility.

We welcome feedback on this report and our reporting in general. Please direct any feedback on the report to info@gsr.com.

Company profile

Golden Star is an established gold mining company that owns and operates the Wassa underground mine in Ghana, West Africa. Listed on the NYSE American, the Toronto Stock Exchange and the Ghana Stock Exchange, Golden Star is focused on delivering strong margins and free cash flow from its activities.

Our vision is to become a sustainable diversified gold mining company that our stakeholders are proud to be associated with. As a company, and as individuals, we value caring, fairness, respect, honesty and collaboration in all relationships. Golden Star is committed to upholding the highest standards of safety, employee well-being and protection of the environment, and strives to be a responsible corporate citizen.

In September 2020, we completed the sale of the Bogoso-Prestea mine to Future Global Resources Limited (FGR). The sale strengthened our balance sheet by removing negative working capital and liabilities associated with the Prestea operations and is expected to generate a cash inflow of \$30 million by 2023. Given the resulting improvement in the company's financial position, the focus has been on accelerating our investment at our mining operations at Wassa and in our existing exploration pipeline, and to look for other opportunities to further expand our business. The transaction also provided an owner solely focused on delivering turnaround of the underground operation for Bogoso-Prestea, and as a result we saw this as positive for both companies, our respective employees, and local host communities.



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NYSE AMERICAN: GSS TSX: GSC

Message from the CEO



The past 12 months have been one of the most challenging periods in living memory for many businesses in dealing with the pandemic, Golden Star included. This period has demonstrated the benefits of our focus on operating responsibly and sustainably – be it our pandemic management controls to protect our workforce and local communities and ensure stability of our operations, or our focus on local procurement which helped maintain our supply chain as borders closed. Not only did we keep operating but we delivered significantly higher revenues to the Government of Ghana as it dealt with the financial pressures of the pandemic.

These achievements enabled us to invest in key infrastructure necessary for long-term growth, including upgrades to electrical and dewatering infrastructure as well as the paste backfill plant construction. These complex projects were delivered safely, on time and within budget. In many aspects, they represent firsts for projects of this kind in Africa. Their successful delivery, led by local staff, is a testament to the capability of our planners, project managers, and operational staff.

We are aware that investors and shareholders continue to sharpen their focus on environmental, social and governance issues. We have been widely recognized as an industry leader in environmental and social responsibility, but realize that to be a

'sustainable diversified gold mining company our stakeholders are proud to be associated with' requires sustainability best practices to be integral to our approach. In recognition of this, in 2020 we established the role of Executive Vice President and Head of Sustainability to drive leadership and the differentiation that Golden Star intends to make in this arena for enhanced value, risk management and sustainability.

As proud as we are of our overall performance, this report provides a broader perspective on our business activities in 2020. It sets out what we have done on key environmental, social and governance topics through the year – addressing both challenges and achievements. We are particularly sad to report that in March, Francis Enyimah was fatally injured at, what was then, our

Bogoso-Prestea mine. We are deeply saddened by this and express our regret and condolences to his family, friends, and colleagues. Tragic incidents of this nature reinforce our complete determination to ensure that we do not see such tragic accidents in the future and that everyone goes home safely every day.

Our resolve in ensuring the health and wellbeing of our people could be no better illustrated than in the management of COVID-19. Our teams have worked tirelessly to tailor our systems and processes to protect people, while maintaining business continuity. As a major employer, and catalyst for rural economic stimulus in our host communities, our continued operations are critical to the health and wellbeing of our workforce as well as the thousands of people they support directly and indirectly. The early implementation of enhanced screening processes including on-site testing, physical distancing, hygiene protocols as well as specific procedures to protect vulnerable members of the workforce, enabled us to manage the multi-faceted operational risks effectively. We successfully managed the inevitable shortages of specific skills and technical assistance caused by international travel restrictions and delivered first-class operations and projects. Most importantly, we kept people safe and well.

Our people have shown extraordinary dedication and care in supporting their colleagues and communities, and fully embody our values of caring, respect and collaboration. We are extremely proud of them all and I would like to thank everyone for their efforts this year. I look forward to building on those with, and for the benefit of all stakeholders.

Andrew Wray
President and Chief Executive Officer

“ Our resolve in ensuring the health and wellbeing of our people could be no better illustrated than through the efforts of the team in the management of COVID-19.”

Highlights in 2020

Zero

Zero environmental incidents



0.34

TRIFR (Total Recordable Injury Frequency Rate)



2.57

AIFR (All Injury Frequency Rate)



60%

of workforce from local communities



\$61m

in total government payments paid



\$94m

in procurement spend in Ghana



99%

of Ghana workforce is Ghanaian



<0.2

malaria per capita case rate (once again the lowest in the company's history)



\$2.3m

in procurement to companies in host communities



Best performer in Occupational Health and Safety award at the Ghana Mining Industry Awards

Golden Star a 2019 and 2020 'Women Lead Here' honoree

Minimal impact from COVID-19 due to effective management

Vision, Mission, Values

We have defined our vision and created clear plans along five strategic pillars to allow us to become a sustainable, diversified gold mining company that all our stakeholders are proud to be associated with.

We are determined to accomplish our vision through everything we do by behaving at all times according to our values of honesty, caring, collaboration, respect and fairness. At all levels of the organization, the way we conduct ourselves and demonstrate our values in our actions, is what will underpin our long-term success and create the vision we have defined for Golden Star.



“ All of us at Golden Star have and will continue to make our culture visible in the way we turn our core values into behaviors.”

Nathalie Lion Haddad
EVP, Head of People

Chairman’s Awards

The Chairman's Awards recognize individuals who have truly set themselves apart and serve as an inspiration. The awards contribute to a culture where employees feel valued and recognized for the work they do under our five strategic pillars; People, Culture & Leadership; Sustainability; Operational Excellence; Financial Excellence and Growth.



SUSTAINABILITY PILLAR:
Anthony Ntarmah

Recognized for his exceptional work on implementing the International Cyanide Management Institute's code and company standards to enhance workplace safety and help strengthen our workplace safety culture.



OPERATIONAL AND FINANCIAL EXCELLENCE PILLAR:
Billy Archer

Recognized for his work and leadership on the paste backfill preparation and delivery system at Wassa Underground – completed on schedule and to budget despite COVID-19 restrictions.



OPERATIONAL EXCELLENCE PILLAR:
Emmanuel Agyare

Recognized for his instrumental role in restructuring the underground engineering planning section to integrate all maintenance activities, showing initiative and motivation in the development of a single site plan.



PEOPLE, CULTURE & LEADERSHIP PILLAR:
George Amankwah-Kumi

Recognized for his caring approach in guiding the design and implementation of COVID-19 controls and supporting their implementation in the business and host communities, while working with the medical team to raise health awareness.



GROWTH PILLAR:
Marion Guimard

Recognized for her excellent work and approach in the implementation of a Strategy framework for Golden Star which provides a company-wide planning cycle from the Board of Directors throughout the business.



OPERATIONAL EXCELLENCE PILLAR:
Samuel Yeboah

Recognized for his work in leading the underground training process, consistently demonstrating attention to detail and collaborating within the team and with other stakeholders in this critical area of our operations.

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Our commitment

We are committed to being a responsible and sustainable business. We support the transparent disclosure of our performance against globally recognized frameworks.

Key objectives



1 Progress goals
Make progress against all our 2021 UN Global Compact goals.



2 Support SDGs
Ensure that our policies, procedures, and actions continue to support progress against the UN Sustainable Development Goals.



3 Principles
Continue implementation of the World Gold Council's Responsible Gold Mining Principles.

Message from EVP, Head of sustainability



At Golden Star, we have always understood that financial value generation is inherently linked with sustainability. In 2020, we clearly enunciated, in our new vision, the understanding that people, culture and leadership, sustainability, operational excellence, financial excellence and growth are equal drivers of success and must be pursued in unison to achieve our goals.

We have long recognized the need to behave ethically, and to engage positively with the communities where we operate. We have communicated our progress against the UN Global Compact for 15 years, itself an indication of our long-standing commitment to follow international standards in the important fields of human rights, labor practices, anti-corruption, and environmental protection.

In parallel, we have rigorously followed international reporting standards and best practices, such as the Global Reporting Initiative and the more recent SASB standards

for the mining sector. We have also sought to address the needs of local stakeholders, evident in our adoption of the Mining Local Procurement Reporting Mechanism. The concerns of investors and other stakeholders are increasingly broad, requiring detailed accounts of performance, alongside targeted disclosures on subjects such as conflicts of interest, tailings management, or the production of conflict-free gold. The demand for these topic-specific disclosures illustrates growing global expectation of industry sustainability and aligns directly with our own vision and values. Transparency is as important to us, as it is to our diverse array of stakeholders and led us to take significant steps forward with our sustainability disclosures last year, providing wide-ranging information about our environmental and social performance, as well as on our systems of governance. We are proud of the wide reach and the quality of the information we provide and are always keen to receive feedback on how we can do better.

We know that good reporting is of little value if it is not backed up by good performance. Throughout the company, our team have delivered remarkable performance this year. Not only have they shown extraordinary resilience and tremendous reserves of dedication to manage the impacts of the pandemic, but they have done so with skill and humanity. Some of their stories are described in this report.

While COVID-19 has demanded attention, it has not deterred us from pursuing other goals, nor has it diverted the attention of stakeholders away from global issues such as climate change. We are continuing our development of an energy management framework for the business, including a climate change policy, targets, shadow carbon pricing and provision for energy audits to validate targeted energy opportunities. These represent sensible first steps in addressing what is another complex and far-reaching challenge. I am confident we will respond systematically and comprehensively, as we have done with other multi-faceted issues and I look forward to working with the Golden Star team and our stakeholders as we continue the journey towards our vision.

Ms. Philippa Varris
Executive Vice President and Head of
Sustainability

“ We know that good reporting is of little value if it is not backed up by good performance. Throughout the company, our team have delivered remarkable performance this year.”

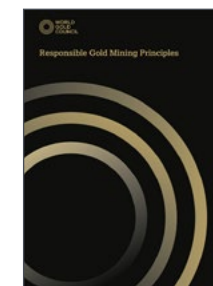


UPDATE ON IMPLEMENTING THE RESPONSIBLE GOLD MINING PRINCIPLES

The Responsible Gold Mining Principles (RGMPs), of the World Gold Council are a framework established in September 2019 that sets out clear expectations for consumers, investors, and the downstream gold supply chain, as to what constitutes responsible gold mining.

The RGMPs align closely with the frameworks that we have already adopted – but most importantly, those we have carefully selected for beneficial impact, sustainable outcomes and to uphold our values – in support of our vision.

Having published our commitment to the RGMPs in our 2019 CR Report, the process of implementation is ongoing. In line with year one requirements, we have completed a gap analysis and engaged an independent assurance provider to assess our processes and performance, considering site and corporate level activity. In the course of 2021, we will complete the documentation of an action plan and will continue to obtain external assurance – to provide additional confidence to our stakeholders that Golden Star’s gold is responsibly mined and sourced.



Responsible Gold
Mining Principles

Committed to the UN Sustainable Development Goals

Since becoming a signatory to the UN Global Compact in 2006, Golden Star has integrated the principles into our core sustainability strategy including incorporation of the Sustainable Development Goals (SDGs) and the setting of goals and targets aligned with the SDG indicators.

The 17 SDGs provide an inter-connected set of goals, representing a call to action for all countries – developed and developing – in a global partnership. They recognize that ending poverty and other deprivations, must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth, all while tackling climate change and working to preserve our oceans and forests.

While making progress against the goals requires wide collaborative effort, our own activities have relevance for several of the SDGs. Many of the commitments we have made align with the goals, such as our initiatives in support of transparency. A wide range of our company policies and processes reflect the aspirations of the goals or make a positive contribution to achieving them. We are committed to integrating the goals into our policies and processes, so that making a positive contribution is just part of the way we do business.

3 GOOD HEALTH AND WELL-BEING **6 CLEAN WATER AND SANITATION**

- Effective COVID-19 management plan
- Support for community COVID-19 response
- Health & Safety management system and strategy and plans
- Extensive health & safety training
- Internal health & safety reporting tools and guidance
- Community water and sanitation systems
- Development Foundation contributions to the community
- Social impact assessments for major projects
- Hydrological and hydrogeological investigations
- Water quality monitoring programs

Case study: Workforce COVID-19 response
Case Study: Community COVID-19 response

4 QUALITY EDUCATION **5 GENDER EQUALITY** **10 REDUCED INEQUALITIES**

- Targets to increase female workforce participation
- Partnerships of employment and skills development
- Participants in UN Young SDG Innovators pProgram
- International WIM mentoring initiatives

Case study: UN Innovators Program
Case study: Women in Mining

8 DECENT WORK AND ECONOMIC GROWTH **9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**

- Ongoing investment in operations
- Focus on local procurement
- Mining Local Procurement Reporting Mechanism adoption
- GSOPP and local livelihoods programs
- Support for local community projects
- Robust grievance management mechanisms

Case study: New power plant
Case study: Single point suspension cable



12 RESPONSIBLE CONSUMPTION AND PRODUCTION **13 CLIMATE ACTION** **15 LIFE ON LAND**

- ISO aligned management system
- Environmental Management Plans
- Comprehensive monitoring systems
- International standard impact assessments
- The Investor Mining and Tailings Safety Initiative disclosure
- One engineer of record over TSF life
- Waste management plans
- GSOPP land revegetation and post mining use

Case study: Tailings management
Case study: Paste backfill plant

16 PEACE, JUSTICE AND STRONG INSTITUTIONS **17 PARTNERSHIPS FOR THE GOALS**

- UN Global Compact signatory for 15 years
- Board level Corporate Responsibility Committee
- Supporter of the Conflict-free Gold Standard
- Participant in EITI
- Implementing Responsible Gold Mining Principles
- Transparent ESTMA and tax disclosures
- Follow SASB and GRI reporting standards
- Active community engagement and consultative committees
- Leading practice community MOUs
- Stakeholder engagement plans
- Regular anti-bribery and anti-corruption training

Case study: Community engagement
Case study: The Golden Star Way



Gold Mining's Contribution to the UN SDGs



UN Global Compact progress and goals

The United Nations Global Compact (Compact) is the world's largest corporate responsibility initiative, with more than 12,000 private sector signatories in 160 countries worldwide. It consists of ten principles in the four areas of labor, human rights, environment, and anti-corruption.

Since becoming a signatory to the Compact in 2006, Golden Star has integrated the principles into its core corporate responsibility strategy. This has translated into an increased focus on the integration of the Sustainable Development Goals (SDGs) into our strategy, including the setting of goals and targets aligned with the SDG indicators.

The tables on pages 14-16 summarize the progress achieved in 2020 and our commitments for 2021.

UN Global Compact 2020 Progress

Compact area	Goal	Progress
Human Rights	Roll out the <i>Inclusion and Diversity Policy</i> across the organization.	Achieved. We released our <i>Inclusion and Diversity Policy</i> to mark International Women's Day in March 2020. This supports our existing policy on <i>Board and executive officer diversity</i> .
	Communicate the Golden Star Way – our values (caring, honesty, respect, fairness and collaboration) to the workforce.	Achieved. Golden Star Way workshops were rolled out in Q4 2020 across the organization.
	Zero legitimate human rights complaints against the company.	Achieved. Additionally, our Wassa operation received no community complaints or grievances in the year.
	Continue to advance our programs on local procurement.	Achieved. Golden Star formed a multidisciplinary work team to advance these objectives and continued its partnership programs with the German International Development Agency (GIZ) to enhance local capacity. Additionally, with the release of our 2019 CR Report , Golden Star was one of the first companies globally to disclose in line with the Mining Local Procurement Reporting Mechanism.
Employees (Labor)	Zero fatalities and sustained reduction in recordable injuries.	A sustained improvement in injury frequency rates was marred by a fatal incident at Prestea in March 2020.
	Sustain malaria case rates at less than 6% of clinic attendance and less than 0.35 cases per capita.	Achieved. Malaria cases were less than 5% of clinic attendance and case rates remained below 0.2 cases per capita.
	Continued implementation of Golden Star Health and Safety Strategy.	Achieved. Among other elements, the finalization of several critical risk standards occurred in the year.
	Advance towards 20% female representation within the workforce.	Not achieved. Diversity in our mining business units increased to 8% female (from 7%). Females represented only 12% of new hires in this part of the business. GSOPP increased to 31% female (from 30%) with 56% of GSOPP new hires being female.
Environment	100% compliance with dust, noise and vibration, and water requirements.	Wassa achieved 100% conformance to monitoring requirements, with 100% alignment to water, dust and ambient noise guidelines and 99.7% conformance to blast induced noise and vibration standards. At the time of the sale of Prestea it had achieved 100% conformance.
	Zero reportable environmental incidents.	Achieved. Wassa achieved zero reportable environmental incidents and at the time of the completion of the sale of Prestea, it had also achieved zero reportable environmental incidents.
	Zero significant spills.	Achieved. Wassa achieved zero significant spills and at the time of the completion of its sale, Prestea had also achieved zero significant spills.
	Disclose tailings information to Investor Mining and Tailings Safety Initiative.	Achieved. A disclosure conforming to the Investor Mining and Tailings Safety Initiative was published in September 2020.
	Bogoso operations to obtain ICMC certification.	In 2020, the Wassa business was re-certified under the International Cyanide Management Code . At the time of the sale of the Prestea business, the work program toward certification was well-advanced.
	Develop an energy management framework for the business, including provisions for energy audits and energy targets.	Golden Star began this journey in 2020 with the construction of a natural gas power station at Wassa to ensure energy supply security. This is expected to provide the opportunity to flatten the load profile and establish a new baseline for the operations.
Anti-corruption	Continue to report payments under the Extractive industries Transparency Initiative (EITI).	Achieved. Disclosure to the EITI was integral to the 2020 CR Report.
	Release report on the World Gold Council Conflict-Free Gold Standard.	Achieved. Inaugural disclosure to WGC Conflict-Free Gold Standard formed part of the 2020 CR reporting pack.
	Undertake conflict of interest survey with all senior leadership.	Achieved. Conflict of interest survey was conducted in October 2020 with 100% participation. 72 people completed the survey.
	Anti-corruption training to the level of superintendent.	Achieved. Anti-corruption training was conducted in December 2020 with a 94% participation. The inclusion of superintendents saw a >20% increase in participation compared to the previous year.

2021 UN Global Compact Goals

Compact area	2021 Goal	SDG
Human Rights	Undertake a review of the Policy on Human Rights to enhance alignment with internationally recognized human rights standards and the Responsible Gold Mining Principles.	SDG 5, 10, 16
	Complement the 2020 release of the Inclusion and Diversity Policy with targeted training on harassment and discrimination, and other programs on inclusion.	SDG 5, 10
	Continue to embed the Golden Star Way and specifically our values of caring, collaboration, respect, fairness and honesty in our relationships.	SDG 5, 10, 16
	Zero legitimate human rights complaints against Golden Star.	SDG 5, 10, 16
	Continue to advance our programs on local procurement.	SDG 1, 8, 10
	Review supply chain systems and policies to enhance supply chain human rights due diligence.	SDG 5, 9, 10, 16
Employees (Labor)	Zero fatalities and sustained reduction in recordable injuries.	SDG 3
	Maintain diligent adherence to the COVID-19 Pandemic Management Plan and support host communities in preparedness and management activities as appropriate.	
	Sustain malaria case rates at less than 6% of clinic attendance and less than 0.30 cases per capita.	
	Pursue the implementation of the Golden Star Health and Safety strategy.	
	Advance towards 20% female representation within the workforce.	SDG 4, 5, 10
Environment	Zero reportable environmental incidents.	SDG 6, 12, 13, 14, 15
	100% compliance with dust, noise and vibration, and water requirements.	
	Zero significant spills.	
	Complete a gap analysis against the Global Industry Standard for Tailings Management and develop an associated improvement action plan.	
	Continue development of an energy management framework for the business, including a climate change policy and targets, and provision for energy audits to validate targeted energy opportunities.	
Anti-corruption	Develop a stand-alone policy on anti-bribery and corruption to complement the Business Conduct and Ethics Policy and other governance systems.	SDG 16, 17
	Continue to report payments under the Extractive Industries Transparency Initiative (EITI).	
	All leaders to supervisor level undertake anti-corruption training, conflict of interest survey and ascribe to company policies.	
	Design an anti-corruption training program for members of community engagement committees.	



“ In many ways, 2020 was a transformational year for Golden Star. The operational performance of Wassai stood out, delivering improved production despite the challenges that have arisen from the pandemic. Strong cash flow generation, combined with the sale of our Bogoso-Prestea operation and successful loan refinancing, underpinned a significant improvement in our financial position.”

Andrew Wray

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Sustainable governance

We recognize that robust corporate governance mechanisms are essential to establishing a strong foundation for generating long-term, sustainable value for our stakeholders.

Key objectives



1 Human rights

Review our Policy on Human Rights to enhance alignment with internationally recognized human rights standards and the Responsible Gold Mining Principles.



2 Golden Star Way

Continue to embed the Golden Star Way.



3 Anti-corruption

Develop a stand-alone policy on anti-bribery and corruption.

Message from the Chair of the Corporate Responsibility Committee of the board



Sustainable governance is reliant on fairness, honesty and respect. These important values underpin Golden Star's corporate policies, endorsed and overseen by the company's Board of Directors. In what has been an extremely challenging year, I am proud that the embedding of these values in our behavior was evident not only in new systems – such as the enhanced reach of our anti-corruption training and new disclosure on conflict of interest – but also in our caring approach to the numerous tests our teams faced in the COVID-19 pandemic.

“ I am proud to say that the challenges posed so far have been weathered with skill and success by the Golden Star team. From the decisive actions of our emergency and crisis management teams, our brilliant medical and health staff, or our dedicated workforce, we have seen many examples of our values – of caring, honesty, respect, fairness and collaboration – in action.”

Our purposeful, values driven approach has yielded benefits throughout the business. This is evident in our making progress in important areas – such as increasing the reach of anti-corruption programs, the strengthening of our standard for discretionary payments, and our new disclosures on conflict of interest. It has also been clearly put to the test and emerged with great success, in our response to the COVID-19 pandemic. Each of these represents important milestones in our integrated sustainability journey and sets benchmarks for our road map to our vision.

The challenges posed for companies by the coronavirus have been far-reaching and Golden Star is not unique in having to address the clear risk to our people and operations, but also the parallel test of our systems of governance and control – challenging our capacity to respond to a crisis within our policies and procedures, or to show the flexibility to adapt them when necessary. The pandemic has been a real test of the extent to which companies will go to live by their values – particularly the values of respect and care for our colleagues.

I am proud to say that the challenges posed so far have been weathered with skill and success by the Golden Star team. From the decisive actions of our emergency and crisis management teams, our brilliant medical

and health staff, or our dedicated workforce, we have seen many examples of our values – of caring, honesty, respect, fairness and collaboration – in action.

We know we have further challenges ahead. To advance towards our target of 20% female representation in our workforce will require the same considered planning and dedication that we have seen throughout our business – but importantly, we can take confidence from the example set by the inspirational women who already work at Golden Star and from the commitment of our management team to make this goal a reality.

It has been a very difficult year, but one that has shown the strength of our team. This year has shown our ability to respond effectively to immediate threats to our business, as well as our capacity to tackle longer-term strategic challenges. I am proud of what we have achieved and optimistic about the future of Golden Star.

Anu Dhir, Non-Executive Director and Chair Corporate Responsibility Committee

Figure 1 – Overview of materiality assessment process



MATERIALITY ASSESSMENT

In line with well-established reporting practices, we conduct materiality assessments in the development of our corporate responsibility reporting. Doing so enables us to define the environmental, social and governance (ESG) disclosure topics that are of most importance to our business and our stakeholders – investors, employees, partners, host governments and communities. The assessment results also inform our ongoing business strategy and plans.

In 2020, we updated the materiality assessment covering our business. Figure 1 provides an overview of our materiality process.

For this CR Report, we reviewed our 2019 assessment results and additional topics for disclosure. To identify potential topics, we reviewed a wide range of management information, including disclosures to investors, technical reports, views of the senior management team and topics from our annual enterprise risk management (ERM) review process.

To obtain an external perspective, we reviewed GRI Standards and considered the Sustainability Accounting Standards Board (SASB) Metals and Mining Standard to define ESG topics that might be financially material to our business. We also took account of the UN Global Compact categories. We completed a detailed peer group review of eleven mining companies of similar scale and activities, examining the issues raised and assessment of significance in recent disclosures.

MATERIAL TOPICS

Based on these inputs, we determined the material issues informing the content of this report and our other ESG disclosures. The table on page 22 summarizes the most material topics identified in our 2020 assessment, as well as some other issues of long-standing importance to the business. Throughout the disclosures, the level of detail reflects the relative importance of these topics. Topics that are not extensively discussed in this report are still assessed and managed as part of our operational management.

We are committed to continually improving our materiality assessment process. While unable to engage with a wide group of external stakeholders on materiality because of restrictions due to the COVID-19 pandemic, we nevertheless had participation in the process for the first time from our major investors, as well as a sample of contractors and partners. We recognize the value in obtaining external insights and intend to build on these engagements on materiality in the future.

Materiality matrix



- | | | |
|--|---|---|
| 1 Acid rock drainage | 11 Diversity and inclusion | 23 Mine closure |
| 2 Air quality | 12 Economic performance | 24 Permitting and compliance |
| 3 Anti-corruption and bribery | 13 Employees and people development | 25 Product responsibility / materials stewardship |
| 4 Artisanal and small-scale mining (i.e. galamsey) | 14 Energy use | 26 Resettlement |
| 5 Biodiversity | 15 Governance | 27 Security practices |
| 6 Child labour | 16 Greenhouse gas emissions | 28 Supply chain management |
| 7 Climate change adaptation and resiliency | 17 Grievance mechanisms for external stakeholders | 29 Tailings management |
| 8 Community economic development | 18 Health and safety (occupational) | 30 Transparency on government payments |
| 9 Community health | 19 Human rights | 31 Waste management and effluents |
| 10 Community / stakeholder engagement | 20 Labour / management relations | 32 Waste rock management |
| | 21 Local employment | 33 Water |
| | 22 Local procurement | |

Material topics overview

Topic area	Topic	Importance of topic
Environment	Permitting and compliance	Our operations are subject to extensive environmental laws, regulations, and permits that we must comply with.
	Water management	Water is a key input in our processing facilities. Effective water management is critical, as water is an important shared resource.
	Tailings management	There are a wide range of potential risks associated with tailings facilities that must be effectively managed to prevent adverse impacts on the environment and local communities.
	Mine closure	Mine rehabilitation and mine closure are important parts of the mine life cycle. Providing viable, productive, post-mining land uses is critical for our local communities to ensure we leave a positive, enduring legacy.
	Energy and emissions management	Energy inputs are significant costs for mining operations. The emissions from the mining sector contribute to climate change, which is a key global challenge.
	Waste management	Responsible resource development requires managing waste – both hazardous and non-hazardous – to prevent adverse impacts and promote environmental stewardship and beneficial reuse.
Social	Occupational health and safety	The health, safety and wellbeing of our people is paramount and as such is a core part of our business strategy. Our employees and contractors expect a safe and healthy working environment.
	Employee and people development	We rely on recruiting, developing, and retaining talent. Our people are our greatest asset and the foundation of our business success.
	Diversity and equal opportunity	Diversity provides different perspectives for more comprehensive decision-making and better business outcomes. We want to maintain an inclusive work environment, with equal opportunity for all, so that people feel valued and have a sense of belonging.
	Community / stakeholder engagement	Maintaining inter-dependent relationships with our host communities is essential to securing our social license to operate and maintenance of land access.
	Community economic development	Our operations are key catalysts for local social and economic development, including beyond direct impacts. This is essential to ensuring net benefit from our presence for our host communities.
	Local procurement	Local procurement is one of the key economic benefits of our operations. It helps to build businesses that can thrive during and after mining is complete for thriving rural economies.
	Human rights	In line with the UN Guiding Principles on Business and Human Rights, we have an ethical responsibility to respect the human rights of our stakeholders throughout the full life cycle of our operations.
	Governance	Sustainability governance
Anti-corruption and bribery		We must demonstrate to stakeholders that we conduct our business with the highest standards of ethics and integrity, so they have confidence in how we do business.
Economic performance		We strive to deliver strong and sustainable economic performance that benefits all our stakeholders.

SUSTAINABILITY GOVERNANCE ARCHITECTURE

We recognize that sound corporate governance, consistent with the best interests of our investors, helps our stakeholders to have confidence in the credibility of our business conduct.

Golden Star's Board of Directors (the Board) is the highest corporate governance body within our organization. The Board's mandate is to oversee the management of the business and affairs of the company. It delegates responsibility for day-to-day operations – including ESG management – to the Chief Executive Officer and the Golden Star management team.

The Board operates within a framework of policies and standards in line with good corporate governance practice. Policies related to corporate responsibility and sustainability include:

- **Business conduct and ethics policy**
- **Policy on safety, health, and wellbeing**
- **Policy on the environment**
- **Policy on human rights**
- **Policy on community development and support**
- **Policy on community relations**
- **Policy on inclusion and diversity**
- **Insider trading and reporting policy**

The Board has established a Corporate Responsibility Committee, the primary function of which is to assist the Board in the furtherance of Golden Star's commitments to stakeholders in maintaining a healthy and safe workplace, environmentally sound and responsible resource development, good community relations, and the protection of human rights.

Board committee charters are periodically reviewed, in line with our approach to sound corporate governance, to ensure they reflect evolving corporate needs as well as external developments related to effective ESG management.

Conducting Our Business Ethically and with Integrity

We are committed to conducting our business activities with the highest levels of integrity and business ethics. In support of this, the company has in place several policies related to ethical conduct including the *Business Conduct and Ethics Policy*, *Code of Ethics for Directors and Officers*, and *Whistleblower Policy*.

The Golden Star *Business Conduct and Ethics Policy* is founded on the guiding principles of adherence to all applicable laws and ethical business conduct requirements, wherever we do business. It also reaffirms that ethics and behavior are individual responsibilities and that high standards of behavior are expected of all individuals across the organization, regardless of position.

Tax payments

We recognize that taxes provide important sources of government revenue and are central to the fiscal policy and macroeconomic stability of countries representing a key mechanism by which we contribute to the economies of the countries in which we operate.

Our approach to tax strategy, compliance and payments is to comply with the letter and spirit of applicable laws and to behave ethically in all our activities in the jurisdictions where we operate. At present, our core operations are limited to Ghana, as described elsewhere in this report.

The Board has ultimate responsibility for the governance of our tax matters. Our internal audit function monitors and conducts regular checks on the rigor of our systems of internal control, including our processes for tax calculations and payments. As with any other issue, stakeholders can raise concerns about our tax practices through internal grievance mechanisms and the whistleblower hotline.



We are fully compliant with the requirements of Sarbanes-Oxley legislation and report all our public payments under the Canadian Extractives Sector Transparency Measures Act (ESTMA). We also support the Ghanaian chapter of the **Extractives Industry Transparency Initiative (EITI)** by publishing a more detailed breakdown of our public payments. These disclosures are available in the data tables associated with this report or on our website at www.gsr.com.

Further details of our tax reporting can be found in Note 11 of the audited annual consolidated financial statements of Golden Star Resources Ltd. for the year ended December 31, 2020 and also in the Extractive Sector Transparency Measures Act – Annual Report of Golden Star Resources Ltd.

Anti-corruption

The *Business Conduct and Ethics Policy* outlines our requirements relating to anti-corruption, which are communicated across all levels of the organization through training and an annual attestation process. Record levels of participation in anti-corruption training were achieved in 2020, with 100% of our directors and management completing the attestation and 93% of Wassa employees in roles required to complete the training having done so.

Anti-corruption risks are also considered through our annual enterprise risk management exercises; our operations were not considered to be at high-risk for corruption.

There were zero incidents of corruption affecting our company in 2020 and no employee, contractor, or business partner

relationship was terminated for a corruption-related incident.

Conflicts of interest

We also took action on conflicts of interest. Our new disclosure on conflict of interest enables identification of specific risks, further enhancing our governance controls. We achieved a 100% response rate from the directors, senior management and selected employees who were asked to complete the inaugural survey in 2020. The responses were reviewed by the company's internal legal and audit functions; no further management intervention was deemed to be required. This will be an annual survey to affirm fairness and transparency in our senior leadership. Conflict of interest training also formed part of our anti-corruption training in the lead up to our inaugural conflict of interest survey.

Whistleblowing

Our *Whistleblower Policy* provides for a confidential hotline and website to enable employees to report potential violations of applicable laws and our corporate policies. It also provides for an investigation process and corrective action measures, where required. As envisaged in the policy, employees can confidently report potential violations with no fear of retaliation. We do not tolerate retaliation or discrimination of any kind towards people submitting a concern or cooperating in a related investigation. We engage an independent third party to administer the hotline, with reports directed anonymously to the Chair of the Audit Committee of the Board, the Chief Financial Officer, and the internal audit function for investigation.

In 2020, two cases were raised on Golden Star's whistleblower hotline, both originated at the Prestea operations. All instances were reported to the Audit Committee and were addressed. The company's external auditors also tested the system and found the control to be effective.

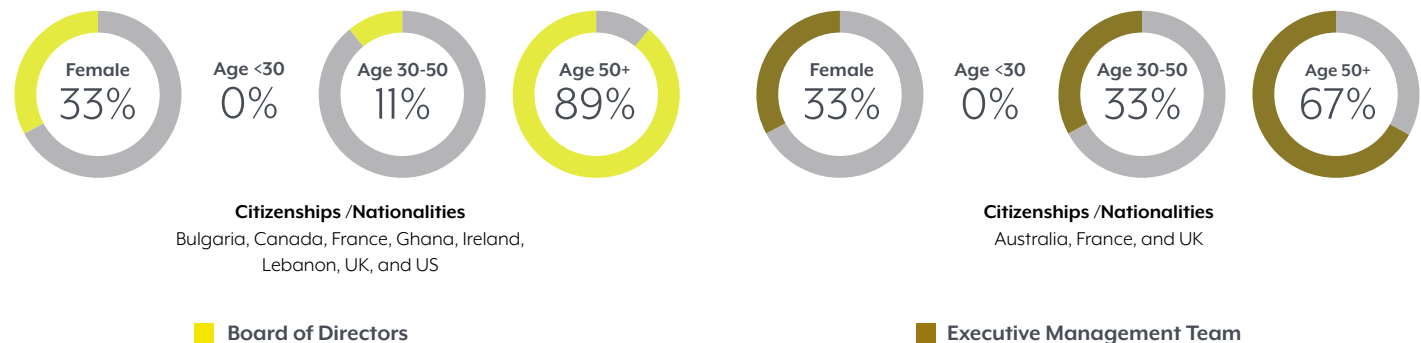
Promoting Board and Executive Diversity

We believe that our organization benefits from a diversity of viewpoints, backgrounds, skills, and experience. We recognize and acknowledge the important role that women play in contributing to the company's stewardship and management.

We have developed and implemented a Board and executive management-level *Inclusion and Diversity Policy* which recognizes the importance of having a diverse pool of directors and executive officers. Commitment to diversity enables us to retain a broad range of perspectives, skills, experience, and expertise for the effective stewardship and management of the company. The Nominating and Corporate Governance Committee of the Board actively works with recruitment organizations to increase the pool of female candidates for Board and executive management positions.

The diversity of our Board members and executive management team are above industry averages for Canadian-incorporated companies, indicating a healthy diversity at the highest levels of the organization. We remain committed to further supporting diversity across the company. For information on diversity at our operations, see the 'Our People' section of this report.

Board of Directors and Executive Management Team diversity metrics



Golden Star's inspirational women in mining

In 2018, Golden Star independent non-executive director Hon. **Mona Quarthey** was named as one of **100 inspirational Women in Mining**. Mona's guidance at the time was "to advise any woman entering the industry to demonstrate that she is an integral part of the system – a team member whose contribution is critical to the process and equally valued. Be bold and give your very best".

In 2020, our Executive Vice President, and Head of Sustainability, **Philippa Varris**, was similarly honored as one of the 100 inspirational Women in Mining. Philippa was selected from more than 620 nominated individuals worldwide, put forward on account of their inspirational contributions towards a stronger, safer, and more sustainable mining industry.

"Our industry can polarize and for those of us in sustainability we can't be fainthearted. Don't tell me that miners can't leave sustainable legacies. I have never believed that being involved in mining means I have to compromise my values, or the future. I love that I have a role to play in sharing knowledge with people on how we can and do mine sustainably."

3

Our people

Our business success relies on the individual and collective efforts of a skilled, motivated, diverse and engaged workforce.

Key objectives



1 Safe behaviors
Zero fatalities and sustained reduction in recordable injuries.



2 COVID-19 management
Maintain diligent adherence to our COVID-19 Pandemic Management Plan.



3 Female employment
Advance towards 20% female representation within the workforce.

Our people



We place a strong emphasis on recruiting, developing, and retaining talent because we know how vital it is to have a diverse, committed and capable workforce.

2020 Ghanaian employment data



99% Ghanaian

69% Western Region

60% Local

1% Expatriate

DEVELOPMENT OPPORTUNITIES AND TRAINING

We undertake a variety of training initiatives to further the development of our workforce. In 2020, we provided more than 53,000 hours of training, representing approximately 60 hours of annual training per member of our workforce, an improvement on 2019. Key focus areas included health and safety, leadership, mining and mine support training.

In 2020, we built on the safety leadership training of 2019 delivered in support of our Health and Safety Strategy and Plan, with the launch of The Golden Star Way – a broader, more integrated, approach to establishing the requisite culture for success.

PROVIDING LOCAL EMPLOYMENT OPPORTUNITIES AND DECENT WORK

We are committed to supporting local employment opportunities as far as practicable and in 2020, we undertook major programs to re-constitute engagement and governance structures, in partnership with our host communities, to align with the landmark memoranda of understanding (MOUs) we mutually agreed in late 2019.

We recognize that providing local jobs is one of the principal benefits of our operations and is of great interest to local people.

Quotas have been established based on the degree of impact from our operations as well as population. Broad-based committees – comprised of a variety of local community members and groups – oversee the implementation of the quotas to promote transparency, fairness and accountability.

We implement a variety of targeted initiatives to support community skills training, development, and employability. These include youth attachments, national service and graduate traineeships on a recurring basis. We also support employment diversification through alternative livelihood projects, including our award-winning Golden Star Oil Palm Plantation (GSOPP) business, which in 2020 provided employment for more than 700 people in 12 communities.

EMPLOYEE ENGAGEMENT

Communication of our vision, mission and values is key to company-wide participation and engagement in the future of Golden Star. In July 2020, we conducted an employee engagement and culture survey to understand how employees feel about Golden Star, its direction, and their involvement.

The voluntary survey found strong levels of employee commitment to the company, with 86% of respondents rating it as a good place to work and 85% believing strongly in its future. There was also a high level of declared

CASE STUDY

A development compact

We are supporting three of our young professionals in their career development by encouraging their participation in the United Nations Young Sustainable Development Goals (SDG) Innovators Program (YSIP).

The program seeks to activate future business leaders and changemakers by challenging them to rethink traditional business models and unlock new opportunities. YSIP is an SDG accelerator program for young professionals in participating UN Global Compact companies. We are proud to report that our participants are the only mining sector participants from among the 137 Canadian companies enrolled in the UN Global Compact.

Teams of young professionals, called innovators, work together under the guidance of mentors and facilitators, to identify opportunities and develop solutions that are relevant to their companies but have broader application towards innovation for the SDGs. The 10-month program includes a mix of in-person activities, such as training workshops, live case studies, group exercises and challenges, as well as self-guided online learning.



Left to right: Abena Asante, Katy Relp and Joshua Ocran.

understanding (84%) of the company's values. Despite this positive feedback, areas for improvement also emerged, particularly the need to ensure fair employment practices and equal opportunity, to promote a respectful work environment where everyone feels safe to raise concerns and be listened to, and to establish clear operating systems of work.

ADVANCING DIVERSITY AND GENDER EQUALITY

We recognize the important benefits a diverse workforce brings to our company and strongly believe a diversity of viewpoints, experiences, and skills help us make better business decisions and improves our business performance. For the eighth year in a row, more than 98% of our local workforce are Ghanaian, promoting skills development in Ghana.

In our 2019 CR Report, we committed to developing a company-wide diversity policy to extend the company's policy on diversity and inclusion beyond the Board and executive management team. We did so in recognition of the business benefits diversity will bring to our company as well as in support of SDG 5: *Achieve gender equality and empower all women and girls*. We are pleased to have achieved this goal in 2020.

The release and launch of the *Policy on Inclusion and Diversity* coincided with International

Women's Day and the 25th anniversary of the adoption of the Beijing Declaration and Platform for Action (1995) – considered the most progressive blueprint ever for advancing women's rights. The policy, developed through engagement with employees and specialist human resources and community affairs teams, was unanimously endorsed by our Board, demonstrating the importance we place on advancing gender equality.

Critically, we set a bold – yet we believe achievable – target of having 20% female representation across our business by the end of 2025. This will be a significant increase from the current 8% female representation across the organization, which reflects the general under-representation of women across the mining sector.

We have made progress with these aims in 2020 by partnering with Women in Mining (UK) to provide summer internships at Golden Star.

We have also continued to work with our long-standing partners at the German International Development Agency, Gesellschaft für Internationale Zusammenarbeit (GIZ), and their Employment and Skills Development (E4D) in Africa Program to promote the empowerment of women and youth in Ghana through skills and enterprise development. In our own Golden Star Oil Palm Plantation, we are proud to report that 31% of the workforce



20%

We set a bold target of having 20% female representation across our business by the end of 2025.



Case study: Women in Mining (UK) summer internships



Case study: Foundations for community engagement



Case study: The Golden Star Way



CASE STUDY

New partnerships and communication support inclusion and diversity

Our *Policy on Inclusion and Diversity* embodies our commitment to providing a safe, inclusive and rewarding work environment.

In support of the policy in 2020, we partnered with Women in Mining (WiM) UK to provide two summer internship opportunities within our London team, for a new generation of miners.

An exciting development in the strategic alliance between Golden Star and International WiM (IWIM), agreed in early 2021, is a new mentoring program for women. This relationship will see two Golden Star leaders mentor IWIM members, plus one woman in Golden Star having the opportunity to learn from an IWIM mentor.

In late 2020, Golden Star's Community Youth Apprenticeship Scheme interviewed and selected 32 young people to embark on apprenticeships at Wassa in departments such as metallurgy, mining, and maintenance. The host Community Consultation Teams were involved in the selection process to ensure the young people were from the catchment communities. Of the high school and university graduates that became apprentices, 10 are women.

is female, up from 18% in 2015, reflecting the success of the approaches that will be employed in the wider business.

Achieving gender equality requires bold commitments and collective action from the private sector, governments, and society towards a more just and equitable world. For Golden Star specifically, we will continue to work on two parallel streams: first, creating a pipeline for the participation of young women in our workplace as well as promoting uptake of sciences, technology and engineering to create the future diverse workforce, and second, on the establishment of a culture that attracts and retains women in our business. Towards these objectives, we are proud to have been identified as being at the forefront of women in leadership positions among the 500 largest publicly traded companies in Canada. The **'Women Lead Here'** list, produced by Report on Business, was an inaugural benchmark for gender diversity in corporate Canada. Of the 73 honorees, Golden Star was among just five mining companies and three precious metals companies recognized by the program.

“ One of the challenges we face is achieving our goal of a 20% female workforce. But we can take encouragement from the inspirational women who already work for Golden Star.”

Anu Dhir

A SAFE AND HEALTHY WORKFORCE

We are deeply saddened to report that in March 2020, when the Prestea mine was under the management of Golden Star, Francis Enyimah, a blastman contractor, was fatally injured when he was crushed by the derailment of a rail cart. Corrective actions to prevent recurrence were implemented at the operations and incorporated findings of the investigation by the Ghanaian Inspectorate Division of the Minerals Commission. This incident reinforced our deeply held belief that everyone must go home safely every day. With this intent, the company continued to implement its safety strategy, with a focus on critical risk controls, throughout the year.

An incident of this nature reinforces the need to remain constantly aware of the risks in our work and the role of everyone in ensuring safe behavior in the workplace. This commitment to safe operations remains fundamental to our vision and is underpinned by our values of caring and respect.

Pandemic response

The COVID-19 pandemic has created unprecedented logistical, personal, and organizational challenges worldwide. We took a wide range of measures to protect the health and wellbeing of all our workforce in Ghana and the UK, as described in the **COVID-19 case study**.

These steps have been in line with our company-wide *Policy on Safety, Health and Wellbeing* which serves as the foundation of our management approach to providing a safe and healthy working environment. Under the policy, we commit to developing and promoting a culture where safety is core to our values and an integral part of our operations and performance management.

The policy commits us to developing operating standards that meet or exceed all relevant laws and regulations related to health and safety. It also applies to all third party contractors, vendors and suppliers as a condition of doing business with Golden Star.

HEALTH AND SAFETY MANAGEMENT

At our Wassa site, we have developed and implemented a robust health and safety management system aligned with ISO 45001. Systems are implemented to meet our corporate policy as well as the requirements of the Minerals Commission of Ghana. The systems cover our entire workforce and are overseen by specialist health and safety personnel with accountability to assess system effectiveness for continual improvement. In addition, the systems are subject to annual audits by the Mines Inspectorate Division of the Minerals Commission.

The systems contain a variety of risk management components focused on fatality risks, injury prevention, as well as emergency preparedness. Company-wide risk management for health and safety is the accountability of the executive leadership team, with specialist guidance provided by the Executive Vice President and Head of Sustainability and oversight of by the

Corporate Responsibility Committee of the Board of Directors.

Our workforce is involved in the development of the company's safety approach through site-level safety committees, teams of safety standard champions and direct workforce involvement in risk assessment, safe work procedure development and other program elements. Management review occurs through quarterly Chief Operating Officer HSEC meetings. Communications materials are posted throughout the operations to promote awareness.

Our systems include tools to report potential, near-miss, and actual incidents. These include formal and informal processes, including anonymous reporting that can be made via a phone call. Reporting of hazards, risks, and incidents is encouraged across the company – so much so that we have set targets for this. This approach is guided by our cultural belief 'if it's not safe, make it safe'.



CASE STUDY

The Golden Star Way

In December 2020, we launched and ran workshops on The Golden Star Way. Their purpose was to guide the evolution of a culture within the business that supports the achievement of our vision: for Golden Star to become a sustainable diversified gold mining company, which our stakeholders are proud to be associated with.

The Golden Star Way is intended to help us to understand what it takes, what it means and what we will deliver, when we each live by our values. The workshops, conducted at all levels of the organization, focused on the promotion of inclusive behaviors and provided a forum for constructive discussion on driving positive culture change. Providing a safe, inclusive, and rewarding work environment is one of the pillars of our five-year strategic plan, and implementation of our plans will result in improvements in both our behaviors and systems of work.

The Golden Star Way program will continue in 2021 and center on the themes of inclusion and diversity, safety, and human rights, among others.



CASE STUDY

A COVID-19 response to protect our workforce

Our responsibility to our workforce – to keep everyone safe and healthy – is clear and unequivocal. In addition, as a major employer and catalyst for rural economic stimulus in our host communities, we share the dual burden of knowing that our continued operations are critical to the health and wellbeing of our workforce and the thousands of people that they support, both directly and indirectly.

In recognition of these responsibilities, our COVID-19 management has been highly prevention-focused and proactive, using a comprehensive, disciplined, and integrated approach to the protection of our people.

As a business level continuity threat, our pandemic preparedness incorporated oversight of both our Crisis and Emergency Management Teams (CMT and EMT respectively). Activities were coordinated under a documented Epidemic and Pandemic Management Plan, based on the trigger action response plan methodology, that was established even before the World Health Organization declared the pandemic as a Public Health Emergency of International Concern. The implementation of the plan elements has been guided constantly by the CMT and EMT, with continuous situation monitoring and expert medical advice provided by International SOS.

Actions included:

- initiating mine-wide lockdowns, travel restrictions and roster modifications to reduce exposure
- enhancing medical support to protect our frontline workers and to ensure positive management outcomes for those that contracted COVID-19
- implementation of enhanced screening protocols to expedite diagnosis, reduce transmission and decrease contact trace burden – including screening of all personnel on return from days off and leave, such that a full one-third of the workforce is screened every week
- institution of protocols for the reduction of risk to vulnerable members of the workforce including dedicated medical assessments, development of management plans as well as work from home and shelter at home protocols
- enhancements in sanitation and hygiene – including compulsory handwashing points, physical distancing mechanisms and others
- establishment of temporary holding centers for the isolation of personnel unable to isolate safely in their home

- provision of additional buses to enhance social distancing when transporting workers
- manufacture and supply of Ghana Food and Drugs Authority (FDA) approved alcohol-based hand sanitizers and face coverings and distribution to employees and host communities; and
- ongoing education and awareness initiatives with our workforce and host communities, including team meetings, videos, WhatsApp posts, posters and more.

Some elements of our approach are leading practice and demonstrate how we have used the pandemic to reinforce the benefits of living by our values. Out of care, as well as in recognition of the greater risk of negative health outcomes from COVID-19 for vulnerable persons (such as those with pre-existing medical conditions) we completed, comprehensive medical assessments of more than 100 people. Of these personnel, 77 had individual guidance developed in the form of a health management plan, and a further subset were supported to work from home, or shelter at home, until this risk was addressed. All those screened and cared for in this way subsequently returned to work.

In addition to physical wellbeing, the pandemic has created challenges to people's mental health. Some personnel, not the least of which was our front-line medical team and management, remained in 24/7 operation for several months in 2020. Mine workers stayed away from their families to reduce transmission risk, and at a time when isolation and fear could have prevailed, the teams rallied to support one another, implemented new programs for access to employee assistance programs (which will remain in place post-COVID-19), as well as access to mental health programs for all employees. We are very proud of the first people in our workforce who, despite facing stigmatization, nevertheless reported when they experienced ill health, as well as those who openly shared with their peers that they had tested positive to COVID-19, helping to ensure that effective contact tracing could be conducted.

In all these steps, we have relied on the dedication and professionalism of our people and their commitment to each other and to continuing to carry out their work has been exemplary. The overall success of our approach can be measured in no better way than in our relatively low number of suspected and confirmed cases, less than half a dozen more serious cases, and no fatal outcomes.



TESTIMONIAL

Dr Nurbash, Deputy Chief Medical Officer, International SOS

"I work at Wassa and have done so since March 2017. My responsibilities and those of my team include managing the health clinic at the site and caring for the health of onsite employees and their dependents.

COVID-19 has created an extraordinary range of practical, organizational and emotional challenges. These have included setting up a fully functional isolation and holding unit on site, creating and implementing effective screening protocols and adapting them as circumstances changed, obtaining the right personal protective equipment, and providing education and care for those in need.

Our onsite health team has provided unconditional support for the screening of every visitor to the site clinic. Even before the first confirmed case of COVID-19 in Ghana, we had established 24/7 screening. We provided support and education, helping individuals to overcome fears of isolation and stigmatization. I am proud to say that not a single death due to COVID-19 has been recorded over the period.

We have had many examples of effective teamwork from across the organization, not least from the emergency management team, our medical support staff, and others such as the Human Resources department.

The pandemic has been a life-changing experience, placing tremendous burdens on responders, and on those who have suffered. However, we have learned some valuable lessons. Looking ahead, we need to ensure we have sufficient back up resources in times of crisis, and we need to continue with regular health education.

On a personal level, we have seen that nothing is more important than people's health. It has taught us how to unite and work collaboratively in extremely difficult circumstances. It has brought people closer together, caring for each other. Everyone has realized that crisis management is not one person's job. The pandemic response has brought Golden Star together as a family – and all those involved can be proud of the contribution they have made."

“ We have provided support and education, helping individuals to overcome fears of isolation and stigmatization. I am proud to say that not a single death due to COVID-19 has been recorded over the period.”

SAFETY TRAINING AND PROGRAMS

Safety competency is a key element of our strategy. In addition to general and role-specific training, we conduct targeted skills, knowledge and behavior development programs on subjects that range from safety leadership, risk assessment methods, critical risk standards and controls, to emergency response.

These training initiatives are key parts of our health and safety strategy and plan. The strategy defines a values- and principle-based roadmap to managing safety and health risks including elements to evolve our safety culture. Other key elements of the strategy

include leadership commitment and workforce involvement, risk management and critical risk controls, enhanced systems, and open and transparent reporting.

We provide our employees with a wide range of preventative and curative medical and healthcare services, including national health insurance cover which also extends to dependents. Our health plan incorporates programs to promote enhanced health outcomes in key areas of need, including malaria prevention, which is one of the leading causes of premature death in Ghana. We also implement employee health and wellbeing awareness programs to promote non-work-related wellness.



Fatalities and Injuries

Operation	Fatalities			All injuries			Total recordable injuries		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
GSBPL	0	0	1 ^[2]	43	64	22 ^[2]	7	15	5 ^[2]
GSWL	0	0	0	13	24	13	4	3	2
Golden Star ^[1] (including GSBPL)	0	0	1 ^[2]	56	88	37 ^[2]	11	18	7 ^[2]
Golden Star ^[1] (continuing business only)	0	0	0	13	24	19	4	3	2

Injury frequency rates (rolling 12 months, combined employees and contractors, per million hours worked)

Operation	AIFR ^[3]			TRIFR ^[4]		
	2018	2019	2020	2018	2019	2020
GSBPL	6.82	14.60	N/A	1.11	3.42	N/A
GSWL	2.60	4.46	2.30	0.80	0.56	0.35
Golden Star ^[1] (including GSBPL)	4.83 ^[5]	8.76	N/A	0.95 ^[5]	1.79	N/A
Golden Star ^[1] (continuing business only)	2.46	4.23	2.57	0.76	0.53	0.34

^[1] 'Golden Star' is total business including all business units and corporate offices
^[2] 1 Jan to 30 Sep 2020 only
^[3] All Injury Frequency Rate
^[4] Total Recordable Injury Frequency Rate
^[5] Injury reclassification adjustment has updated the figure reported in 2019

4

Social excellence

Being a partner of choice for host governments and communities is central to our business strategy.

Key objectives



1 Human rights

Zero legitimate human rights complaints against the company.



2 Local procurement

Continue to advance our programs on local procurement.



3 Supply chains

Review supply chain systems and policies to enhance supply chain human rights due diligence.

Social excellence



Sound community relationships based on mutual respect and trust are essential to securing our social license to operate.



ZERO

There were zero reported community grievances in 2020.

BUILDING POSITIVE COMMUNITY RELATIONSHIPS

Our *Policy on Community Relations* serves as the foundation of our approach to developing and maintaining positive relations with our stakeholders. The policy outlines our overall approach to ensuring that sound community relations are an integral part of our operations and performance management systems.

We conduct social impact assessments for major projects, which include plans for minimizing adverse impacts, while maximizing benefits. The assessments incorporate a risk-based approach to community and stakeholder relations. The results are included in our Environmental Management Plans, which cover both physical and social environments. The plans are updated every three years and are submitted to the Environmental Protection Agency of Ghana (EPA).

We have comprehensive stakeholder engagement plans based on stakeholder mapping at each of our operations. The plans provide for a structured and streamlined approach to managing stakeholder relationships and expectations. We have established Community Consultative Teams

(CCT) covering groups of nearby communities at our Wassa operation. The CCTs provide a formal vehicle for continuing, two-way communication with our local communities. They are comprised of representatives from a broad section of stakeholder groups, including traditional leaders, women, youth and local government officials. We have also established a Community Mine Consultative Committee (CMCC) described in more detail in the case study.

We maintain robust grievance management systems to ensure the timely receipt and effective resolution of concerns related to our operations, including a grievance management procedure, standardized complaints forms, and grievance registers. There were zero reported community grievances in 2020.

SUSTAINABLE COMMUNITY DEVELOPMENT

We can play an important catalytic role in supporting community and economic development for our host communities, going beyond the direct economic benefits we generate. Our operations can generate social and economic value and our aim is to maximize these benefits as much as possible.

CASE STUDY

Strong foundations for community engagement at Wassa

In November 2019, we signed landmark MOUs with our host communities at our Wassa mine. The MOUs address Relationship and Sustainable Livelihoods, Local Employment and Contracts, and the Golden Star Development Foundation. The purpose of the MOUs is to strengthen relationships between Golden Star and communities by providing a formalized framework to develop communication and foster a proactive and peaceful environment, as well as enhancing employment opportunities for members of the community and ensuring the fair, sustainable and transparent use of Development Foundation's resources.

In 2020, we took action to establish the various committees that will oversee the implementation of these agreements and defined their roles. The CMCC was reconstituted and inaugurated with 35 members. Of the reconstituted CMCC, 22 members are new, as are all eight of the female members. As the umbrella body responsible for the implementation of the MOUs, the parties worked together to ensure that the composition properly represents the stakeholders it serves. The CMCC is composed of members of the local and catchment communities and includes two female and two youth representatives (one male and one female), traditional divisional areas, including two Queen Mothers, as well as institutions including the District Assembly and GSWL. Increased participation by women in the CMCC was welcomed by the community.

The Community Central Employment Committee (CoCEC), a sub-committee of the CMCC, will serve as a link between the communities and the company, engaging Community Employment Committees (CEC) to advertise employment opportunities, as well as community allocated employment for semi-skilled and unskilled jobs. The local employment MOU includes provisions for direct employment at the operations as well as employment through service and supply contracts. The MOU sets out the mechanisms for employment and candidate criteria, which are reviewed and enforced by the CEC and the CoCEC. To further increase transparency in the employment process, an impartial representative from the CoCEC is invited to act as an observer in applicant interviews with the company – strengthening trust between the parties.

In 2021, a Development Foundation Board of Trustees will be appointed, after which, more community projects can be supported, and existing livelihood programs can be advanced. We look forward to ongoing collaboration and to fostering a close working relationship with our host communities, founded on our values and interdependent benefits.



TESTIMONIAL

Nana Ama Afoa Li, Queen Mother of Mampongso Divisional Area, and member of the CMCC



“The MOU offers the possibility of fair distribution of employment, and fair distribution from the Golden Star Development Foundation fund. I hope the MOU will lead to even more cordial relations between Golden Star and the host community, with an increased sense of unity and fairness. I also hope, with time, it will lead to improvement in the standard of living for the people in this community. As a female representative on the CMCC, I can help to make sure the needs of women are identified, discussed, and addressed. We want to empower women so that they can gain opportunities for work, at Golden Star or elsewhere. It is a good step forward for women, who have always had the capacity and strength to make a real and positive difference.”



Case study: CSR Blog



CASE STUDY

Supporting the local and national community through COVID-19

In recognition of our responsibilities as an employer and a key partner for local people, our COVID-19 management response has supported local communities and partners.

We have deepened our partnership with local health authorities and Government agencies by providing support and assistance that has included personal protective equipment (PPE), materials for sanitation and infection control, and assistance with holding and isolation facilities for suspected COVID-19 patients. With our contractors, we have collaborated in the donation of veronica buckets, hand sanitizers and other items to the communities.

These initiatives have complemented government effort and responses in each of our host communities. In Wassa East, for example, the company

has provided support for the conversion of a school facility developed by the Golden Star Development Foundation, for temporary use as an isolation facility by local health services.

Other donations by the company helped furnish hospitals and clinics in our districts and municipalities with infrared thermometers, medical grade PPE, soaps and sanitizers and hand-washing facilities.

At the national level, Golden Star, through collaboration with the **Ghana Chamber of Mines**, contributed \$194,000 of \$2 million mining industry financial support to the Ghana Ministry of Health and allied institutions – supporting the purchase of 20 ventilators and accessories; COVID testing equipment; 7,000 complete sets of PPE for frontline health workers; and to support for other COVID-19 logistical requirements.

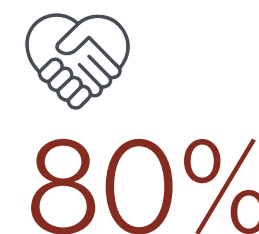
We implement extensive community development programs in partnership with our local communities and specialized development organizations. Our *Policy on Community Development and Support* guides our program and outlines our philosophy and approach to investment in local communities.

Our Development Foundation makes financial contributions to the communities where we operate – providing \$1 for every ounce of gold we produce plus 0.1% of pre-tax profit. Since inception, Golden Star has contributed more than \$3.8 million to the Golden Star Development Foundation, with more than \$2 million from the Wassa operation.

To ensure that any support we provide responds to actual community needs, local CCTs identify and define projects based on needs assessments. The projects are then reviewed by a CMCC for the operation, with formal recommendations made to the Development Foundation for project selection. This process is inclusive and helps to build capacity and promote local ownership of projects. To further enhance community ownership and long-term durability, all projects have a long-term sponsor.

We implement a variety of sustainable / alternative livelihoods projects within our local communities to promote economic diversification beyond mining. In addition to GSOPP, in 2020, we continued our support of various agribusiness and livestock projects at Wassa.

Partnerships have long been critical to our approach to community development and even more so with the adoption of the SDGs and SDG 17: Partnerships for Development. This goal was established to underpin the overall SDG framework, in recognition that achieving the SDGs and associated targets will require concerted, collaborative action. Through partnerships, we leverage the skills, expertise, and resources of myriad groups to achieve outcomes that far exceed the capability of any one organization. At Golden Star, we continued our partnerships with a wide range of development organizations from local and international NGOs, local and regional government agencies, and international development organizations and initiated other efforts to jointly address the challenges posed by COVID-19.



Some 80% of total procurement spent with Ghanaian companies.

LOCAL VALUE RETENTION THROUGH LOCAL PROCUREMENT

Local Procurement Leadership and Transparency

One of the primary benefits of our operations is the economic flow associated with the provision of goods and services to our operations. Our objective is to generate and retain benefit for our host communities while ensuring adherence to our standards for quality, safety and governance. In doing so, we support SDG 8: Decent Work and Economic Growth.

We are committed to leadership and transparency in our local procurement approach and performance. To achieve this, we are pleased to support and to be one of the first mining companies globally to report against the Mining Local Procurement Reporting Mechanism (Mining LPRM). The LPRM is a global local procurement reporting standard developed by Mining Shared Value, an initiative of Engineers Without Borders. The standard was developed with the support of the German International Development Agency, GIZ, one of the company's longstanding community development partners.

The Mining LPRM is comprised of standardized disclosures to report local procurement systems and associated performance to drive improvement in retaining this value for impacted communities. The LPRM also provides guidance on best practices for local procurement management, which will enable the strengthening and continual improvement of the company's overall performance related to local procurement.

Our Local Procurement Approach and Performance

Golden Star recognizes that vibrant regional communities rely on diversified economies. We continue to focus on developing the capacity of local businesses to retain a larger proportion of the value that is derived from the presence of our business, so that people in the local areas affected by our operations directly benefit. Our actions to enhance local procurement participation fully align with the Minerals and Mining Regulations, of Ghana which require in-country procurement of certain goods



and services. The procurement plans that we submit for approval address Ghanaian procurement targets, as well as mechanisms to support suppliers to obtain contracts. Comprehensive plans are submitted every five years and revised annually, with progress reports submitted to the Minerals Commission.

As enshrined by our policies, our aim is to exceed relevant laws and regulations – a principle integral to our local procurement work streams. In the context of our operations, we report on procurement with international, Ghanaian and local providers – with ‘local’ representing companies that have their ‘roots’ in our catchment communities – to provide granular detail on our performance.

Following the success of our landmark pilot program in 2015 which led to the formation of

Local Companies in Mining Services (LOCOMS), a collaboration of new local SMEs at our former Bogoso/Prestea operations, in 2020, we turned our attention to other host communities – communities challenged by more rural locale and/or greater development need. With LOCOMS and associated models serving as a functional model, in 2020 Golden Star continued our partnership with GIZ E4D entitled “Community-driven empowerment through skills and enterprise development in Ghana” with programs around new service streams including tailoring, motor vehicle maintenance, oil palm operations and others.

Building on these successes, the MOUs established with our Wassa host communities in 2019 incorporate procurement participation provisions for local communities. At Wassa, local communities have right of first refusal

over specific categories of contracts, including quarrying, heavy equipment, scrap metals recycling and equipment. In addition, preference is given to contracts with higher local content when the overall procurement scoring is within five percent.

We regularly communicate procurement opportunities through our established consultation mechanisms – meetings of CCTs. Procurement opportunities are also communicated through our community liaison offices located within our local communities. In addition, we maintain registries of local suppliers as part of our local procurement plans.

The programs to support development do not allow for any compromise of standards – to do so would not enable host community

companies to leverage access to other markets and would therefore not be sustainable. Instead, we work closely with host communities and development partners to ensure that all local suppliers are equipped and informed on applicable Ghanaian laws as well as Golden Star’s policies and standards. Incorporating these business conduct and ethics (including in respect of anti-bribery and corruption), human rights, environment and other requirements as standard conditions of contract, ensure ownership and empowerment of all parties to achievement of performance outcomes.

We also follow our existing due diligence processes for the procurement of contracts. All potential contractors undergo screening to identify potential risks, including potential non-compliance with our corporate and site-level policies.

To further deepen our interdependence with our business partners and host communities, our community MOUs require that local companies that secure contracts over \$0.5 million also contribute to the flow on of sustainable development. These companies contribute 1% of their contract value to the Golden Star Development Foundation which is combined with Golden Star’s contributions to deliver needed community development.

RESPECTING HUMAN RIGHTS

We recognize the potential influence that our operations may have on the human rights of our stakeholders. This includes a broad spectrum of human rights as established by global human rights frameworks, such as the International Bill of Rights.

Our *Policy on Human Rights* outlines our commitment to respecting the human rights of our stakeholders in our sphere of influence. In recognition of the growing number of instances of failure by multinationals to observe basic human rights that came to light in 2020, in late 2020 we made a commitment to review our policy to ensure its direct confirmation of our intent to uphold international best practice frameworks for business and human rights, including the UN Guiding Principles on Business and Human Rights as well as the Organization for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises. This review will be



completed in 2021 for endorsement by the our Board.

Our expectations on human rights apply across our entire business and to our contractors and suppliers. We incorporate human rights clauses into all contracts to ensure alignment on the role that we all play in upholding human rights and avoiding complicity in human rights abuses, in line with the UN Guiding Principles.

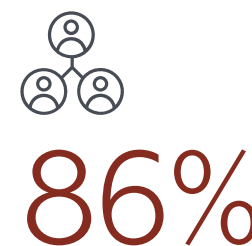
Our risk management processes, including our annual enterprise risk review and materiality assessments, also consider human rights. All our operations are subject to these reviews.

In line with our commitments, we support our employees’ rights to freedom of association and collective bargaining. Some 86% of employees across our company are covered by a union and we maintain positive relations with our union partners at our operations, as well as with their national executives.

In September 2020, a number of employees of GSBPL initiated proceedings in Ghana, claiming that the Bogoso-Prestea operations sale would trigger the termination of their employment, entitling them to severance. GSBPL defended the claim, as no employment contracts were terminated as a result of the completion of the sale, and in February 2021, the court granted GSBPL’s application to dismiss the claim. On March 26, 2021, the plaintiffs filed a notice of appeal.

As a member of the World Gold Council (WGC), we support and disclose in accordance with the WGC Conflict-Free Gold Standard. This requires that we conduct due diligence to help ensure we do not contribute to armed conflict through our business activities. Our most recent assessment, using the **Heidelberg Barometer**, indicates that the jurisdictions in which we operate, including Ghana where we have our proven and probable reserves, are not in conflict-afflicted high-risk areas. The 2021 **EU Conflict Minerals Regulation** confirms this. Our operations are therefore, considered low risk for **conflict-related impacts**.

In our 2019 CR Report, we repeated our commitment to a goal of zero legitimate human rights complaints against Golden Star. We have reviewed our grievance mechanisms throughout the year and can confirm that we have achieved this goal. We have set a similar goal for 2021.



Some 86% of employees across our company are covered by a union and we maintain positive relations with our union partners at our operations, as well as with their national executives.



5

Protecting the environment

A commitment to environmental stewardship and prevention of pollution is integral to how we do business.



Key objectives



1 No incidents

Zero reportable environmental incidents.



2 Compliance

100% compliance with dust, noise and vibration, and water requirements.



3 Energy management

Continue development of an energy management framework for the business.

Protecting the environment



Our commitment to environmental stewardship is both a shared and an individual responsibility, reflected in corporate and governance structures.

ENVIRONMENTAL STEWARDSHIP

Our Policy on the Environment commits us to meeting or surpassing all legal and regulatory requirements related to environmental protection. We are also committed – through our support of the UN Global Compact – to the precautionary approach to environmental management.

Our Wassa operation has an established environmental management system which is based on the plan-do-check-act model and is aligned with the International Standards Organization (ISO) 14001 framework. It is overseen by specialist on-site managers and a variety of support staff.

Before we begin work on major projects, we conduct environmental and social impact assessments that are subject to public exhibition, public hearings and regulatory assessment and approval. We are also required to submit Environmental Management Plans (EMPs) to the EPA every three years to account for ongoing changes to our operations. The EMPs are key documents that detail significant aspects and impacts, mitigation measures, roles and responsibilities, budgetary

allocation and action plans to deliver on our commitments.

We also maintain comprehensive monitoring programs for key environmental components aligned to key regulatory requirements. Our 2020 monitoring results show we achieved 100% conformance with the statutory monitoring program requirements, and the results of monitoring showed 100% conformance with air, water and ambient noise guidelines as well as 99.7% alignment to blast induced noise and vibration standards. We did not have any significant or reportable environmental spills or incidents in 2020.

BIODIVERSITY

We recognize that mining operations can have adverse impacts on biodiversity, especially when located near or within areas of high biodiversity value and/or protected areas. We also recognize the growing expectations that investors and other stakeholders place on biodiversity management.

At Golden Star, our operations are not located in or near any protected areas. The areas in which we operate are typically characterized as

having low biodiversity value and, as such, we did not identify biodiversity as being a material topic for reporting. We nevertheless implement management measures and controls to manage limited biodiversity impacts at our operations.

We conduct a variety of biodiversity studies as part of environmental impact assessments for major projects. Impact identification and associated management plans are developed and integrated into our overall EMPs. The studies provide a knowledge base for broader environmental impacts and ecosystem health. Action plans are then developed for the management of these limited impacts.

We maintain IUCN Red List registers as part of these plans and conduct ongoing monitoring to determine their status. Our most recent surveys indicate that a significant majority of present species are classified as 'Least Concern' under the IUCN classification system, with only one species classified as endangered.

As detailed in our materiality assessment, we will continue to monitor biodiversity management requirements as our company evolves.

WATER STEWARDSHIP

We recognize that access to clean water is a fundamental human right. We also recognize that water is a shared resource and that we must manage our interactions with water effectively so that we do our part in preserving water resources for current and future generations.

Water is a key input in our processing activities and we actively dewater our underground mines and open pits to enable safe operations. We manage excess process water and rainfall into our tailings facilities. We also use water for dust suppression on access roads and in our open pits, as well as for domestic use at our office complexes and mine residential areas.

The assessment of water-related impacts is a part of environmental impact assessments for major projects. Studies include detailed hydrological and hydrogeological investigations by technical experts, to understand existing conditions, assess potential risks and inform the development of management plans. Stakeholder consultation is a component of the impact assessment process to identify and communicate impacts and to solicit feedback on operational plans.



We assess water-related stress using the **World Resources Institute Water Risk Atlas**. None of our operations is in areas of 'high' water stress.

As required, we discharge water according to seasonal conditions, specifically the two major rainfall seasons in tropical West Africa. We treat water affected by our activities prior to discharge as required by EPA guidelines.

At our Wassa site, water is treated for release using settling, oil/water separation, de-nitrification and biochemical treatment marshes as applicable. Background conditions, natural mineralization and the profile of receiving water bodies are all considered prior to discharge.

We maintain extensive water monitoring programs in our catchment areas to help ensure we meet or surpass water quality requirements. In 2020, we maintained 100% compliance with water sampling and quality requirements at our operations. We have set a similar target for 2021.

We seek to avoid unnecessary mixing of clean water with our operations and to recycle as much water as possible. We have installed diversion systems to prevent clean run off from entering our mining areas, reducing our withdrawal. In 2020 we increased our use of recycled water, re-using more process water from our tailings facilities as make-up process water. For dust suppression on access roads, we re-use water removed from open pits.

The table on the left presents summary water data for 2020. Additional water data can be found in the report's accompanying **data tables**.

Water data (mega litres)

Source		2019	2020
Water withdrawal	Consolidated	6,871	N/A
	Wassa	3,355	1,585
Water consumed	Consolidated	5,822	N/A
	Wassa	3,355	1,585
Water recycled	Consolidated	5,943	N/A
	Wassa	4,198	4,278
Water discharged	Consolidated	1,049	N/A
	Wassa	0	0
Water usage	Consolidated	11,764	N/A
	Wassa	7,554	5,863

Notes:

Water data is shown by GRI categories, but not broken down by areas of 'high' water stress as we do not operate in areas of 'high' water stress. In 2020, we enhanced our methodology for determination of evaporation. As a result, 2020 figures are not fully comparable to historical data.

CASE STUDY

Single point suspension cable

With energy supply security addressed, in 2020 we invested in a major upgrade of our underground electrical supply system to provide optimal efficiency and increase the longevity of the mine.

Using a method of cable lowering previously not undertaken in Africa, new cabling was lowered through a borehole, drilled 450 metres from the surface to 570 Level in the underground mine. Lowering the cable through a borehole, rather than down the main decline significantly reduced the length of cabling needed, reduced environmental impact and minimized underground operational disruptions. The upgrade also increases the reticulation voltage power supply from 6.6 kV to 11 kV, improving electricity transmission efficiency. As we lost underground operational hours from electrical power downtime in 2020, this power upgrade is a valuable investment to provide continuity in underground electrical supply.

The 11 kV power is distributed underground via the single point suspension cable specifically engineered and manufactured for this project by Murray Engineering (Australia). The single point suspension cable weighs just over eight metric tons and has a marginally narrower diameter than the borehole, meaning space to allow the cable to be lowered was limited. The method of lowering was designed by IMEC (Ireland), who together with the onsite team, developed risk assessment and safe working procedures for the installation.

The success of installing and commissioning the first single point suspension cable in Africa is a testament to our talented workforce. The original plan to have the upgrade installed and completed by June 2020 was disrupted by the COVID-19 pandemic which prevented specialist contractors from accessing site. The onsite team rose to the challenge and took control of the project. With remote experts advising that there was only one chance to correctly lower the cable, the team undertook meticulous planning and arranged additional local expertise for support. Golden Star's own electrical and civil teams, the Electricity Company of Ghana, Powertech (Ghana) and IMEC (providing live technical guidance through video / voice communication technology throughout the installation) successfully completed the project by the end of September 2020, with no safety incidents and within budget – a triumph for the Golden Star team.



RESPONSIBLE ENERGY AND EMISSIONS MANAGEMENT

Mining operations worldwide are generally energy-intensive and energy requirements represent significant inputs and costs. Additionally, our emissions contribute to climate change and pose risk: physical risks related to changing climate patterns, as well as transition risks related to policy and regulatory changes. We fully recognize the growing expectations of our stakeholders, including investors and their interest in understanding governance, strategy, risk management, metrics and targets for improvements in this arena.

In our 2019 CR report we committed that in 2020 we would evaluate the potential to align with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) within a three-year timeframe. Towards this goal, we are currently developing our energy management framework, including a climate change policy and targets. As per our 2019 commitment, we are embarking in 2021 on energy audits to determine a more comprehensive baseline of our consumption and emissions, in addition to potentially realizing cost savings.

Managing our emissions

We use diesel fuel for our heavy and mobile equipment as well as for various small equipment. The fuel use in mining fleet represents the bulk of our energy and greenhouse gas emissions generation from directly used diesel fuel.

In our 2019 report, we undertook to continue to develop and implement systems for collecting energy and emissions-related data to augment these disclosures and improve our energy efficiency and performance. This has included the development of new tools in the business to track energy use and emissions.

A major project for energy in 2020 was the transition to a different energy mix at our Wassa operations to improve our overall energy supply security and provide the potential to flatten our load profile.

In previous years, we have consumed most of our electricity from the Ghana National Grid, primarily to power our processing operations. Regular power outages due to insufficient supply, line disruption and maintenance issues in Ghana had proved to be a risk to business

continuity – resulting in mill and underground electric fleet downtime as well as damage to equipment.

In 2020, following extensive consultation, a new natural gas power plant was constructed by Genser Energy Ghana Limited (Genser), a Ghanaian company. This change is expected to provide a reliable base power supply, lower the power tariff – delivering cost savings of more than \$8 million over the first five years – and will enable us to flatten the load profile for enhanced energy efficiency and undertake further projects to transition to renewable supply.

Energy consumption (Wassa) (Gj)

Source	2019	2020
Diesel	297,632	289,194
Electricity	280,210	330,818
Propane (LPG)	Data not available	1,723
TOTAL	577,842	621,736

Energy intensity (Gj per ounce of gold produced)

Location	2019	2020
Wassa	3.70	3.71

Greenhouse gas emissions (tCO2e)

	Scope 1		Scope 2	
	2019	2020	2019	2020
Wassa	20,890	20,408	9,950	12,200

Note: Emissions intensities have been calculated using DEFRA conversion factors and The Climate Registry 2019 default emissions factors.

2020 Emissions intensity (tCO2e per ounce of gold produced)

Location	2019	2020
Wassa	0.20	0.19



CASE STUDY

New power plant secures reliable energy supply

Construction of Wassa's new natural gas power generation plant began in October 2019 and was completed by the end of 2020, in time to supply power to Wassa in the first quarter of 2021.

The power plant has a generation capacity of 33 MW over two gas turbines (one duty, one stand-by), with the potential to add a third turbine if demand increases. Not only will the stable power supply from Genser offer an opportunity to improve equipment reliability at Wassa, but it will also remove stress on the national grid power supply, improving power availability for other users. Securing energy supply continuity is a key step to improving our sustainability.

EFFECTIVE MANAGEMENT OF TAILINGS

Tailings management is a significant potential environmental, social and economic risk for mining companies globally. Recent high-profile tailings facility failures have highlighted the potential scale of impact to people and companies that can result from ineffective management of tailings.

At Wassa, we operate two tailings storage facilities (TSFs): one active and the other undergoing revegetation trials.

We design and manage our TSFs in line with Ghanaian regulations and with due consideration of the standards of the International Commission on Large Dams (ICOLD), the Australian National Commission on Large Dams (ANCOLD), and the Canadian Dam Association (CDA) guidelines.

In planning for new facilities, including major expansions, we conduct environmental impact assessments. The management of tailings is an integral part of business environmental management plans – defining roles and responsibilities for management action, budget provision and review mechanisms. New developments can affect the impact and risk of tailings: the paste backfill plant constructed

in 2020, for example, will reduce the volume of tailings in the TSFs by putting ‘waste’ material to beneficial use.

On-site responsibility for TSFs rest with qualified specialist personnel and site General Managers. Overall responsibility for the operation of our TSFs rests with the Chief Operating Officer, with ultimate responsibility with the Chief Executive Officer. The Corporate Responsibility Committee of the Board provides Board-level oversight of tailings management.

Each of our TSFs is operated in accordance with an Operations Manual and has documented emergency response plans. Extensive monitoring systems are included in the design to enable early warning mechanisms as well as ongoing assessment of the stability and integrity of the structures. Qualified Engineers of Record conduct quarterly inspections and independent auditors conduct quarterly third party audits – in line with Global Industry Standard Tailings Management (GISTM). We have committed to completing a gap analysis against GISTM in 2021.

We also work closely with our local communities on the UNEP APELL program, which raises awareness and preparedness for emergencies at local level.

For greater assurance, our operations are certified in accordance with the International Cyanide Management Code (ICMC or the Code). In 2020, our Wassa operations were again certified as being in full compliance with the Code.

We take a holistic approach to rehabilitating and closing our TSFs. Since 2016, we have integrated our award-winning Golden Star Oil Palm Plantation (GSOPP) into our tailings revegetation practices. This approach allows for progressive revegetation of our TSFs, while enabling viable, post-mining land uses that generate long-term economic value for local communities.

In 2020, we disclosed further information related to our tailings storage facilities to the standards of the **Investor Mining and Tailings Safety Initiative (IMSTI)**. Our 2019 IMSTI disclosure was published on our website as is our **2020 IMSTI disclosure**. We have committed to disclosing to this standard again in 2021.

SUSTAINABLE MINE CLOSURE

We aim to leave a positive legacy from our operations once mining is complete. This means leaving enduring, positive environmental, social, and economic impacts for our host communities.

Importantly, we take an innovative, holistic approach to mine closure to help ensure that we not only rehabilitate sites in a safe and environmentally responsible way, but also provide for productive, viable next land uses.

We begin planning for closure at the beginning of the project development phase by considering viable post-mining land uses with landowners, local communities, and regulatory bodies. As conditions of our environmental and social impact assessment permits, our projects and operations have mine closure plans that are updated regularly to account for changes in our operations.

We post bonds and other security for the closure plans to ensure that its provisions are implemented over time. The Ghanaian regulatory framework provides for site relinquishment once established closure completion criteria are achieved, the reclaimed site performs in accordance with monitoring criteria over a defined period, and required regulatory approvals are obtained.



CASE STUDY

Tailings management: closure and revegetation

Golden Star’s commitment to meeting or surpassing regulatory requirements extends to the safe closure of TSFs for productive post-mining land use. We take a holistic approach to closure, by collaborating with our award-winning subsidiary Golden Star Oil Palm Plantation (GSOPP). The benefits of closing TSFs using oil palm plantations are multi-faceted in comparison to the traditional approaches to TSF closure.

The progressive revegetation of our TSFs with oil palm enables a viable post-mining use that generates long-term economic value for local communities. Oil palm is endemic to Ghana, is an input to many staple foods, has a ready market in the country and can be farmed as a sustainable agri-business. It provides alternative livelihoods to the local communities, reducing poverty. GSOPP provides interest free loans to its farmers which are repaid when palms reach maturity and yields are sufficient. This model has the additional benefit to Golden Star that mine-site revegetation with oil palm self-funds and additionally, rapidly establishes extensive biomass for carbon sequestration.

Over the past four years, GSOPP has planted 114 hectares of oil palm on TSF 1 at Wassa as well as hundreds of hectares in other formerly mined areas. Palm seedlings are interplanted with cover crops to increase soil nutrients and organic matter content and to protect the soil from erosion until the palm canopy forms. Empty fruit bunches, from other plantation areas, are recycled for fertilizer and to protect the ground and retain moisture.

Our revegetation monitoring includes assessments of soil, biomass and wildlife return, as well as testing to demonstrate that palm fruits and their extracted oil are safe to consume. Our tests have shown that the quality of palm oil grown on TSFs is as good as palm oil grown in normal plantations.

To complement our revegetation monitoring, in 2020 we established a temporary fish farm on our Wassa TSF 1 to demonstrate the high quality of run-off water being achieved from the palm revegetated areas. Water quality testing showed the success of the revegetation efforts and fish testing showed that the fish were safe to eat. Harvested fish were distributed among interested members of the workforce.



ARTISANAL AND SMALL-SCALE MINING

Artisanal and small-scale mining is a widespread phenomenon in the Western Region of Ghana. Locally, this type of mining is referred to as *galamsey*. *Galamsey* is mostly unregulated and is highly dangerous, from a human safety and rights perspective, as well as in terms of the significant negative impacts on the surrounding environment. In particular, local water bodies are severely impacted by *galamsey* resulting in widespread degradation of water resources for local communities.

Galamsey activities occur adjacent to all our operating sites in Ghana. The level of activity

ranges from small groups conducting hand excavations and washing, to larger-scale operations employing blasting, large earth moving equipment, riverbed dredging/ excavation, and/or underground operations.

To delineate our activities from those of others, we conduct extensive baseline studies and condition monitoring. Our water monitoring has shown that in some locales near our operations in the past, illegal miners were employing cyanide for processing. We diligently report the activities and impacts identified by our monitoring efforts to regulatory agencies via monthly and other routine statutory reporting.

We support the Government of Ghana’s efforts to regulate mining in all its forms. We continue to critically review our concessions to ensure that areas of land that are not financially viable for us to mine are returned to the Government for potential exploration or mining by others.

In addition to these actions, our community development programs focus on livelihood programs to promote alternative employment. By doing so, we can help to provide mainstream employment opportunities that are safer and more secure, while reducing negative environmental risks and impacts on local communities.

CASE STUDY

New paste backfill plant in Ghana; the first of its type

In 2020, the Wassa team completed construction of a first of its kind paste backfill plant in Ghana – a major achievement and strategic investment for Golden Star in line with our sustainability intentions.

Paste backfill is a product that takes mine wastes, such as tailings, and combines it with other products for beneficial reuse. The paste backfill, delivered underground by a 500-metre vertical gravity line, is used to backfill mined out voids underground, increasing geotechnical stability and safety and allowing for improved orebody recovery, realizing economic benefits. With voids backfilled with paste, the risk of rock bursts and rock falls is reduced, making the underground mine safer.

Structural support of mined stopes also enables high grade pillars to be extracted, improving the efficiency of resource recovery. Not only does the paste backfill plant turn a waste product into a valuable resource, use of tailings in paste will use between ¼ and ¾ of the total volume of tailings during filling cycles, reducing surface disposal of tailings and mitigating the risk of TSF failures.

The successful construction of the plant was due to detailed planning, excellent workmanship and the ingenuity of the civil engineers and underground team at Wassa, who constructed the plant entirely in-house when the project engineering company was unable to access the site due to border closures caused by the COVID-19 pandemic. New technology, including 3D helmet webcams, were deployed, enabling out-of-country engineers to oversee critical welding and manufacturing stages.

Another exciting distinction for the Wassa paste plant, is that it employs ceramic disc vacuum filters – the first time these have been used in a paste backfill plant in Africa. Golden Star’s investment in the ceramic filters for the solid-liquid separation phase, was based on enhanced energy consumption from the units, as well as enhanced safety of workers and lower operating costs. The use of ceramic membranes reduces the solid-liquid separation phase energy consumption by nearly 90% (per ton filtered) when compared with conventional cloth filters. This significantly lower kWh/ton filtered power load, is a cost saving that also contributes to our sustainability goals. Additionally, a ceramic membrane life expectancy is 8,000 operating hours, four times that of a conventional cloth filter – adding to the overall plant availability and benefiting maintenance and safety.

The paste backfill plant incorporates an integral fire suppression system and back-up. Additionally, a high-density polyethylene liner encloses the tailings transfer line from the processing plant to the paste plant, providing environmental protection.

Once in production, the paste backfill plant will initially be run at 50% capacity, increasing to 100% capacity after six months. At full capacity, the paste plant will provide 130 m³/hour of consolidated fill to underground stopes – a genuine example of integrated sustainability.

“The Wassa projects and delivery team is first-class. Their commitment to the successful commissioning of a key project amidst a global pandemic is testament to their capacity and diligence. As a committed vendor and future partner, CECMS is pleased to have contributed to the project’s success.”

Cameron Stockman, Director of Operations, CEC Mining Systems Corp



RESPONSIBLE RESOURCE USE

Our operations generate a variety of by-products and wastes that are both hazardous and non-hazardous. We are committed to managing these effectively to promote resource conservation and to prevent and minimize adverse environmental impacts.

Our *Policy on the Environment* outlines our high-level commitment to resource conservation through effective waste management. Our operations have waste management plans as part of their overall EMPs and include registers of identified impacts, action plans and management controls, including the adoption of the waste hierarchy, establishment of waste segregation streams, and routine training for employees and contractors.

Recycling and re-use provisions are a key part of site-level waste management plans. We work

with EPA-accredited vendors to help ensure the safe disposal and handling of waste. Where practicable, we provide recycled materials to local communities for their beneficial reuse. As an example, in 2020 at our Wassa operation we started a collaboration with the local District Assembly allowing them access to our waste rock for use as quarry product.

In 2019, we began sensitization on our plans to reduce single use plastic use. While we had planned to impose a ban in 2020 on the purchase of single use plastic drinking containers, these plans were affected by our controls for COVID-19 management. While there is more work to do, we will continue to tackle the use of non-recyclable materials in our catering system.

The tables below present key data related to waste generation. More information on tailings is [here](#). Additional data on waste generation and recycling are in the [data tables](#).

Waste generation (Wassa)

Tailings (m ³)		Waste rock (kt)		Sludges (L)	
2019	2020	2019	2020	2019	2020
3,580,000	4,452,450	363	587	1,915,000	2,097,000

Waste recycling (Wassa)

Waste oil (L)		Metal (t)		Plastic (t)		Wood (pieces)	
2019	2020	2019	2020	2019	2020	2019	2020
81,952	87,061	399	732	14	29	120	550

Land disturbance and rehabilitation data (hectares)

Location	2019	2020
Total area of mining leases (ML)	12,128	12,471
Land disturbance to MLs in current year	4	86
Total disturbance to MLs to date	850	936
Land rehabilitated in current year	10	44
Land fully remediated to date	297	341

Note: Values are rounded to the nearest hectare.

Indexes

GRI CONTENT INDEX

General Disclosures

Disclosure	Description	Location / information
GRI 102: ORGANIZATIONAL PROFILE		
102-1	Name of the organization	Golden Star Resources
102-2	Activities, brands, products, and services	2020 Annual Information Form, p 15-17
102-3	Location of headquarters	London, United Kingdom
102-4	Location of operations	2020 Corporate Responsibility Report, p2
102-5	Ownership and legal form	2020 Annual Information Form, p10
102-6	Markets served	2020 Annual Information Form, p16
102-7	Scale of the organization	See below for details
ai.	Total number of employees	See the 'Employment' tab in our 2020 ESG data tables
aii.	Total number of operations	2020 Corporate Responsibility Report, p2
aiii.	Net sales	Consolidated Financial Statements 2020, p6
aiv.	Total capitalization	Consolidated Financial Statements 2020, p7
av.	Quantity of products or services sold	Consolidated Financial Statements 2020, p6
102-8	Information on employees and other workers	2020 Corporate Responsibility Report, p28 Also see 'Employment' tab in our 2020 ESG data tables
102-9	Supply chain	2020 Management's Discussion and Analysis, p10
102-10	Significant changes to the organization and its supply chain	Golden Star completed the sale of the Bogoso-Prestea mining operations in September 2020
102-11	Precautionary Principle or approach	2020 Corporate Responsibility Report, p46
102-12	External initiatives	United Nations Global Compact, Sustainable Development Goals, Extractives Industry Transparency Initiative, International Finance Corporation Performance Standard 5, Global Reporting Initiative, World Gold Council Conflict-Free Gold Standard, World Gold Council Responsible Gold Mining Principles, International Cyanide Management Code (Wassa), Sustainability Accounting Standards Board (SASB)
102-13	Membership of associations	Ghana Chamber of Mines and World Gold Council

GRI 102: STRATEGY		
102-14	Statement from senior decision-maker	2020 Corporate Responsibility Report, p4
102-15	Key impacts, risks, and opportunities	Impacts, risks and opportunities are described throughout the 2020 Corporate Responsibility Report, including the materiality assessment

GRI 102: ETHICS & INTEGRITY		
102-16	Values, principles, standards, and norms of behavior	2020 Corporate Responsibility Report, p6 Also see www.gsr.com/about-us/default.aspx
102-17	Mechanisms for advice and concerns about ethics	2020 Corporate Responsibility Report, p24

Disclosure	Description	Location / information
GRI 102: GOVERNANCE		
102-18	Governance structure	2020 Corporate Responsibility Report, p23
102-19	Delegating authority	2020 Corporate Responsibility Report, p23
102-20	Executive-level responsibility for economic, environmental, and social topics	2020 Corporate Responsibility Report, p23
102-22	Composition of the highest governance body and its committees	2020 Corporate Responsibility Report, p24
102-23	Chair of the highest governance body	2020 Corporate Responsibility Report, p23
102-24	Nominating and selecting the highest governance body	2020 Management Information Circular, p 22-23
102-25	Conflicts of interest	2020 Corporate Responsibility Report, p24
102-32	Highest governance body's role in sustainability reporting	2020 Corporate Responsibility Report, p23

GRI 102: STAKEHOLDER ENGAGEMENT		
102-40	List of stakeholder groups	See the 'Community' tab in our 2020 ESG data tables
102-41	Collective bargaining agreements	2020 Corporate Responsibility Report, p43
102-42	Identifying and selecting stakeholders	2020 Corporate Responsibility Report, p38
102-43	Approach to stakeholder engagement	2020 Corporate Responsibility Report, p38
102-44	Key topics and concerns raised	See the 'Community' tab in our 2020 ESG data tables

GRI 102: REPORTING PRACTICE		
102-45	Entities included in the consolidated financial statements	2020 Consolidated Financial Statements, Note 23, p40
102-46	Defining report content and topic boundaries	2020 Corporate Responsibility Report, p21
102-47	List of material topics	2020 Corporate Responsibility Report, p22
102-48	Restatements of information	2020 Corporate Responsibility Report Restatements are noted where applicable. Where indicated, performance information shows historic data and data for the continuing business following the sale of Bogoso-Prestea
102-49	Changes in reporting	None, but we continue to develop our reporting in line with good practice
102-50	Reporting period	1 January-31 December 2020
102-51	Date of most recent report	August 2020 (for period 1 January-31 December 2019)
102-52	Reporting cycle	Annual
102-53	Contact point for questions regarding the report	Phillipa Varris (EVP, Head of Sustainability)
102-54	Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards: Core option
102-55	GRI content index	GRI content index within 2020 Corporate Responsibility Report, pages 54-59
102-56	External assurance	2020 Corporate Responsibility Assurance Statement, provided by Perspective Consulting Inc.

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Disclosure	Description	Location / information
Economic Performance		
GRI 201: ECONOMIC PERFORMANCE		
201-1	Direct economic value generated and distributed	See 'Value Sharing' tab in our ESG data tables
201-2	Financial implications and other risks and opportunities due to climate change	2020 Corporate Responsibility Report, p48
201-4	Financial assistance received from government	None. In 2020 the Government of Ghana instituted various COVID-19 relief supports including discounted electricity from the Energy Company of Ghana for a period of time during the main COVID-19 lock downs
GRI 203: INDIRECT ECONOMIC IMPACTS		
203-1	Infrastructure investments and services supported	2020 Corporate Responsibility Report, p41-42
203-2	Significant indirect economic impacts	2020 Corporate Responsibility Report, p41-42
GRI 204: PROCUREMENT PRACTICES		
204-1	Proportion of spending on local suppliers	2020 Corporate Responsibility Report, p41-42 Also see 'Value Sharing' tab in our 2020 ESG data tables
GRI 205: ANTI-CORRUPTION		
205-1	Operations assessed for risks related to corruption	2020 Corporate Responsibility Report, p24
205-2	Communication and training about anti-corruption policies and procedures	2020 Corporate Responsibility Report, p24
205-3	Confirmed incidents of corruption and actions taken	2020 Corporate Responsibility Report, p24
GRI 206: ANTI-COMPETITIVE Behavior		
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Zero
GRI 207: TAX		
207-1	Approach to tax	2020 Corporate Responsibility Report, p23
207-2	Tax governance, control, and risk management	2020 Corporate Responsibility Report, p23
207-3	Stakeholder engagement and management of concerns related to tax	2020 Corporate Responsibility Report, p23
207-4	Country-by-country reporting	2020 Corporate Responsibility Report, p24 Also see Audited Annual Consolidated Financial Statements of the Company and the Extractive Sector Transparency Measures Act – Annual Report of the Company

Disclosure	Description	Location / information
Environment		
GRI 302: ENERGY		
302-1	Energy consumption within the organization	2020 Corporate Responsibility Report, p49 Also see 'Energy and Emissions' tab in our 2020 ESG data tables
302-2	Energy consumption outside the organization	Information not currently available
302-3	Energy intensity	2020 Corporate Responsibility Report, p49 Also see 'Energy and Emissions' tab in our 2020 ESG data tables
302-4	Reduction of energy consumption	2020 Corporate Responsibility Report, p49 See 'Energy and Emissions' tab in our 2020 ESG data tables
GRI 303: WATER AND EFFLUENTS		
303-1	Interactions with water as a shared resource	2020 Corporate Responsibility Report, p47
303-2	Management of water discharge-related impacts	2020 Corporate Responsibility Report, p47
303-3	Water withdrawal	2020 Corporate Responsibility Report, p47 Also see 'Water' tab in our 2020 ESG data tables
303-4	Water discharge	2020 Corporate Responsibility Report, p47 Also see 'Water' tab in our 2020 ESG data tables
303-5	Water consumption	2020 Corporate Responsibility Report, p47 Also see 'Water' tab in our 2020 ESG data tables
GRI 305: EMISSIONS		
305-1	Direct (Scope 1) GHG emissions	2020 Corporate Responsibility Report, p49 Also see 'Energy and Emissions' tab in our 2020 ESG data tables
305-2	Energy indirect (Scope 2) GHG emissions	2020 Corporate Responsibility Report, p49 Also see 'Energy and Emissions' tab in our 2020 ESG data tables
305-3	Other indirect (Scope 3) GHG emissions.	Information not currently available
305-4	GHG emissions intensity	2020 Corporate Responsibility Report, p48 Also see 'Energy and emissions' tab of our 2020 ESG data tables
305-5	Reduction of GHG emissions	2020 Corporate Responsibility Report, p48 Also see 'Energy and emissions' tab of our 2020 ESG data tables
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	See 'Environmental Compliance' tab in our 2020 ESG data tables
GRI 306: WASTE		
306-1	Waste generation and significant waste-related impacts	2020 Corporate Responsibility Report, p53
306-2	Management of significant waste-related impacts	2020 Corporate Responsibility Report, p53
306-3	Waste generated	See 'Waste and Materials' tab in our 2020 ESG data tables
GRI 307: ENVIRONMENTAL COMPLIANCE		
307-1	Non-compliance with environmental laws and regulations	2020 Corporate Responsibility Report, p46

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Disclosure	Description	Location / information
Social		
GRI 401 EMPLOYMENT		
401-1	New employee hires and employee turnover	See 'Employment' tab in our 2020 ESG data tables
GRI 403: OCCUPATIONAL HEALTH AND SAFETY		
403-1	Occupational health and safety management system	2020 Corporate Responsibility Report, p31
403-2	Hazard identification, risk assessment, and incident investigation	2020 Corporate Responsibility Report, p31
403-3	Occupational health services	2020 Corporate Responsibility Report, p35
403-4	Worker participation, consultation, and communication on occupational health and safety	2020 Corporate Responsibility Report, p31
403-5	Worker training on occupational health and safety	2020 Corporate Responsibility Report, p35
403-6	Promotion of worker health	2020 Corporate Responsibility Report, p35
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	2020 Corporate Responsibility Report, p31
403-8	Workers covered by an occupational health and safety management plan	2020 Corporate Responsibility Report, p35
403-9	Work-related injuries	2020 Corporate Responsibility Report, p35 Also see 'Health & Safety' tab in our 2020 ESG data tables
403-10	Work-related ill health	See 'Health & Safety' tab in our 2020 ESG data tables
GRI 404: TRAINING AND EDUCATION		
404-1	Average hours of training per year per employee	2020 Corporate Responsibility Report, p28
404-2	Programs for upgrading employee skills and transition	2020 Corporate Responsibility Report, p28
GRI 405: DIVERSITY AND EQUAL OPPORTUNITY		
405-1	Diversity of governance bodies and employees	2020 Corporate Responsibility Report, p24, 29
GRI 406: NON-DISCRIMINATION		
406-1	Incidents of discrimination and corrective actions taken	Zero incidents in 2020
GRI 407: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING		
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Zero. Union representation is protected under Ghanaian law
GRI 408: CHILD LABOUR		
408-1	Operations and suppliers at significant risk for incidents of child labor	None

Disclosure	Description	Location / information
GRI 409: FORCED OR COMPULSORY LABOUR		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	None
GRI 412: HUMAN RIGHTS ASSESSMENT		
412-1	Operations that have been subject to human rights reviews or impact assessments	2020 Corporate Responsibility Report, p43
412-2	Employee training on human rights policies or procedures	Our human rights policy includes the provision of training to employees and contractors so that they understand our role. Human rights is integrated into our wider induction and values initiatives as well as contract documentation
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	2020 Corporate Responsibility Report, p43
GRI 413: LOCAL COMMUNITIES		
413-1	Operations with local community engagement, impact assessments, and development programs	2020 Corporate Responsibility Report, p38
413-2	Operations with significant actual and potential negative impacts on local communities	All operations have the potential for significant impacts – both positive and negative – on local communities
GRI 419: SOCIOECONOMIC COMPLIANCE		
419-1	Non-compliance with laws and regulations in the social and economic area	None

GRI MINING METALS SUPPLEMENT

Disclosure	Description	Location / information
GRI G4 MINING AND METALS SUPPLEMENT		
MM-1	Amount of land (owned or leased and managed for production activities or extractive use) disturbed or rehabilitated	2020 Corporate Responsibility Report, p53 See the 'Rehabilitation and Closure' tab in our 2020 ESG data tables
MM-2	The number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria, and the number(percentage) of those sites with plans in place	2020 Corporate Responsibility Report, p46
MM-3	Total amounts of overburden, rock, tailings, and sludges and their associated risks	2020 IMSTI Tailings Management Report Also see 'Waste and Materials' tab in our 2020 ESG data tables
MM-4	Number of strikes and lock-outs exceeding one week's duration, by country	None
MM-5	Total number of operations taking place in or adjacent to Indigenous Peoples' territories, and number and percentage of operations or sites where there are formal agreements with Indigenous Peoples' communities	None
MM-6	Number and description of significant disputes relating to land use, customary rights of local communities and Indigenous Peoples	None
MM-7	The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and Indigenous Peoples, and the outcomes	Not applicable
MM-8	Number (and percentage) of company operating sites where artisanal and small-scale mining (ASM) takes place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks	2020 Corporate Responsibility Report, p51
MM-9	Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process	None in 2020
MM-10	Number and percentage of operations with closure plans	2020 Corporate Responsibility Report, p50

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SASB INDEX

Disclosure	Description	Location / information
METALS AND MINING STANDARD		
EM-MM-110a.1	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	See Energy and Emissions' tab in our 2020 ESG data tables
EM-MM-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	2020 Corporate Responsibility Report, p48
EM-MM-120a.1	Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N2O), (3) SOx, (4) particulate matter (PM10), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)	See 'Environmental Compliance' tab in our 2020 ESG data tables
EM-MM-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	See Energy and Emissions' tab in our 2020 ESG data tables
EM-MM-140a.1	(1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	See the 'Water' tab in our 2020 ESG data tables
EM-MM-140a.2	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	See 'Environmental Compliance' tab in our 2020 ESG data tables
EM-MM-150a.1	Total weight of tailings waste, percentage recycled	2020 Corporate Responsibility Report, p53 Also see 'Waste and Materials' tab of our 2020 ESG data tables
EM-MM-150a.2	Total weight of mineral processing waste, percentage recycled	2020 Corporate Responsibility Report, p53 Also see 'Waste and Materials' tab of our 2020 ESG data tables
EM-MM-150a.3	Number of tailings impoundments, broken down by MSHA hazard potential	2020 IMSTI Tailings Management Report
EM-MM-160a.1	Description of environmental management policies and practices for active sites	2020 Corporate Responsibility Report, p46
EM-MM-160a.2	Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation	Geochemical characterisation testing of ore and waste rock evidence low potential for acid generation. See NI 43-101 Technical Report on the Wassa Gold Mine, p240
EM-MM-160a.3	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Zero
EM-MM-210a.1	Percentage of (1) proved and (2) probable reserves in or near areas of conflict	None
EM-MM-210a.2	Percentage of (1) proved and (2) probable reserves in or near indigenous land	None
EM-MM-210a.3	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	2020 Corporate Responsibility Report, p43
EM-MM-210b.1	Discussion of process to manage risks and opportunities associated with community rights and interests	2020 Corporate Responsibility Report, p38
EM-MM-210b.2	Number and duration of non-technical delays	Zero
EM-MM-310a.1	Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	2020 Corporate Responsibility Report, p43 Breaking this information down by US and foreign employees is not applicable
EM-MM-310a.2	Number and duration of strikes and lockout	None
EM-MM-320a.1	(1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	2020 Corporate Responsibility Report, p35 Also see 'Health & Safety' tab in our 2020 ESG data tables
EM-MM-510a.1	Description of the management system for prevention of corruption and bribery throughout the value chain	2020 Corporate Responsibility Report, p24 Also see Business Conduct Policy and Ethics Policy
EM-MM-510a.2	Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	None
EM-MM-000.A	Production of (1) metal ores and (2) finished metal products	2020 Management's Discussion and Analysis p12
EM-MM-000.B	Total number of employees, percentage of contractors	See 'Employment' tab in our 2020 ESG data tables

LOCAL PROCUREMENT REPORTING MECHANISM INDEX

Disclosure	Description	Location / information
LPRM 100: CONTEXT FOR LOCAL PROCUREMENT DISCLOSURES		
101	Mining company name	Golden Star Resources
101	Mine site name	Golden Star (Wassa) Limited (GSWL)
101	Reporting period	1 January-31 December 2020
101	Stage of assets	Operational
101	Estimated mine life	Current mine plans project a 10-year remaining mine life
101	Average number of workers	See the 'Employment' tab in our 2020 ESG data tables
LPRM 200: PROCUREMENT SYSTEMS		
201	Policy on local suppliers	2020 Corporate Responsibility Report, p41
202	Accountability on local suppliers	Local procurement accountability rests with the site-level Community and Finance departments
203	Major contractors and local suppliers	2020 Corporate Responsibility Report, p41
204	Procurement process	2020 Corporate Responsibility Report, p41
LPRM 300: LOCAL PROCUREMENT SPENDING BY CATEGORY		
301	Categorising suppliers	See the 'Value Sharing' tab in our 2020 ESG data tables
302	Breakdown of procurement spend	See the 'Value Sharing' tab in our 2020 ESG data tables
LPRM 400: LOCAL PROCUREMENT DUE DILIGENCE		
401	Due diligence process	2020 Corporate Responsibility Report, p43
402	Anti-corruption policy	2020 Corporate Responsibility Report, p43
403	Training and guidance for suppliers	2020 Corporate Responsibility Report, p42
LPRM 500: METHODS TO INCENTIVE LOCAL PROCUREMENT		
501	Commitments	2020 Corporate Responsibility Report, p41-43
502	Preference in scoring of bids	2020 Corporate Responsibility Report, p41-43
503	Preference in scoring of bids for significant local contributions	2020 Corporate Responsibility Report, p41-43
504	Non-scoring methods to incentivize local purchasing	2020 Corporate Responsibility Report, p41-43
505	Supporting suppliers to understand the tender process	2020 Corporate Responsibility Report, p41-43
506	Special payment procedures for local suppliers	Contracts are paid according to existing company procedures
507	Encouraging procurement from particular groups	2020 Corporate Responsibility Report, p41-43
LPRM 600: EXTERNAL COMMITMENTS AND OBLIGATIONS		
601	Regulations	2020 Corporate Responsibility Report, p23
602	Other agreements and contracts	2020 Corporate Responsibility Report, p14-16, 23

Notes

GLOSSARY

AIFR	All Injury Frequency Rate
ANCOLD	Australian National Commission on Large Dams
APPELL	Awareness and Preparedness for Emergencies at Local Level
CCT	Community Consultative Teams
CCFPA	Canadian Corruption of Foreign Public Officials Act
CDA	Canadian Dam Association
CEO	Chief Executive Officer
CMCC	Community Mine Consultative Committee
EITI	Extractives Industry Transparency Initiative
EMP	Environmental Management Plan
CMT	Crisis Management Teams
EPA	Environmental Protection Agency
ERM	Enterprise Risk Management
ESG	Environmental, Social, and Governance
ESIA	Environmental and Social Impact Assessment
ESTMA	Extractives Sector Transparency Measures Act
EVP	Executive Vice President
FCPA	Foreign Corrupt Practices Act
FDA	Food and Drugs Authority
GHG	Greenhouse Gas
GIZ	Gesellschaft für Internationale Zusammenarbeit
GJ	Gigajoules
GRI	Global Reporting Initiative
GS LEAD	Golden Star Leaders Empowerment and Development program
GSOPP	Golden Star Oil Palm Plantation
ICMC	International Cyanide Management Code
ICOLD	International Commission on Large Dams
ISO	International Standards Organization
IUCN	International Union for Conservation of Nature
LOCOMS	Local Companies in Mining Services
MOU	Memorandum of Understanding
OECD	Organization for Economic Cooperation and Development
RGMP	Responsible Gold Mining Principles
SASB	Sustainability Accounting Standards Board
SDGs	Sustainable Development Goals
TCFD	Taskforce on Climate Related Financial Disclosures
TRIFR	Total Recordable Injury Frequency Rate
TSF	Tailings Storage Facility
UN	United Nations
UNEP	United Nations Environment Programme
WGC	World Gold Council

CAUTIONARY STATEMENT

Information contained in this report, which are not statements of historical facts, and the documents incorporated by reference herein, may be “forward-looking information” for the purposes of Canadian securities laws or “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995. Generally, forward-looking information and statements can be identified by the use of forward-looking terminology such as “plans”, “expects”, “is expected”, “budget”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates”, “believes” or variations of such words and phrases (including negative or grammatical variations) or statements that certain actions, events or results “may”, “could”, “would”, “might” or “will be taken”, “occur” or “be achieved” or the negative connotation thereof. Forward-looking information and statements are made based upon certain assumptions and judgments of management regarding present and future business strategies and the environment in which Golden Star will operate in the future, including the price of gold, anticipated costs and ability to achieve goals. Forward-looking information and statements are subject to known and unknown risks, uncertainties and other important factors that may cause the actual results, performance or achievements of Golden Star to be materially different from those expressed or implied by such forward-looking information and statements. Please refer to the factors discussed in the section entitled “Risk Factors” in Golden Star’s annual information form for the year ended December 31, 2020. Although Golden Star has attempted to identify important factors that could cause actual results, performances and achievements to differ materially from those contained in forward-looking information and statements, there may be other factors that cause results, performance and achievements not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results, performance, and achievements and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking information and statements. Forward-looking information and statements are made as of the date hereof and accordingly are subject to change after such date. Forward-looking information and statements are provided for the purpose of providing information about management’s current expectations and plans and allowing investors and others to get a better understanding of the Company’s operating environment. Golden Star does not undertake to update any forward-looking information and statements that are included in this Report, except as required by applicable securities laws.



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Design: Steed Design

Photography: Illucrate Multimedia, Kingkwekuananse Photography, Natalie Raffield, Philip Mostert, and Golden Star teams

Note that some photographs included in the report were taken before COVID-19 restrictions were introduced.

