Minerals Income Investment Fund

August 2022

# QUARTERLY MARKET OUTLOOK

# GOLD

## GLOBAL OUTLOOK

2022 opened with gold prices at US$1814/oz, and rose by 13.15% to hit a quarterly high of US$2053 in March.

Investors were motivated to seek out safe-haven assets such as gold for diversification and wealth preservation. This was driven by historically high inflation globally, increasing geopolitical risks surrounding Russia's invasion of Ukraine and uncertainty regarding economic recovery from the pandemic. This increased appetite had an effect on gold prices and gold-backed exchange-traded funds (ETFs).

Notwithstanding, it was not until news of the intention of the US Federal Reserve to raise interest rates broke, that the gold price which had hovered around US$1830 for most of January, started to decline.

Gold prices had slipped to a quarterly low of US$1,791.90 by January 31. It however began recovery in February, rising significantly from US$1,792 to US$1947 by March 1. This was gold's best quarterly performance since Q2 2020. Gold closed at US$1801.20 for the first half of the year.  This was in total contrast to the stock market, which recorded the poorest performance in years.

The mix of a risky terrain resulting from inflation and geopolitics positioned gold as an extremely vital asset for investors as they sought to hedge their portfolios during a massively declining financial market.

Gold ended HY2022 on a similar level as it started the year and some investors are puzzled as to why the price did not climb higher in the midst of such high inflation.

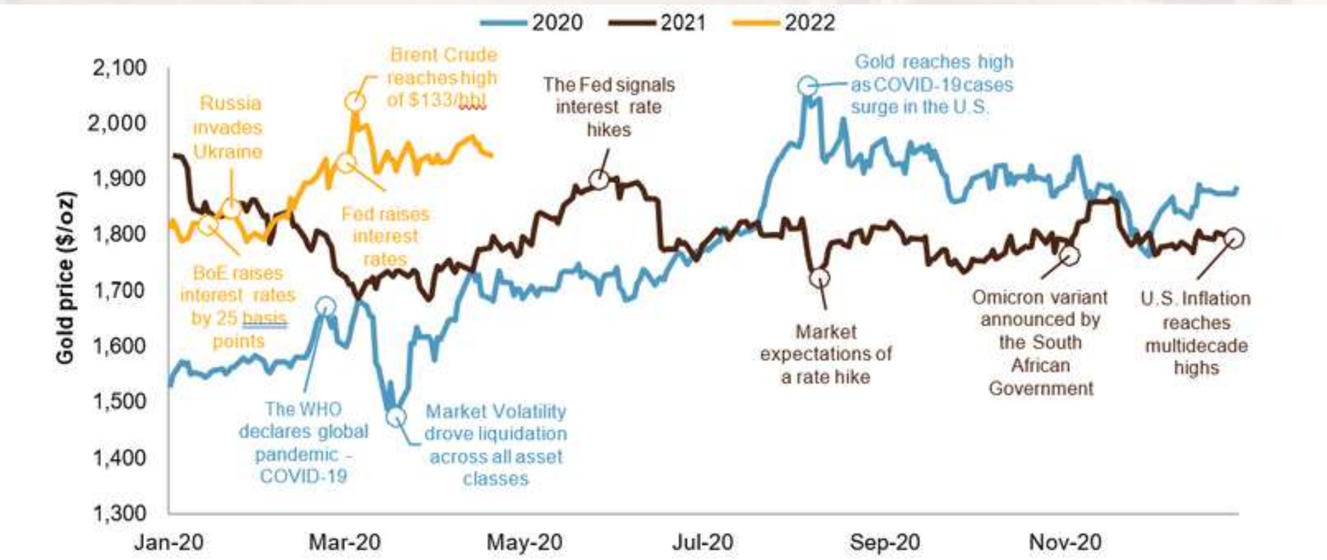
Contrary to many stocks, gold held its value throughout the first six months of the year, mostly attributable to investors' preference of gold as a safe-haven asset and an inflation hedge.

Gold continued to benefit, although, sluggishly from investment demand and inflation. As Q3 approached, with sustained price volatility stemming from interest rates, geopolitics and inflation, the expectation was that the gold mining sector will continue to recover from pandemic related closures. However, with those promising prospects of production, the investment landscape was not as hopeful. Investor confidence in the stock market continued to dwindle amidst economic uncertainties.

**Why the decline in the gold price?**

Contraction in Chinese demand for physical gold, rising US dollar, tighter monetary policy led by consecutive interest rate hikes by the United States Fed in a bid to rein in US inflation are beginning to have a negative impact on the gold price.

On Aug 15, gold dropped in response to the unexpected cut in China's central bank key interest rate as it built support for an economy burdened by lockdowns and growing property crisis. According to Bloomberg, economic data released showed the country's recovery is weakening, potentially constraining physical demand for gold in the world's largest consumer.

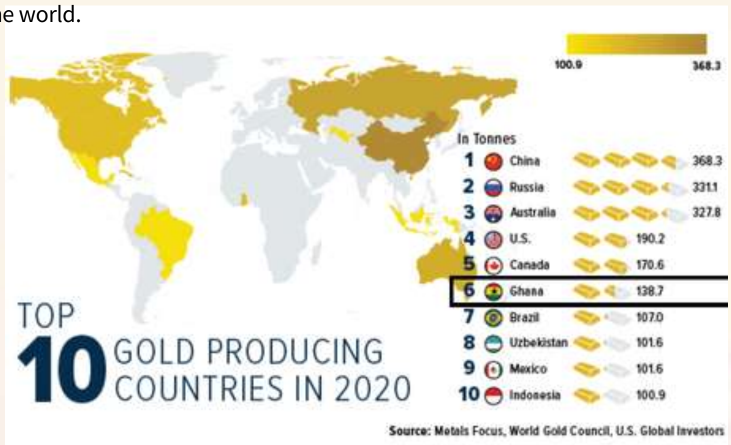



Data as of April 25, 2022.
Sources: S&P Global Market Intelligence; London Bullion Market Association


## THE GHANAIAN CONTEXT

By June 2022, Ghana's revenue from gold went up by 13.1%, raking in $3 billion. The mining sector presently contributes approximately 7.5% of GDP, 14% of total tax revenues and 41% of the country's total export earnings. The sector contributes over 90% of the country's total mineral exports and makes up 49% of total export value.

According to World Bank data, Ghana became the largest gold producer in Africa in 2019, ahead of South Africa. However in June 2022, gold production in Ghana dropped by 30% in 2021 – the lowest recorded in more than a decade, and that unseated Ghana as Africa's leading producer, restoring South Africa back to the top spot. Despite this, Ghana still remains one of the top 10 gold producers in the world.




## STRATEGIC FOCUS FOR MIIF

There has been significant investment activity in the Ghanaian mining sector over the past year. M&A activity in the gold sector has been north of $1billion with the top 6 reputable mining companies acquiring assets.

The Fund undertook its first transaction by anchoring a $100m equity raise by Asante Gold Corp with a $20m-dollar investment. The Fund is currently in discussions and negotiations with exploratory mining companies and producing mines to invest in their assets . The Fund is also negotiating to invest in mining support services companies. The pipeline of transactions to close in gold mining by MIIF is in excess of $45m.

**M&A and Investment Activity over the past year**

| | |
|---|---|
| CARDINAL | Cardinal Resources Acquired by Shandong GoldAcquired for ~US$450 million in early 2021, extensive bidding war between Nordgoldand Shandong |
| Resolute | Asante Gold Acquired the Bibiani Mine from Resolute.Purchased for US$90 million, Asante completed a concurrent C$80 million equity financing |
| GOLDEN STAR | Golden Star to be Acquired by Chifeng. Cash takeout by Chifeng closed in January 2022, consideration of US$470 million |
| Newmont | Newmont investing US$750 -$850 million to expand Ahafo North, expanding footprint in Ghana |
| ANGLOGOLDASHANTI | AngloGold Ashanti phased redevelopment of Obuasi+US$500 million investment, with phas 3 redevelopment planned through end of 2023 |
| asante GOLD CORPORATION | Ghana Minerals Income and Investment Fund (MIIF) inaugural investment, US$20 million investment in Asante Gold as part of March 2022 placement |
| KINROSS | Asante Gold acquired a 90% interest in the Chirano Gold Mine from Kinross Gold Corporation for a total consideration of US$225 million |

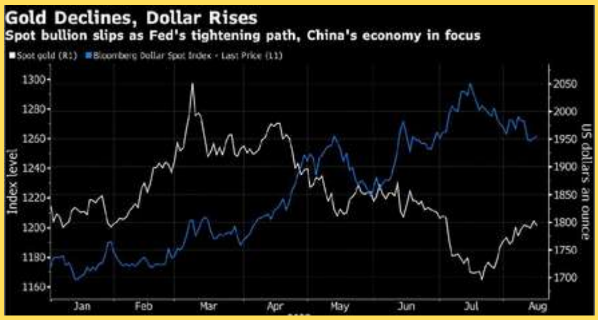
## OUTLOOK

US Fed intends to battle inflation at all cost and plans to employ a tight monetary policy to do so. The Fed has hiked interest rates four times so far in 2022. It effected a 25-basis-point hike in mid-March, a 50-basis-point increase on 4 May, and two consecutive 75-basis-point rises on 15 June and 22 July. We expect the Fed to continue its plan to tackle inflation through a series off interest rate hikes.

Rate hikes by the Fed continue to make the U.S bond market a little more attractive to safe-haven buyers than the gold market, limiting the upside for gold.

The announcement of the US Fed's plan to continue battling inflation with a tight monetary policy last Friday, has eroded the positive momentum that a weaker US dollar provided the commodity in the past month. The precious metal is currently trading at $1695/oz down from $1738 last Friday. We believe that a persistent rise in US Treasury yields will result in a bearish gold market.

Currently, U.S inflation sits at 8.5% and interest rates at 2%. Historically, for inflation to be brought to acceptable levels, interest rates must be raised to match current inflation levels. If US Fed proceeds with this, then gold prices will plunge further in the coming years. However, some analysts believe the recession is inevitable and foresee the Fed conceding in a matter of time, resulting in them loosening the monetary policy. If this happens, investors will return to gold as a safe-haven asset and that will see the prices of gold rallying up.




The Ghanaian economy has been doubly affected by a stronger dollar and falling gold prices. The strengthening of the dollar poses a major challenge as debt servicing in the currency becomes particularly difficult with the rapidly depreciating local currency.

A decline in global gold prices will negatively impact revenue generated from the gold sector i.e. royalties, corporate taxes and foreign exchange earnings from gold exports, further deepening the budget deficit.

The decline in gold prices, however, augers well for the central bank's domestic gold purchase programme. A decrease in gold prices means the central bank can take advantage of the prevailing lower market prices in shoring up its foreign exchange reserves to enhance currency stability.

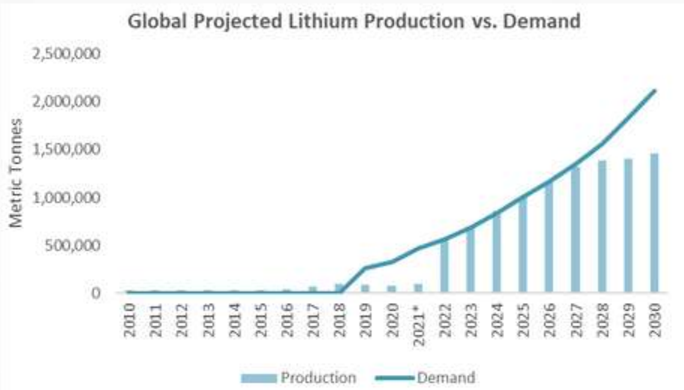
# LITHIUM

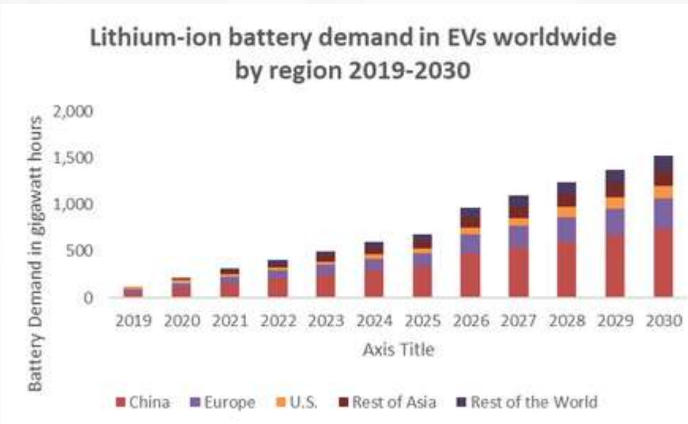
## GLOBAL OUTLOOK

The global lithium market size was valued at USD 6.83 billion in 2021 and is expected to expand at a compound annual growth rate (CAGR) of 12.0% from 2022 to 2030. Covid-19 plunged the global lithium market by 10.9% as compared to the gains recorded between 2017 and 2019.

However, the abrupt rise in electric vehicles has been a catalyst for a renewed demand and growth in the lithium market, to exceed pre-pandemic levels. Technological advancements in the rechargeable Li-ion batteries for electric devices will stimulate demand.

The promotion of hybrid and electric vehicles, high drain portable electronics, and energy storage systems, due to growing concerns about environmental pollution and the remedy of the carbon reduction capability of EVs, has had a massive impact on the expansion of the lithium market.




## LITHIUM PRICES

The global lithium market has witnessed prices rising to new record highs almost daily, sparked by limited supply and strong demand. This trend is expected to continue, as supply tightness persists and demand for electric vehicles continues to grow.

Lithium commenced 2022 on a high, with rallying prices even though there had been more than a 400 per cent increase in the previous year. The price hikes were boosted by a healthy demand from the electric vehicle industry. Even though the market is recording some stability this year, prices have risen over 123 per cent according to Benchmark Market Intelligence (BMI) data.

### $42 BILLION

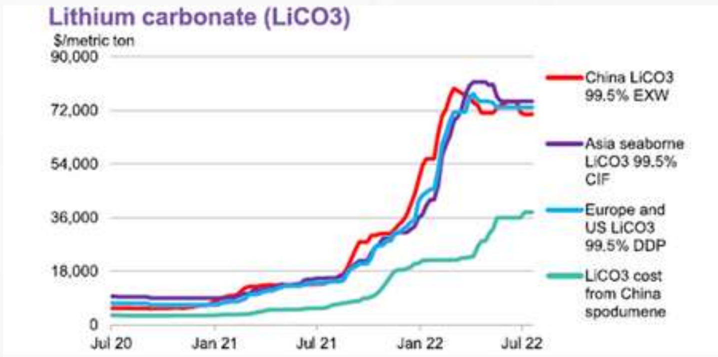
**Investment required to meet global lithium demand in the next ten years**

### $102 MILLION

**Piedmont Investment in Atlantic Lithium towards Ewoyaa Lithium Project in Ghana**

### $30 MILLION

**MIIF PLANNED INVESTMENT IN LITHIUM IN 2022**




**Price Forecast Sentiments**

| BULL | BEAR |
|---|---|
| Lithium supply deficit to widen in 2023 supporting price increases due to post-covid demand for lithium chemicals, higher demand from the auto industry and a lack of lithium projects coming online in the near future . | Potential excess lithium supply due to outsized supply response to demand in EV market is predicted to cause sharp correction in lithium prices by the end of 2023. |
| Source: Fitch, BMI | Source: Goldman Sachs |

According to Fitch, the supply gap will increase from 259kt in 2022 to 329kt in 2023, supporting prices. Chinese lithium carbonate 99.5% is now priced at $67,050 per ton for technical grades, but Fitch anticipates prices to average $68,000 per metric ton in 2022 and $55,000 per ton in 2023.

Other analysts agree with BMI and do not foresee supply levelling up with demand until 2026/2027, mainly because of the complexity of commissioning greenfield projects into production and the shortage of technical skills to construct and ramp up new lithium production to full capacity. Some experts believe the current investments being made in the industry can only be reaped in six to ten years from now.

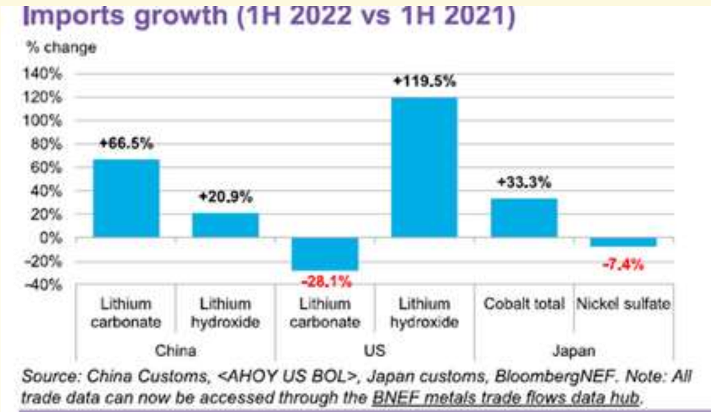
# LITHIUM

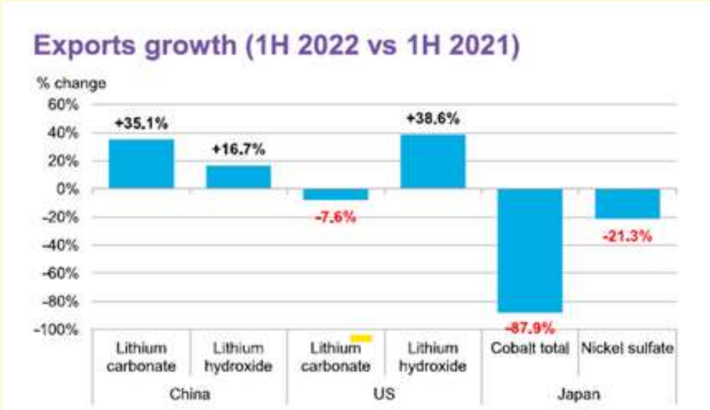
## INVESTMENT POTENTIAL

The lithium industry requires close to $42 billion of investment globally by the end of the decade in an effort to meet demand for lithium, with plans to shore up supply chains outside of China. According to a BMI report, the sector needs an annual investment of $7 billion from now till 2028.

## DEMAND ANALYSIS

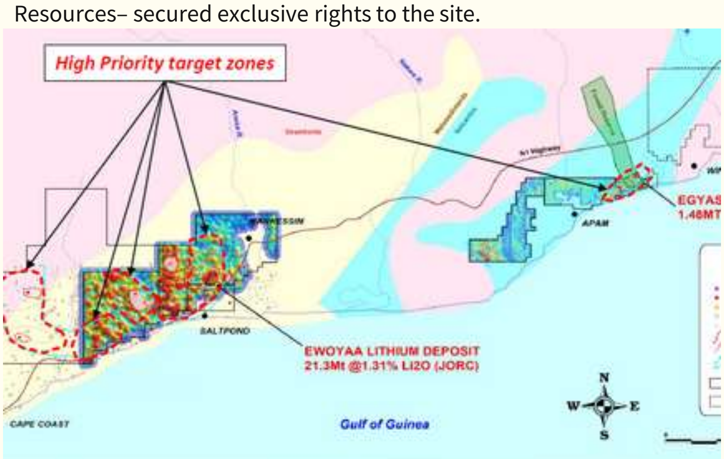
Demand is projected to be 2.4 million tons a year by 2030, quadruple the estimated production level of 600,000 tons in 2022. A factor impacting the supply of lithium is the struggle of attracting investment at the start of the value chain, as opposed to the middle, due to reputational concerns, volatility and ESG issues. This prediction is based on the efforts of Europe and North America to reduce their reliance on Chinese imports and build their own lithium supply. This strategy is more capital intensive than obtaining refined product from China. The shortage of the crucial mineral to produce batteries is stalling the production of EVs which may require the involvement of EV manufacturers in lithium mining. The huge planned investments of major lithium producers alone may be insufficient and new mines will be necessary.




## THE GHANA CONTEXT

Commercial quantities of lithium have been discovered In the Volta, Western, and Ashanti areas, and Ghana is on track to become West Africa's first lithium producer. While lithium resources were defined by the Ghana Geological Survey in 1962 within the Yenku Forest Reserve at Egyasimanku, they remained unexplored for years. It was not until May 2017 that Atlantic Lithium – formerly IronRidge Resources– secured exclusive rights to the site.




A robust update Scoping Study indicates Mineral Resource estimate update for the Ewoyaa Project in Cape Coast, Ghana totaling 30.1 million metric tonnes at 1.26% Li2O and Life of Mine revenues exceeding US$3.4bn.

## STRATEGIC FOCUS FOR MIIF

Fitch reports continuous growth in the number of lithium development projects in Africa. There are currently nine lithium mining projects in development in Africa.

Tesla Inc. CEO Elon Musk publicly appealed for more investment in lithium mining, and has intimated that the car giant might consider mining. Piedmont Lithium, a company in which Musk holds a stake has 50% production offtake agreement with Atlantic Lithium in its flagship project, the Ewoyaa Project in Ghana. This project is fully funded to production under an agreement with Piedmont Lithium for US$102m and set to produce a premium lithium product.

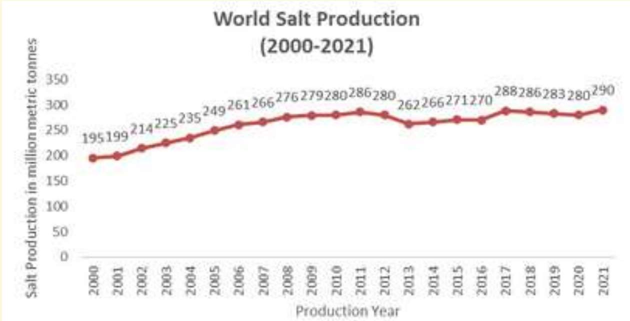
MIIF is optimistic that the planned focus on the mineral will generate new economic vibrancy for the areas known for lithium production such as Saltpond. MIIF is developing a classification strategy for high-priority minerals such as lithium, limestone, granite, diamond, and salt. Classifying Lithium as a high-priority mineral means the fund will invest in the mineral value chain development, de-risk its funding methods, and help acquire relevant technology to establish and support the industry. MIIF is currently planning up to US$30 million in lithium development in Ghana.

# SALT

## THE MARKET

In 2020, the salt market was valued at circa US$ 28 billion globally with 280 million metric tons (MT) of salt produced that year. The market is projected to grow to $36 Billion in 2026 with China controlling 22.48% of the world's production. The top three producers of salt are China, the United States, and India and they produced a cumulative total of about 130 million metric tonnes of salt in 2020.

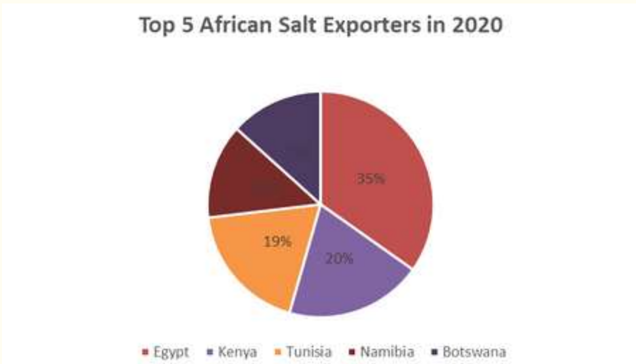
The leading salt exporter based on trade value is the Netherland, transporting about $288 million in value in 2020. India, however, is the leading exporter based on trade volume. The main importer of salt globally is the United States. In 2021, the US imported 16 million metric tons ($559 million), a 14% decrease over the previous year, for use in the pharmaceutical, agricultural and livestock and chemical production sectors. The estimated price of vacuum and open pan salt in the US stood at US$215 per ton compared to US$120 for solar salt in the same year. China is the leading consumer of salt worldwide.


## DEMAND

The increased demand for salt used industrially in making chemicals is the main driver of the salt industry, particularly in the production of chlorine-alkali. Other applications of industrial salt are for caustic soda, soda ash, water treatment, de-icing, and many more. The value of the industrial salt market was recorded at US$ 13.1 billion in 2020, representing 45% of the revenue from the global salt market. On account of the varied uses, the global demand for industrial salt is forecasted to grow at approximately 4% CAGR to 455 kilotons valued at US$20.3 billion by 2031. The oil and gas sector, contributing 40%, is the main driver for the growth in industrial salt market.

In 2020, the major salt exporting countries of Africa are Egypt, Kenya, Tunisia, Namibia, Botswana and South Africa. Egypt and Kenya produced $78.8 million and $44.5 million worth of salt respectively. In the West African sub-region, Ghana and Senegal are the only countries with the most favourable coastlines for salt wining, however this has not been fully explored. Total exports from these two countries has been low at about $19.25 million and $6.7 million for Senegal and Ghana respectively in 2020.

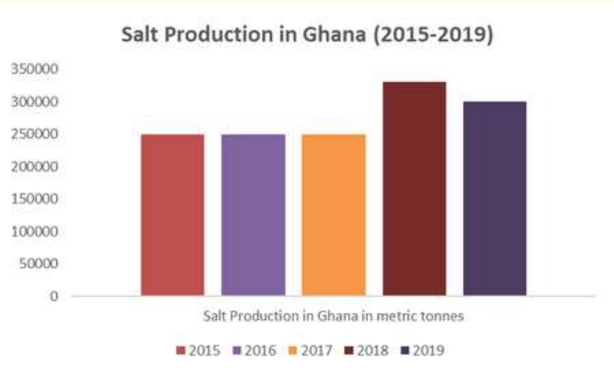
# SALT

## THE GHANAIAN CONTEXT

Ghana has much more potential over Senegal with a more expansive coast line. Ghana has the capacity for the creation of a regional plant for solar salt to be employed in the production of basic chemicals such as caustic soda, chlorine, hydrogen, petrochemicals and other related products.

Salt winning by sea water evaporation is the most widespread form of salt production in Ghana. In this method, the salt is produced by solar evaporation. The artisanal salt winning method involves almost no human intervention whereas mechanical methods encompass the construction of embankments dykes and water control by electric pumps. Some of these techniques employed are incapable of achieving production levels sufficient to generate meaningful income for the country (Quashie and Oppong, 2006). Salt production is predominant in the coastal region in the Central, Volta and Greater Accra Regions with favourable climatic conditions. Areas such as the Keta Lagoon, the Songor Lagoon, the Densu Delta area, Nyanya lagoon, Oyibi lagoon, Amisa lagoon and Amwin/Benyah lagoon are the dominant mining zones.

In spite of the favourable conditions prevalent in Ghana, the total salt production in Ghana is estimated at 300,000 MT in 2019. Production levels in Ghana are low and were stagnated between 2015-2017 at 250,000MT. This stems from the fact that salt winning in Ghana is primitive and riddled with challenges and constraints; obsolescence of technology; lack of local expertise and poor production methods; poor industry infrastructure; lack of economies of scale; low investment and lack of credit; cumbersome land acquisition procedures and land tenure administration systems (Affam and Asamoah,2011)




## STRATEGIC FOCUS FOR MIIF

In keeping with its plan to diversify its mineral investments, MIIF is preparing to invest in the industrial salt market. If the Ada Songhor Salt project's resuscitation plan is carried out as planned, salt is likely to become one of Ghana's top industrial earners by 2030 and one of the country's significant foreign exchange earners by 2026.

The Ada Songhor Project, a 41,000-acre salt project that is currently being revived by Electrochem, a completely Ghanaian-owned firm, is a significant project of interest to the Fund. The Ada Songhor Project has the capacity to produce more than 1.75 million MT, making it the largest in the Africa. The Electrochem resuscitation project, which began in late 2016 with initial production beginning in early 2021, has allowed the Songhor lagoon, which had been completely dried out for eight years, to be fully restored.

MIIF intends to partner with, and support the full restoration of the Ada Salt project to its full capacity. The Songhor salt project and its sponsors, Electrochem, meet all the criteria for long-term viability, environmental, social, and governmental sustainability, export potential, high salt density, infrastructural plans, and the fact that all the engineers on the project site are Ghanaians. The project is supported by one of the top salt design and project managers in the world, Serra of Spain, who are also in charge of the technical construction.

This project will succeed due to the convergence of international expertise and local knowledge, and MIIF predicts that with the projected investment, Ghana would become the continent's top producer of salt by 2027.

# ESG IN MINING

## GLOBAL OUTLOOK

Increasingly, mining companies are aligning Environmental, Social and Governance (ESG) obligations to their portfolio as they assess the social footprint of their investments. The way that institutions distribute their capital expenditure across their assets could influence their competitive advantage over the next ten years as stakeholders continue to demand more ESG-oriented policies.

The critical factor will be the story the miners tell to investors about their portfolio and how they are structuring their assets for the long term. Since energy costs account for 25–30% of a mine's operating expenses, the most effective portfolios focus on energy-management initiatives with clear economic advantages.

Certain mining companies are beginning to reevaluate traditional value chains, exploring new methods to tackle ESG concerns among suppliers and clients. Companies are auditing their portfolios to include climate-friendly minerals as well as collaborating with downstream companies such as vehicle manufacturers, to secure the supply of these minerals. Additionally, new circular business models are emerging based on metals reprocessing, recycling, or urban mining.

Even though mining companies develop ESG policies with good intents, without ingraining ESG in business operations and structures, progress will be hindered. This kind of alignment seems to be absent in practice. For instance, in assessing 38 large scale mining companies, Responsible Minding Foundation discovered that while several mining companies cite the United Nations Sustainable Development Goals in their ESG reporting, not many have incorporated them into their organizational strategies.

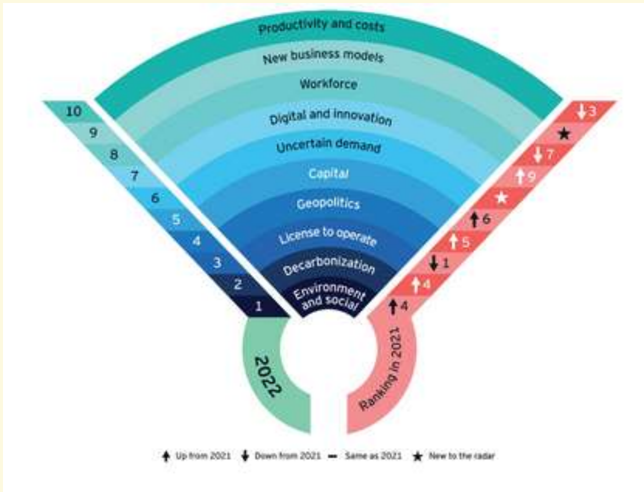
To shift from a covenant to execution, mining companies must be structured to react to ESG risks, challenges and prospects. This needs an operating model that advances cooperation within departments, accountability, visibility and a defined governance structure.

Translating these trends into tangible action can be very arduous. Adhering to ESG policies often needs an organizational redirection that may conflict with general business forms and goals.

However, by aligning incentive structures with broader ESG goals, viewing ESG commitments as value additions, repositioning investments to seek value-creating opportunities that promote ESG goals, evaluating the long-term impact of ESG as well as potential risks and clearly communicating ESG expectations at every stage of the value chain can help accelerate the ESG journey.

Many trends in mining are indicative of the growth of ESG commitments. Although the mining sector is evolving from pledge to execution, it is very encouraging that mining companies are embracing the notion that ESG targets can only be achieved by entrenching ESG into every facet of the business and organization.

### ESG Ranking in Mining




According to the most recent EY Top 10 Business Risks and Opportunities for Mining and Metals in 2022, global mining executives rank environment, social and governance (ESG), decarbonization, and license to operate (LTO) as the top three risks/opportunities facing their business over the next 12 months. The report claims that the COVID-19 pandemic has drawn attention to social inequality and put pressure on businesses to go above and beyond their regulatory responsibilities in order to promote social equality in the areas where they operate.

## STRATEGIC FOCUS FOR MIIF

In the same spirit, the Fund is committed to ensuring that ESG and sustainability are integrated in all aspect of its operations. We are confident that the incorporation of ESG and Sustainability in our investment activities will bring about positive change to all our stakeholders and create a platform for impact investments among our professionals and partners. MIIF will consciously be mindful of ESG in investment decisions, in our ownership policies, practices and firms MIIF invests in.