



The Brazilian Mining Sector – A Rich History and an Even Brighter Future

“You can only take out of a bag what was already in it.” – Brazilian Proverb

When one considers its rich mining history, increased demand for minerals driven by the “greening” of the global economy, robust mineral production, undiscovered resource potential, and a supportive government, there is an extremely compelling case for increased mining investment in Brazil.

- **On March 7th, 2022, in conjunction with the Brazilian Canadian Chamber of Commerce (BCCC), The Toronto Stock Exchange and TSX-Ventures, and Adelaide Capital, INFOR Financial co-hosted the 2nd Brazil-Canada Virtual Mining Conference.** The session highlighted both public and private mining companies focused on operations in Brazil. Presenting companies included ValOre Metals Corp (VO-TSXV), G Mining Ventures (GMIN-TSXV), TriStar Gold Inc (TSG-TSXV), Sigma Lithium Resources (SGML-TSXV), Fides Mining (private), 4B Mining (private), and Pilar Gold (private).
- **The historical relationship between gold and inflation suggests a higher gold price in the near term.** U.S. inflation hit a 40-year high in February with a CPI measure of 7.9%. According to the World Gold Council, in years where inflation was higher than 3%, the gold price increased 14% on average.
- **Gold typically outperforms when the Fed starts raising rates as part of a tightening cycle.** Once again, the Fed has embarked on a tightening cycle to combat rampant inflation in the U.S. Based on the past four tightening cycles starting in February 1994, June 1999, June 2004, and December 2015, historically gold tends to underperform during the one-year period prior to a Fed tightening cycle and outperform over the next six to twelve months into a cycle. Based on the implied Fed funds futures rate and the rate on swaps linked to the December meeting, both imply that the effective funds rate will climb to 1.84-1.86% by year-end. This suggests a total of SEVEN interest rate hikes in 2022!
- **The ongoing shift to a greener economy is pushing demand for base metals.** The global decarbonization trend is another factor leading to strong metals demand which could further drive higher metal prices. As investments in fossil fuels continues to decrease, demand for industrial metals such as lithium, nickel, cobalt, and graphite continues to grow as nations build out their green infrastructures. Nickel and Lithium also continue to be key battery metals with significant demand growth driven by Electric Vehicle (EV) adoption.
- **Brazil has a long mining history and has grown as a precious metal producer and base metals miner.** Brazil is one of the five largest mineral producers in the world, with 7,000+ mining companies operating over 3,000 mines. Brazil has the 2nd largest iron reserve, the 4th largest bauxite reserve and the 7th largest gold reserve in the world. Brazil also ranks as the 2nd largest iron ore producer, the 6th largest lithium producer, the 8th largest nickel producer and the 13th largest gold producer annually. We expect production growth to continue in Brazil in response to global metal demand.
- **Brazil continues to rank as one of the top mining jurisdictions in the world.** The Fraser Institute continues to rank Brazil as one of Latin America’s top mining regions. With less than 5% of the national territory having been mapped, Brazil’s true mineral potential has yet to be discovered.
- **The Brazilian Government continues to encourage mining investment in the country.** The political environment in Brazil is supportive, and the mining sector has benefitted from regulatory change in the country. A recent survey by the Brazilian Mining Institute (IBRAM) stated that companies in Brazil’s mining sector are likely to invest ~US\$36.5 billion by 2024, demonstrating that Brazil is in fact an emerging region for mining growth and investment.

Macro Overview

Given the ease at which investors can now access new information and quickly act on it, we have seen rapid shifts in market sentiment and a corresponding shift in fund flows. Whether it be cannabis, healthcare, technology, crypto, psychedelics or ESG, every day capital flows have become more aligned with the market zeitgeist. However, there have been two persistent trends in place today that are supportive of both the precious metals and base metals markets: i) loose monetary policy fueling inflation; and ii) an ongoing shift to a greener economy. The accommodative monetary policy and resulting inflation, reminds all of us why gold is seen as a “safe haven” asset. Historically, we have seen gold perform extremely well during the inflationary cycles of the late 1970s and 1980s and in the current environment, there are similar forces lining up to fuel a “leg up” in the gold price. As such, we believe precious metals will continue to perform well and should remain an important part of an investment portfolio. At the same time, the push for greener technology to drive global growth, is spurring on investment in base and diversified metals such as copper, lithium, PGMs, nickel, cobalt, and other base metals.

It is also worth noting that as the largest consumer of commodities, China’s pledge to increase stimulus this year should also fuel inflation, growth, and its need for metals, while the current worldwide “energy transition” is also likely to boost demand for metals in other corners of the globe. This is all happening at a time when metal inventories are depleted, and the lack of investment in new greenfield mining projects should drive further price increases for many of the major metals.

Plenty of Reasons for Optimism as per the Headlines from Major News Outlets

Bloomberg

“Gold set ‘to steal the show in 2022”

BARRON’S

“Silver Has Been Stuck at Lower Prices. It May Be Time to Buy”

Bloomberg

“Lithium Hits ‘Ludicrous Mode’ as Battery Metal Extends 400% Gain”

FT

“Aluminum: The Duller Metal Shines Again”

FT

“Tin Prices Set Record High on Back of Consumer Electronics Boom”

BARRON’S

“How the Green Economy Will Be a Gold Mine for Copper”

Bloomberg

“Metals Rally Heats Up As Nickel Hits \$24,000 On Supply Snarls”

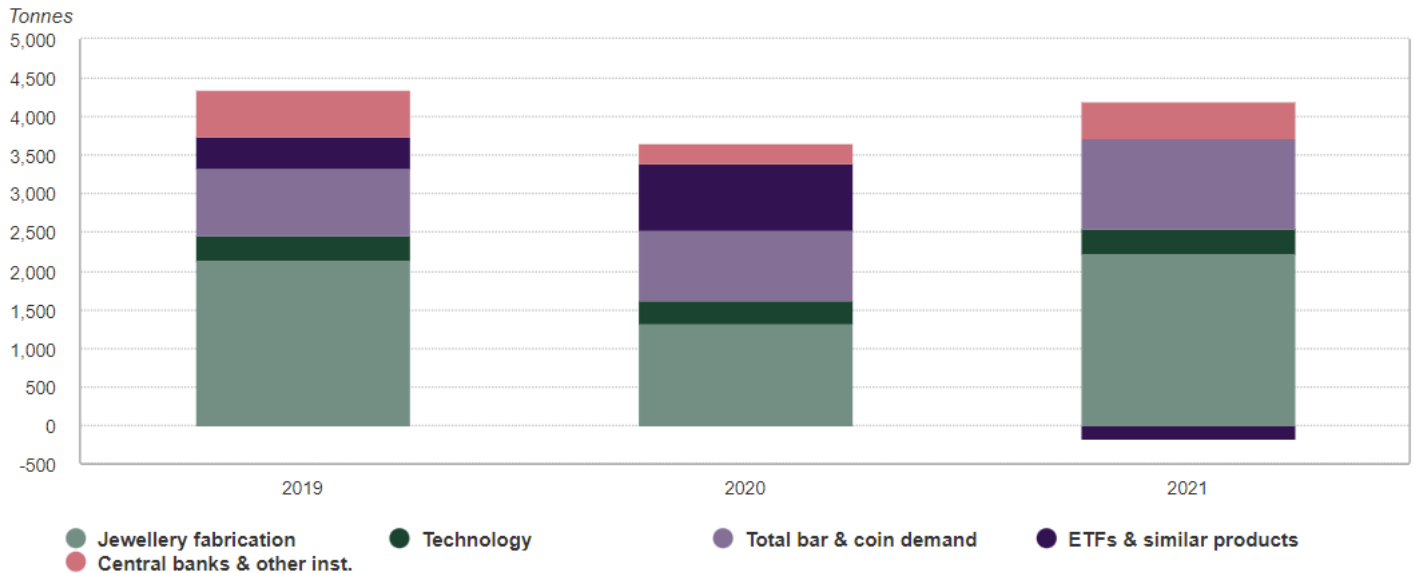
Bloomberg

“Metals Key For EVs Will Be Pricier For Longer After Record Year”

The Historical Relationship between Gold and Inflation.

There have been scores of written text highlighting the positive correlation between inflation and the gold price and recent activity in the gold market suggests that things will be no different this time around. According to the World Gold Council, spurred by a 50% jump in fourth quarter, 2021 gold demand increased to over 4,000 tons which is the highest level in more than two years.¹ In addition, 2021 gold bar and coin investment reached 1,180 tons, which is an eight-year high. Central banks buying of gold rose 82% year over year as they collectively accumulated over 460 tons in 2021. However, in U.S. dollar terms, the gold price declined by approximately 4% during the year and global holdings of gold ETFs fell by 173 tons.

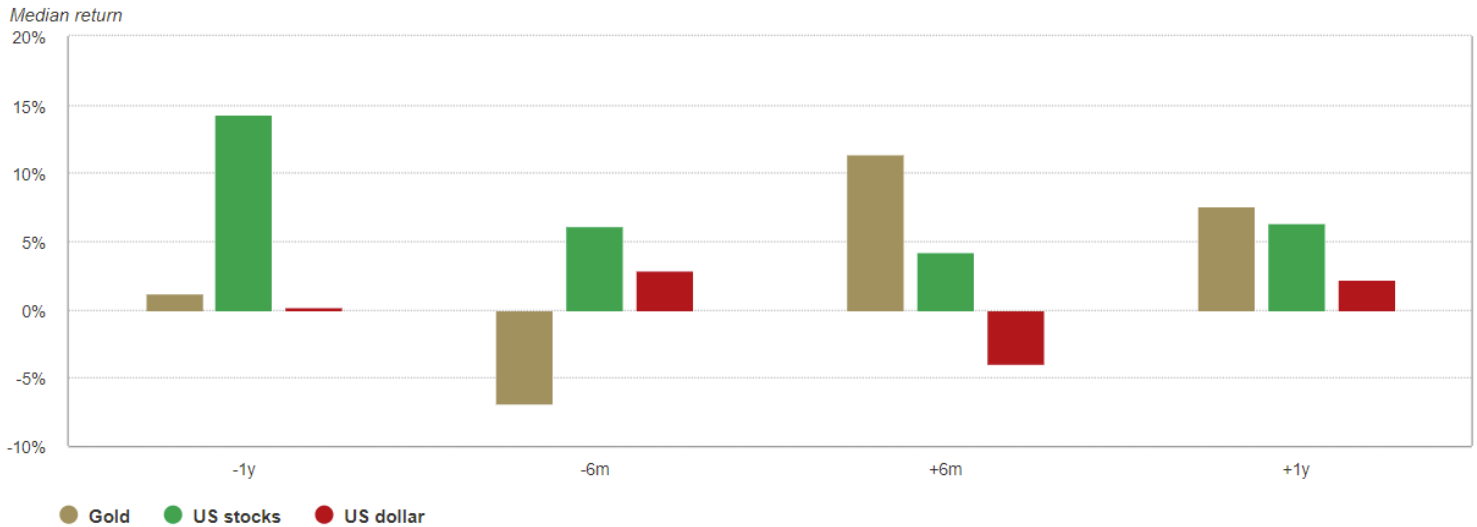
Global annual demand by sector*



Source: World Gold Council

Based on the past four tightening cycles starting in February 1994, gold tends to underperform during the one-year period prior to a Fed tightening cycle and then outperform the next six to twelve months thereafter. Intuitively this makes sense because even in the face of rising gold demand, in a low interest rate environment when an investment in equities is more attractive and the “risk on” trade is at the forefront of investor psyche, the gold price tends to lag. However, when we enter a tightening cycle and the U.S. Fed becomes more hawkish, gold tends to outperform equities as investors become more “defensive”.²

Gold has typically outperformed following the initial Rate Hike of a Fed tightening cycle



Source: World Gold Council

This bodes well for gold in 2022 as the market was discounting SEVEN, 25 basis point rate hikes this year including a 60% chance of a 50-basis point rate hike at the May 4th meeting.

According to the following charts, the implied Fed funds futures rate and the rate on swaps linked to the December meeting both imply that the effective funds rate will climb to 1.84-1.86% by year-end. Prior to the Fed raising rates 25 basis points on March 16th, the December rate was 178 basis points above the effective rate of 0.08% which is the equivalent of another seven 25 basis point increases! Simply stated, this suggests that from the March 16th policy meeting to the final meeting on December 14th, U.S. interest rates could go from effectively 0.08% to ~1.85%.

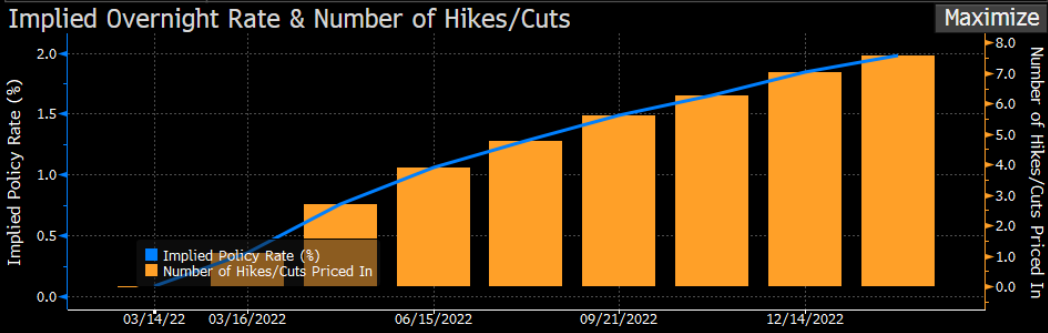
■ Enable Overrides

Region: United States » Instrument: Fed Funds Futures »

Target Rate 0.25 Pricing Date 03/14/2022

Effective Rate 0.08 Cur. Imp. O/N Rate 0.084

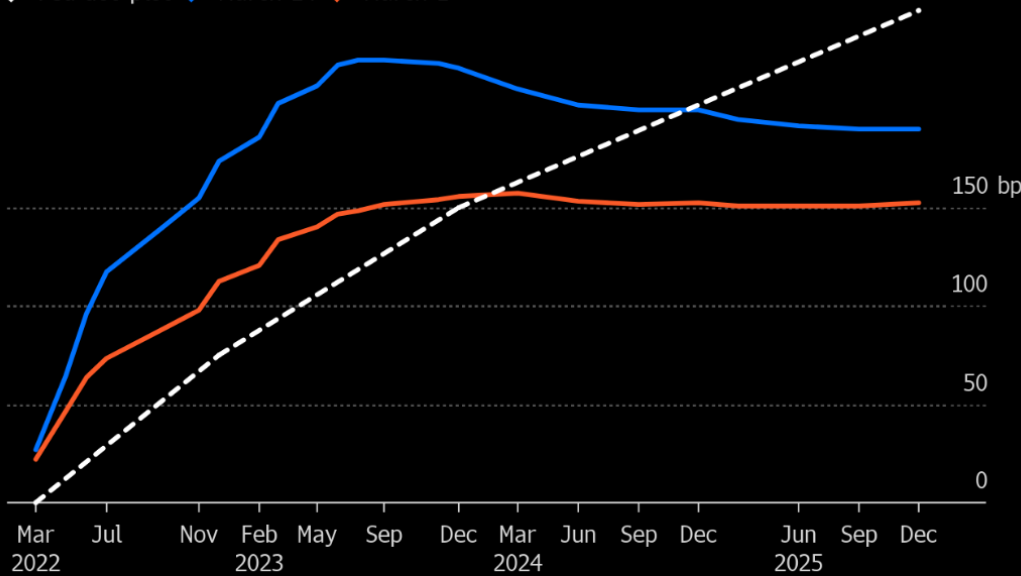
Meeting	#Hikes/Cuts	%Hike/Cut	Imp. Rate Δ	Implied Rate	A.R.M.
03/16/2022	+1.075	+107.5%	+0.269	0.353	0.250
05/04/2022	+2.683	+160.7%	+0.671	0.754	0.250
06/15/2022	+3.905	+122.3%	+0.976	1.060	0.250
07/27/2022	+4.755	+85.0%	+1.189	1.273	0.250
09/21/2022	+5.607	+85.2%	+1.402	1.485	0.250
11/02/2022	+6.276	+66.9%	+1.569	1.653	0.250
12/14/2022	+7.015	+73.9%	+1.754	1.838	0.250
02/01/2023	+7.575	+56.0%	+1.894	1.978	0.250



What's Priced In Now

Almost seven hikes for the year; 60% chance of 50bp May hike

/ Fed dot-plot
 — March 14
 — March 1



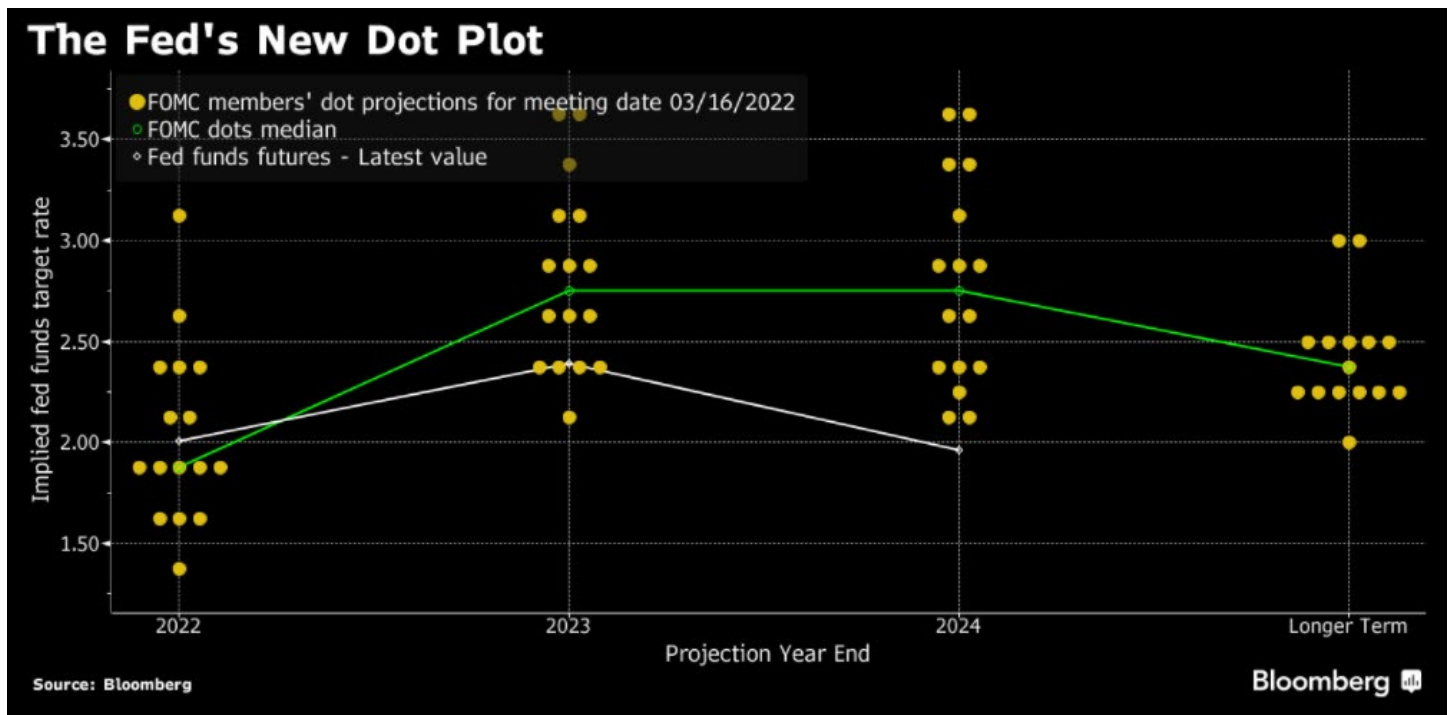
Bloomberg, CME
Change in Fed's interest-rate target implied by overnight index swaps and eurodollar futures

Bloomberg

Source: Bloomberg

In fact, as expected, the Fed did raise rates 25 basis points at the March 16th meeting

On March 16th the Fed raised rates by a quarter of a percentage point and signaled that they could hike rates at all six remaining meetings this year in an attempt to tackle rampant inflation. Led by Fed Chair Jerome Powell, policy makers voted 8-1 to lift their key rate to a target range of 0.25% to 0.5% for the first time in three years. The Fed’s “dot plot” now suggests that the median projection for the benchmark interest rate will be approximately 1.9% at the end of 2022 which is a little higher than previous expectations as noted above.



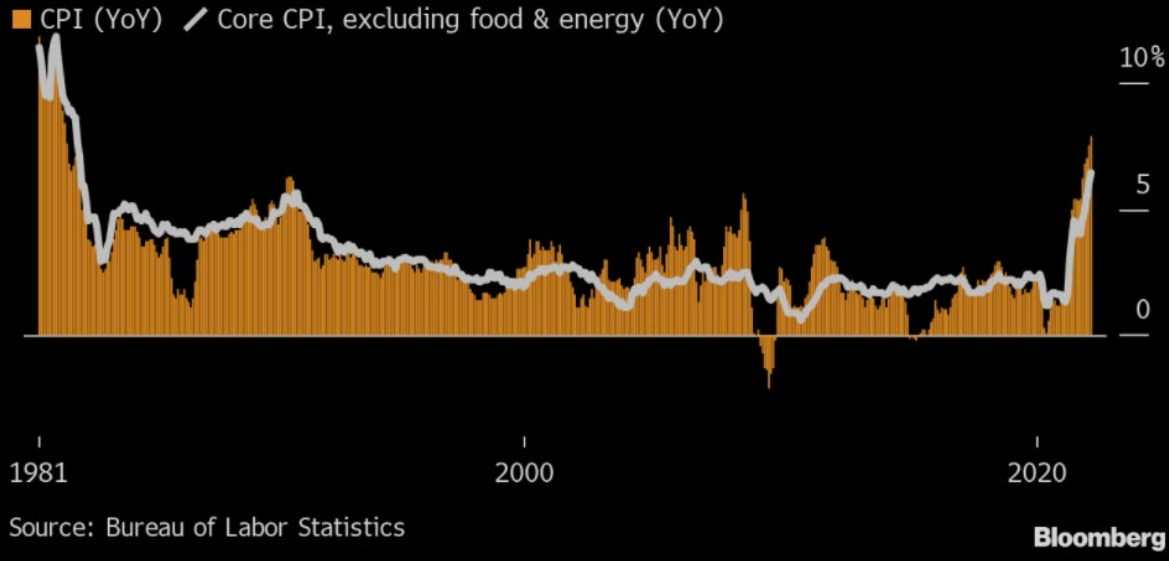
Source: Bloomberg

Again, historically inflation has been a “friend” to the gold price

The U.S. and many other nations, including Canada and the UK, have been fighting a spike in inflation that hit a 40-year high in early 2022. U.S. Consumer Price Index (CPI) reached 7.9% in February 2022 and has not been this high since January 1982 when it hit 8.4%. According to the World Gold Council, in years where inflation was higher than 3%, the gold price increased 14% on average. Moreover, “in the long-run gold has outpaced U.S. inflation and moved closer in pace to money supply which has significantly increased in recent years”.³ This clearly bodes well for the gold price and the value of gold equities going forward.

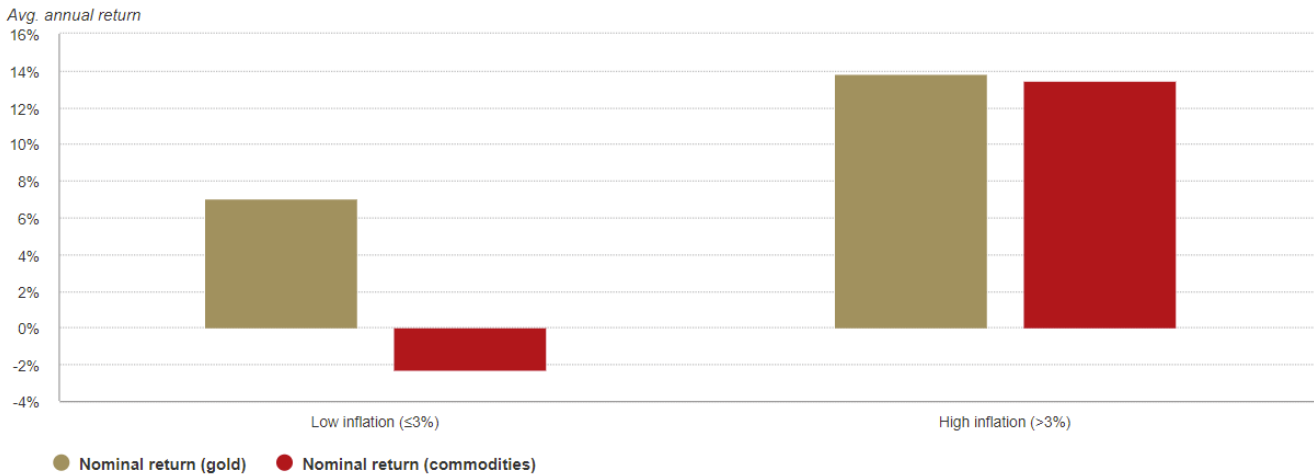
Getting Hotter

U.S. inflation accelerated to a 40-year high of 7.9% in February

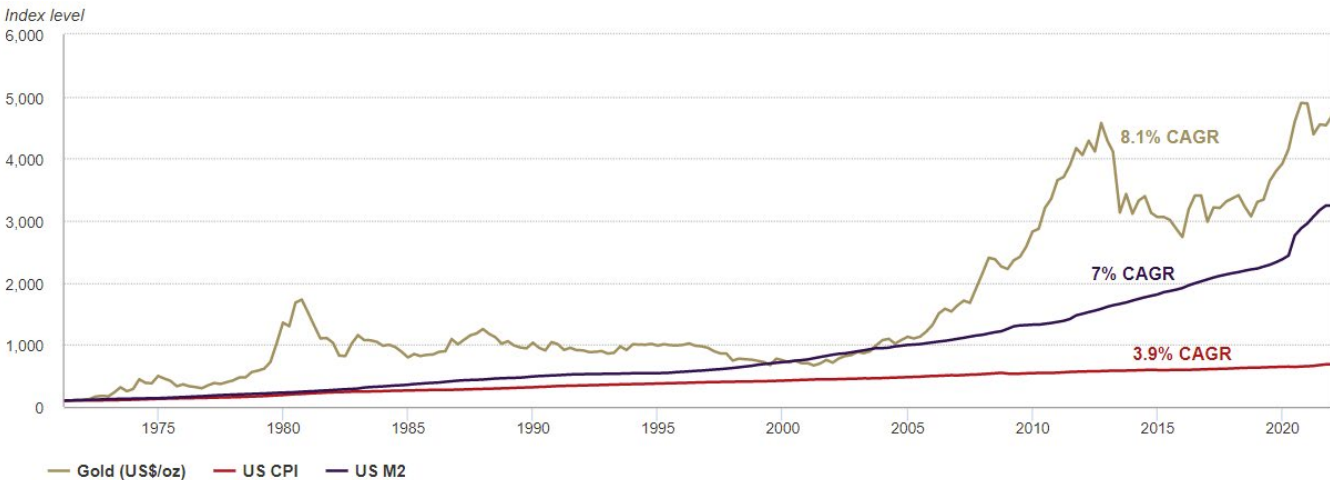


Source: Bloomberg

Historically Gold performs well in periods of high inflation



Gold has kept up with money supply growth.



Source: World Gold Council

The Ongoing Shift to a Greener Economy is Pushing Demand for Base Metals

The global decarbonization trend is another factor leading to strong metals demand, which could further lead to higher metal prices. As investments in fossil fuels continues to decrease, demand for industrial metals such as lithium, cobalt and graphite steadily grows as nations continue to build out their green infrastructures. According to the data, these metals have the most widespread green-energy applications and demand is projected to increase by more than 490%, 460% and 495%, respectively by 2050.⁴ While Brazil has cobalt exposure, its production is dwarfed by countries like the Democratic Republic of the Congo (DRC) that produce over 60% of the world's cobalt. Similarly, China produces nearly 70% of the world's natural graphite. However, things are very different when one considers Brazil's nickel and lithium production as both industrial metals are crucial to the green energy revolution.

The Case for Nickel and Lithium as Key Players in the “Green Energy Revolution”

“The nickel is worth more than a dime...At \$100,000 a ton, a nickel, composed of 25% nickel and 75% copper, is worth about 16 cents in metal, or “melt” value...”⁵ – Barron's

Nickel is one of the most abundant elements on earth and its widespread use started as early as the bronze age. This well-known metal has a high melting point, resists corrosion, resists oxidation, has catalytic properties and due to its ability to be deposited by electroplating, its most common use is in stainless steel (72%). Most individuals underappreciate nickel's role in sustainability as nickel's anti-corrosion properties in stainless steel significantly increases a product's useful life. Its other uses remain alloys (10%), plating (4%) and electric vehicle (EV) batteries (3%) and overall nickel consumption has been growing at a rate of about 4% per annum since 2010.⁶

There are two things worth noting when one contemplates the future for nickel. First, nickel is highly recyclable so it can be used repeatedly, making it a key part of a “circular economy”. It also has several key uses across the spectrum of green technologies including geothermal energy, batteries for EV and energy storage, wind, hydro, hydrogen and solar. In short, nickel is easily recyclable and is a key component in several key end markets that continue to “gather steam” as part of the current green revolution. Nickel is a key component for cathodes in lithium-ion batteries and given that the future of EVs currently looks bright, we can expect nickel prices to “go along for the ride”.

“The rapid rise of electric vehicles and growing importance of battery technology are likely to increase demand for higher purity nickel. Whilst EV's only represent a small share of the current nickel story, government policy and the strategic plans of well-known automotive players are driving the renewable automotive manufacturing, and in turn a small part of the energy industry forward, which will impact the nickel futures market.”⁷

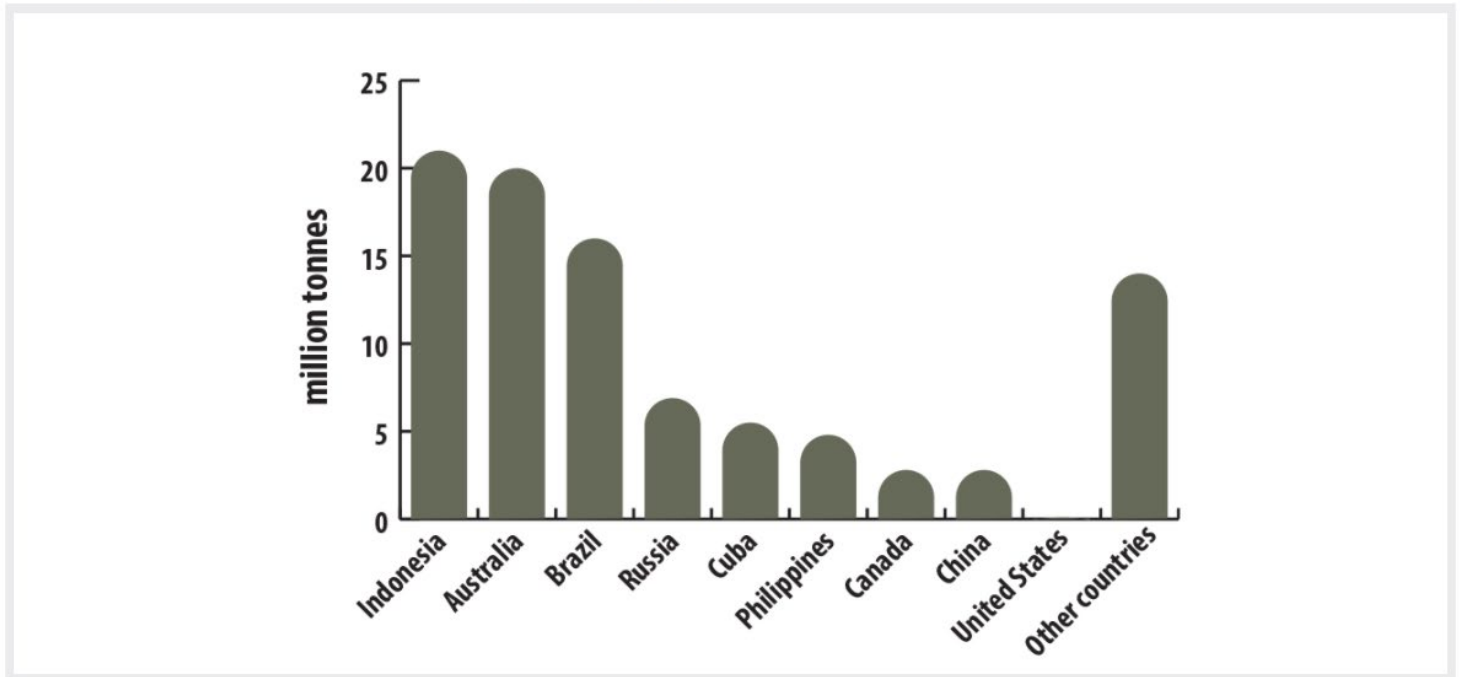
The London Metals Exchange (LME)

According to National Resources Canada, the U.S. Geological Survey estimates that global nickel production was 2.5 million tonnes in 2020. Indonesia was the largest producer at 760,000 tonnes, or 30.4% of global mined production while Canada ranked sixth, with 167,000 tonnes or 6.7% of the global total. Brazil ranked eighth with 73,000 tonnes or 2.9% of global output. In addition, the total world nickel reserves were estimated at 94 million tonnes in 2020.⁸

World mine production of nickel, by country, 2020 (p)

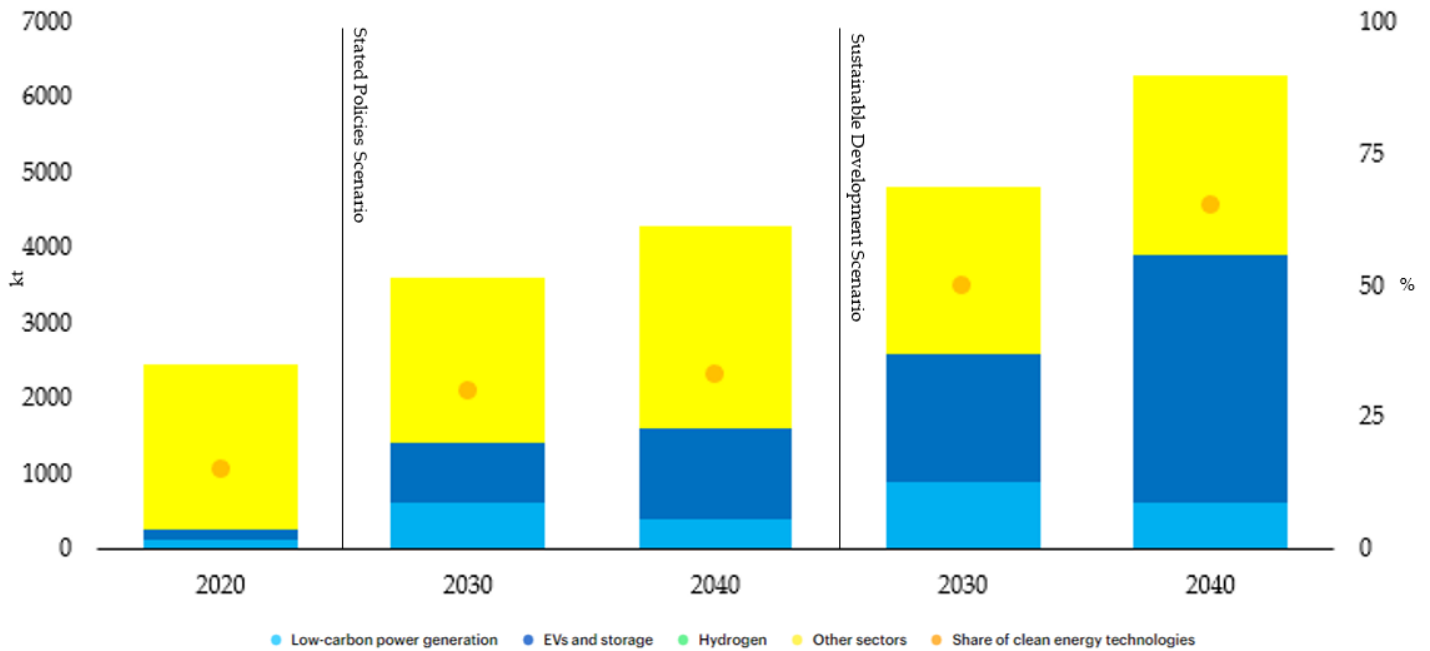
Ranking	Country	Thousand tonnes	Percentage of total
1	Indonesia	760	30.4%
2	Philippines	320	12.8%
3	Russia	280	11.2%
4	New Caledonia	200	8.0%
5	Australia	170	6.8%
6	Canada	167	6.7%
7	China	120	4.8%
8	Brazil	73	2.9%
9	Cuba	49	2.0%
-	Other countries	353	14.1%
Total		2,500	100.0%

World reserves of nickel, by country, 2020 (p)



Source: National Resources Canada

Nickel demand for clean energy technologies is currently small relative to total annual production but that is expected to dramatically change over the next 20 years. According to the International Energy Agency (IEA), nickel demand is expected to grow 4,000% over the next 20 years from 80 metric tons to 3,352 metric tons and the percentage of nickel demand from clean energy technologies is expected to grow from 8% to over 60% from 2020 to 2040.⁹



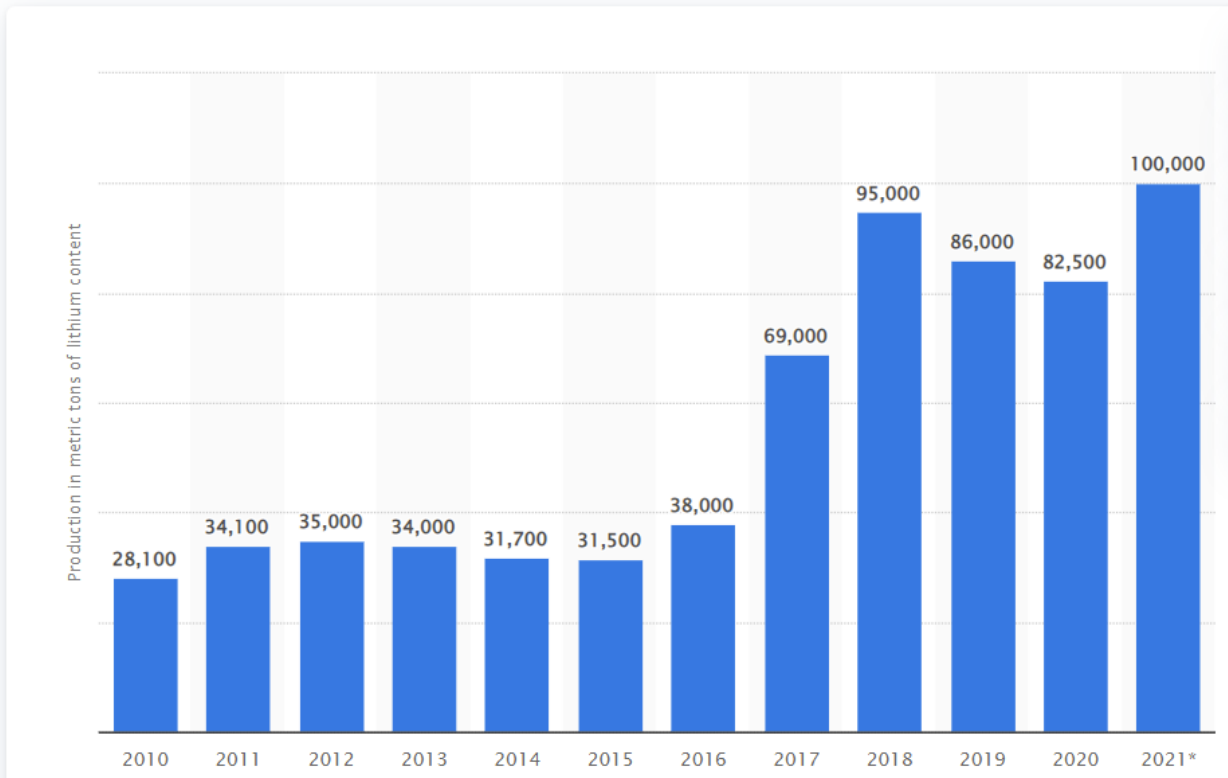
“Tesla will give you a giant contract for a long period of time if you mine nickel efficiently and in an environmentally sensitive way,” - Elon Musk

Lithium is NEEDED to achieve a worldwide goal of net zero emissions

Lithium, a silvery-white alkali metal, can be found all over the globe. However, due to its reactivity, it does not naturally occur in its elemental form. Lithium is found in minerals (pegmatites), salts (evaporites), clay deposits (hectorites) and seawater.¹⁰ Lithium is a highly reactive alkali metal that offers excellent heat and electrical conductivity. The most common end-use for lithium is in the production of lithium-ion batteries which are used in portable electronic devices such as mobile phones, tablets, notebooks, cameras, as well as electric bikes (e-bikes) and electric vehicles (EVs). According to Statista, Chile and Australia have the first and second largest lithium reserves in the world at 9.2 million metric tons and 5.7 million metric tons respectively, while lithium mine production globally reached an all-time high with 100,000 metric tons produced in 2021.¹¹ This is a dramatic increase from the 28,100 metric tons produced in 2010 and was led by Australia with 55,000 metric tons of production followed by Chile at 26,000 tons and China at 14,000 tons. Brazil was fifth on the list with 1,500 metric tons produced in 2021.

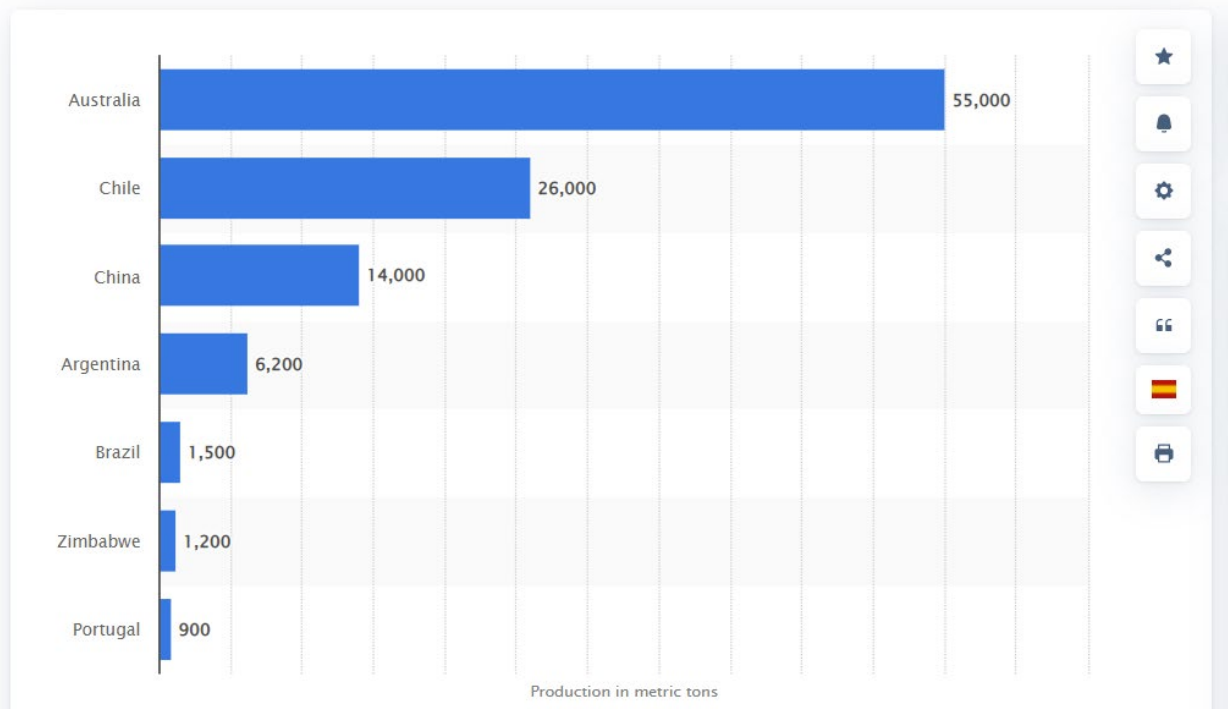
Lithium mine production worldwide from 2010 to 2021

(in metric tons of lithium content)



Major countries in worldwide lithium mine production in 2021

(in metric tons)



Source: Statista

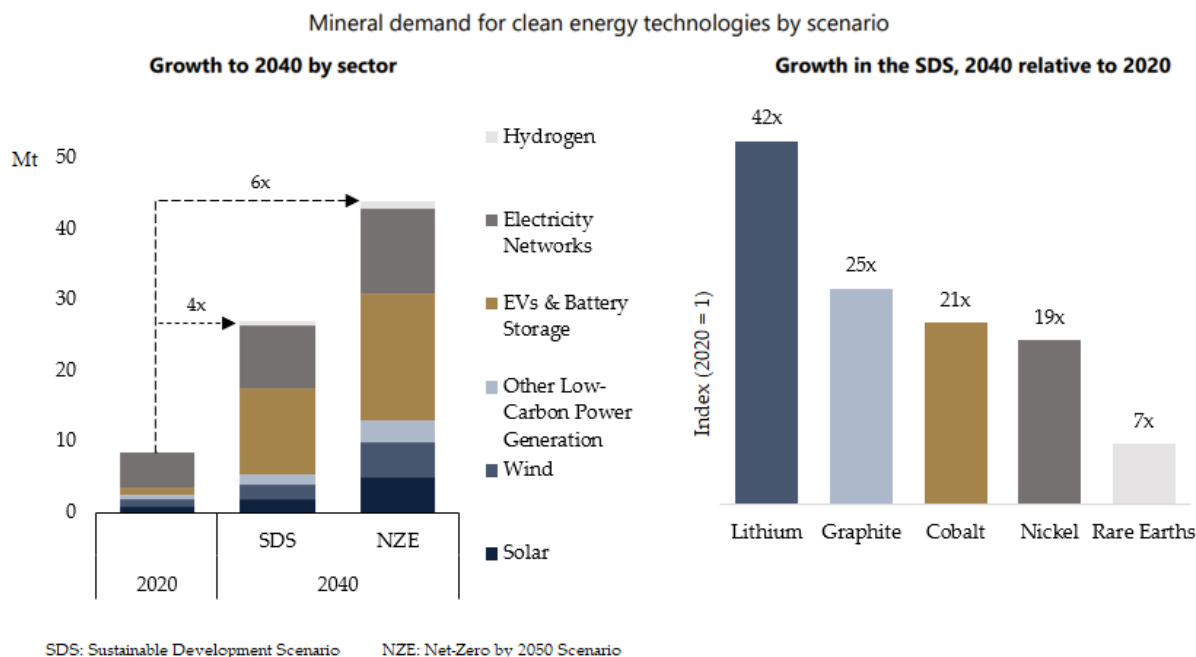
Once again, lithium does not occur in its elemental form so it needs to be extracted from its natural state and purified before it can be used in batteries. The two main sources of lithium include spodumene, a hard rock lithium-bearing mineral abundant in Australia, and lithium-rich brines that exist underground in aquifers below the Atacama Desert in Chile.¹²

Due to its high lithium content, spodumene ($\text{Li}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 4\text{SiO}_2$) is considered the most important lithium ore mineral with a theoretical Li_2O content of 8.03%.¹³ Lithium minerals can be separated by taking advantage of their physical, electrical, and magnetic properties through a range of separation techniques. Floatation is then used to generate high-grade spodumene concentrate (75-85% spodumene) which acts as the basis for lithium extraction.

Despite Chile’s status as the second largest lithium producer worldwide, its lithium-rich brines account for a significant portion of global lithium reserves. The high concentrate lithium brines are pumped from the underground aquifers, or salars, into solar evaporation ponds where heat extracts the water leaving the highly reactive alkali metal behind. Salar brines are very concentrated (on average 1,500 ppm) and, in addition to lithium, usually also contain large quantities of potassium and sodium as well. Once the brine in the evaporation pond has reached the target lithium concentration, the material is then pumped to a lithium recovery facility where, as part of a pretreatment step, it is filtered and/or purified before chemically treated, physically filtered again, and then treated with a reagent like sodium carbonate to form lithium carbonate as a final product.¹⁴

The IEA has stated that “Countries accounting for more than 70% of today’s global GDP and emissions have committed to net-zero emissions, implying a massive acceleration in clean energy deployment.” Clearly this is positive for lithium. An electric vehicle (EV) requires 6 times the mineral inputs of a conventional combustion engine vehicle and an offshore wind plant requires 13 times more mineral resources than a similarly sized gas-fired power plant.¹⁵ As such, this should accelerate demand for lithium and the IEA expects lithium demand to grow by more than 40 times by 2040!

Meeting climate goals will turbo-charge demand for minerals



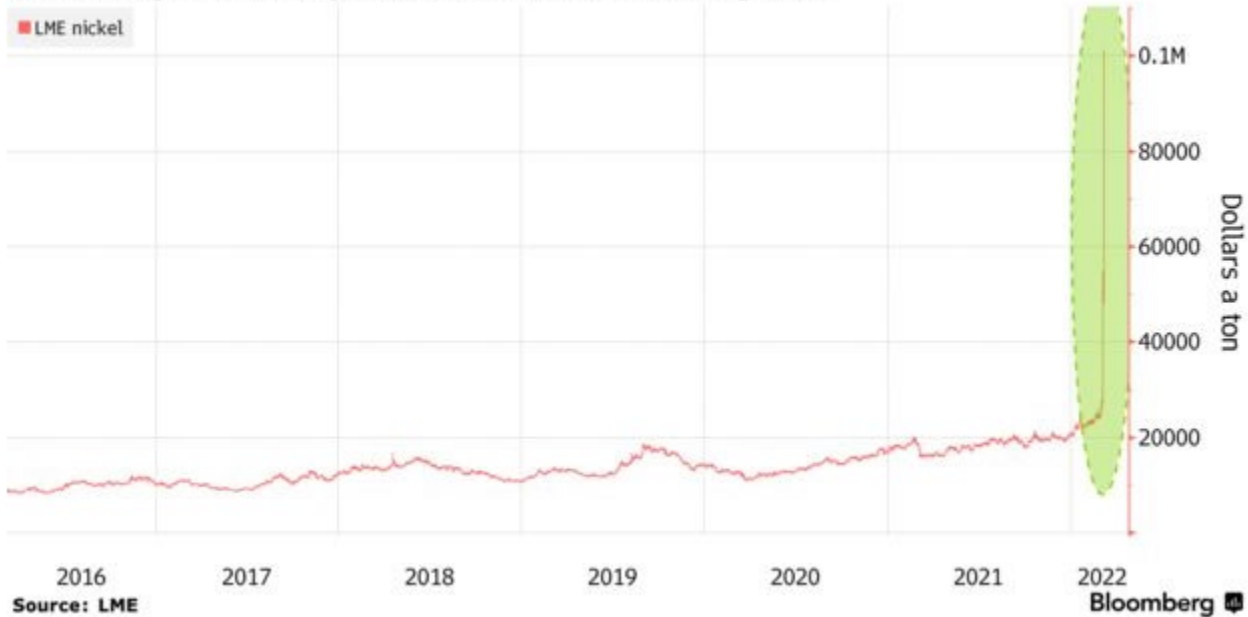
Source: IEA

Again, the “greening” global economy and energy transition is creating an almost insatiable demand for minerals like lithium and nickel, both of which are essential to “clean” technologies.

Political Unrest is “Roiling” the markets

Political unrest is another major factor currently roiling the metal markets. Post Russia’s invasion of the Ukraine, market participants were left scrambling to determine whether, in addition to oil, other commodities like platinum, palladium, nickel, copper and iron would be in short supply. With Palladium prices up almost 80% from mid-December to US\$2,700/oz, falling inventories and a resulting short squeeze on commodities like nickel has put even more upward pressure on metal prices. Back in January, nickel prices broke above \$24,000/ton for the first time since 2011; however, on March 8th the LME suspended trading in its nickel market after the 3-month nickel price surged to an unprecedented \$101,365/ton!

Unprecedented Nickel surges to \$100,000/ton in historic short squeeze



Source: Bloomberg.com

“Nickel surged as much as 111% during the trading day in Asia, according to data from Bloomberg, and traded briefly above \$100,000 a ton. The move was the largest ever on the LME, Bloomberg reported. Nickel was at \$80,000 a ton when the suspension was made.” -

Financial Times

However, even with all these other factors at play, fundamentally a persistent inflationary environment, coupled with a drive for a greener world, is expected to fuel the metals markets going forward. This is clearly positive for major minerals like nickel and lithium which are expected to be two main growth drivers for the mining industry in Brazil.

Mining in Brazil

We all know Brazil as one of the most mineral rich and prolific mining jurisdictions globally. Brazil is the world's eighth largest economy, and it typically ranks as one of the top ten global producers of iron ore, lithium, tin, and nickel as well as one of the top producers of copper, zinc, gold, and bauxite. This production has been dominated by iron ore, gold and copper which historically has accounted for over 90% of Brazil's metal export revenue. Along with this rich history of mining, we also see Brazil as one of the premier regions for mining growth and investment. A recent survey by the Brazilian Mining Institute ("IBRAM") stated that companies in Brazil's mining sector are likely to invest ~US\$36.5 billion by 2024, demonstrating that Brazil is in fact an emerging region for mining growth and investment.

Brazil's World Ranking and Market Share by Metal Production

Metal	World Ranking	Market Share (%)
Iron Ore	2	16.6%
Lithium	6	1.3%
Tin	6	5.1%
Nickel	8	2.1%
Copper	13	1.8%
Zinc	13	1.2%
Gold	13	2.7%
Aluminium	14	1.0%
Silver	26	0.2%
Lead	38	0.1%

- Production of metallic minerals dominated Brazil's mining sector:
- In 2021, Iron ore accounted for 74% of the sector's global revenue (an increase of 8% compared to 2020), followed by gold (8%) and copper (5%)
- Global Brazilian exports rose 34%, whereas mineral exports grew 59% (US\$58B from US\$36.5B in 2020)
- Brazil exported over 350Mt of iron ore compared to ~340Mt in 2020
- Iron ore, gold and copper accounted for ~91% of Brazil's exports in dollars
- The main destinations for Brazilian iron ore exports were China (68%), Malaysia (6.4%) and Japan (3.6%)

Mining continues to be a key cog in the growth engine driving the Brazilian economy: Mineral mining production reached US\$41 billion in 2020 and has created over 170,000 direct jobs.¹⁶ Over the years the mining sector has been essential in the growth of the local economy, especially in the states of Pará and Minas Gerais.

It bears repeating that Brazil is one of the five largest mineral producers in the world, with 7,000+ mining companies operating over 3,000 mines. Brazil has the second largest iron reserve, the fourth largest bauxite reserve and the seventh largest gold reserve in the world. The greatest level of mining activity is typically observed in the states of Pará, Minas Gerais, and Bahia and with respect to size, micro and small cap companies make up ~88% of the mining companies in Brazil.

Gold in Brazil: According to Trading Economics, gold reserves in Brazil remained unchanged at 129.65 tonnes in 2021. Brazilian gold production was reported to be approximately 80,000 kg or 2.824 million ounces in 2021 and Minas Gerais was the largest gold producing state in the country, accounting for around 34 percent of the gold output.¹⁷

Nickel in Brazil: With 16 million tonnes, Brazil has the third largest nickel reserves globally after Indonesia and Australia.¹⁸ In 2018, the Brazilian state of Goiás had the largest nickel production in the country with 42.3 thousand metric tons of metal produced, representing nearly two thirds of the country's nickel production that year. This was followed by Pará state which produced 22.94 thousand metric tons.¹⁹

Lithium in Brazil: Although Brazil has large lithium pegmatite reserves, in 2021 Brazil produced 1,500 metric tons of lithium which is a slight 5.5% increase from the 1,420 produced in 2020 but a dramatic increase from the 300 metric tons produced in 2018.²⁰

Brazil is currently positioned as one of the premier mining growth regions globally with a relatively favourable political and taxation backdrop, a substantial inflow of foreign investment, a rich history of mining, a highly skilled local labour force, and relatively underexplored mineral potential.

Latin America's Top Mining Jurisdictions



Source: the Fraser Institute

The Fraser Institute outlines key metrics when determining optimal mining jurisdictions and Brazil continuously ranks as one of Latin America's top mining regions based on these metrics. With less than 5% of the national territory historically mapped, Brazil's true mineral potential has yet to be discovered.

The Political Climate is Supportive, so the Future is Bright for Mining in Brazil

On March 7th, 2022, in conjunction with the Brazilian Canadian Chamber of Commerce (BCCC), The Toronto Stock Exchange and TSX-Ventures, and Adelaide Capital, INFOR Financial co-hosted the 2nd Brazil-Canada Virtual Mining Conference. One of the guest speakers was Pedro Paulo Dias Mesquita, Secretary of Geology, Mining and Mineral Transformation at the Brazilian Ministry of Mines and Energy.

Pedro Paulo was very positive on the outlook for mining in Brazil and noted that mining production in 2021 reached US\$6.5 billion with 7% growth in production volume across the sector. He also noted a 10% increase in mining jobs and net mining exports reached US\$49 billion.

Pedro Paulo was also very deliberate in saying that ***“Brazil is a stable, pro-investment democracy that understands the needs of Brazilian investors.”*** Their country has a long history in mining which provides them with a good base of mining workers and regulatory stability making Brazil one of the best places for mining investment. Moreover, his government is targeting US\$41 billion of mining investment in 2025.

The mining sector has benefitted from regulatory change in the country. Since 2018, there have been regulatory changes that have created more transparency in the mining sector. For example, with the digitization of the mining license application process they can now grant license approval in only 30 days. In addition, one of the more important regulatory events was the Brazilian federal government’s changes to the country’s mining legislation to allow exploitation permits and mineral rights to be used as collateral for reserve-based lending and other forms of financing.²¹ Another important change came earlier this year when Brazil’s mining regulator (ANM) approved rules to create a single system for the registry of mineral resources and reserves which brings it more in-line with international standards. According to Pedro Paulo, by adopting 43-101 standards for mineral reporting this provides the necessary level of trust for investors in Brazil.

Brazilian mining authorities have learned from the past and look forward to an increasing focus on ESG. Sadly, on January 25, 2019, Vale’s Dam I, a tailings dam at the Córrego do Feijão iron ore mine, 9 kilometres east of Brumadinho, Minas Gerais, Brazil, suffered a catastrophic failure. Known as “the Brumadinho dam disaster” the dam released a mudflow that advanced through the mine’s offices, including a cafeteria during lunchtime, along with houses, farms, inns, and roads downstream reportedly killing 270 people.²² Since that event the Brazilian federal government and the ANM has enacted several acts and regulations on dams and tailings facilities including: the prohibition of upstream tailings dams, the prohibition of the existence of installations, works, services, facilities and dams in the Self-saving Areas (SSAs) of mining dams, the decommissioning of all upstream mining dams, performance of reinforcement works before the de-characterization of the dam, the installation of an automated siren system in the SSA and the imposition of more restrictive procedures based on the opinion of an external auditor.²³ In addition to these new regulations, there have been several more ordinances put forward to govern mining activities that affect the environment, public health and safety, as well as labour rights.

These regulatory changes, along with the fact that approximately 85% of the electricity generation in Brazil comes from a renewable source, paints a bright future for Environmental, Social and Governance (ESG) issues as it pertains to mining. As part of their ESG initiatives, the Brazilian state-run development bank, BNDES, approved their first financing deal under its special ESG credit program this February. This special credit program is targeted for projects and companies aligned with ESG practices and include mechanisms that offer reduced interest rates. For example, a 1 billion REAL credit line would bear an interest rate of 1.7% per annum (plus TLP) with a potential reduction of up to 0.4% to 1.3% (plus TLP) if the company complies with improvements to certain socio-environmental indicators.²⁴ Moreover, Banco Santander Brasil, Bradesco, and other major private sector banks in Brazil have already announced initiatives to allocate a large portion of their future loan portfolios to finance projects and companies that adhere to positive ESG criteria.

Last October, a collaborative network called **Invest Mining** (investmining.com.br) was launched. According to the website, **Invest Mining** *“is a network of focal points, formed by representatives of public bodies and institutions and private entities, which aims to promote conditions that favor the financing of mining in Brazil, contributing to expand and diversify mineral production and enable the performance of a greater number of companies in the sector, from the promotion of a culture of investment in mining and fundraising in the capital market.”* According to Pedro Paul, this entity brings together all of the operators in Brazil including mining entities, bankers, public institutions and regulators, in order to create a place for an exchange of experience that is positive and proactive for mining in Brazil. Through a constant dialogue with operators, investors, capital providers and the government, the goal is to propose regulatory improvements, provide standards of governance and sustainability which will then minimize financial risks, improve the financing environment in Brazil, and encourage mining investment in the country.

As an investor, there is a compelling case for mining investment in Brazil. When you account for the rich mining history of the country, increased demand for gold and precious metals in the current inflationary environment, further lithium and nickel demand driven by the “greening” of the global economy, a supportive government, and the upside in both undiscovered resource potential as well as mineral production growth, Brazil has a very bright future.

Where Do We See Upside in the Brazilian Junior Mining Space?

ValOre Metals (VO-TSXV, \$94M Market Cap) has a portfolio of Precious Metals plus Gold assets in the Pedra Branca PGE project in Brazil.

The Company's flagship asset is the Pedra Branca PGE project in Brazil which has a land package that covers close to 56,000 hectares with a 2019 NI 43-101 inferred resource of over 1 million ounces of platinum, palladium plus gold (2PGE+Au) at grades of 1.22 g/t. This has been the focus of the company over the last few years and their 52 exploration licenses cover 60 km of PGE belt. There has been over 30 km of drilling in 5 resource areas and, including Anglo's presence from 2003-2014, over US\$35 million spent on historical exploration. These 5 PGE deposit areas include Santo Amaro, Curiu, Cedro, Esbarro and Trapia, are all at surface and have significant expansion potential. ValOre spent C\$4.4 million on over 16,000m in exploration drilling in 2020/2021 and the company expects to release a recalculated and re-estimated resource based on this drilling program. This new resource estimate is expected in Q1 2022. The company also recently announced that testing on ores from Pedra Branca showed high grade recoveries of 82.9% of platinum, 71% of palladium and 85.2% of gold from an unweathered sample. **ValOre also owns the Angilak uranium project in Nunavut Territory which includes close to 50,000 hectares of land prospective for uranium, precious metals, and base metals.** Angilak hosts the 3 x 15 km "Lac 50 Trend" which is Canada's highest-grade uranium resources outside of Athabasca and one of the highest-grade uranium resources globally. Angilak has a 2013 NI 43-101 inferred resource of 2,831,000 tonnes grading 0.69% U₃O₈ for total contained U₃O₈ of 43.3 million pounds. Over C\$85 million has been spent on resource delineation, logistics, metallurgy, and asset exploration at the project with more than C\$55 million spent by ValOre since they acquired the property. ValOre Metals currently has over 20% insider ownership and is part of the Discovery group which is an alliance of 9 publicly traded companies including BlueStone Resources (BSR-TSXV), Ethos Gold Corp (ECC-TSXV), Elemental Royalties (ELE-TSXV), Fireweed Zinc (FWZ-TSXV), Genesis Metals (GIS-TSXV), Great Bear Resources (GBR-TSXV), Great Bear Royalties (GBRR-TSXV), K2 Gold (KTO-TSXV) and Kodiak Copper (KDK-TSXV). *The updated 43-101 resource will include ValOre's recent 16,000m drill program so we would anticipate significant resource expansion at Pedra Branca once the announcement is made in the first quarter of 2022.*

G Mining Ventures (GMIN – TSXV, \$237M Market Cap) owns the high quality Tocantinzinho (TZ) gold asset and is "on track" to build the 3rd largest gold mine in Brazil.

In August 2021 G Mining announced the acquisition of TZ from Eldorado Gold (ELD) for total consideration of \$115 million. Post the closing of the transaction in October 2021, Eldorado Gold is now a 19.9% shareholder and strategic partner to G Mining. The TZ project is located in the Para state in Brazil and initial capex is expected to be \$458 million to build the mine. With the TZ acquisition, G Mining now has an asset with over 2.0 million ounces of reserves at 1.31 g/t, and 6 installation licenses which puts the project on a "clear path to construction". A recently updated 43-101 Feasibility study suggests an After Tax NPV of \$622 million, an IRR of 24% and payback period of 3.2 years assuming average production of 175,000 oz pa and AISC of \$681/oz. This translates into a 10.5-year mine life with total production of over 1.8 million ounces life of mine (LOM) and, assuming a US\$1,600/oz base-case gold price, peak annual free cash flow of ~\$100 million. The TZ project also qualifies for tax incentives that provide a 75% reduction to corporate income taxes and a 1.5% government royalty rate on gold production. Management expects to generate close to 200,000 ounces per year for the first 5 years of production which would make TZ the third largest gold mine in Brazil. With the TZ acquisition G Mining also inherited a 688 km² land package with less than 5% of this area drill tested. With US\$58 million in cash on the balance sheet, the company is fully funded to a construction decision which is expected in the second half of 2022 and assuming a two-year build, commercial production expected in the third quarter of 2024. According to Company estimates, G Mining is currently trading at only at 0.23x P/NAV versus the peer group average of 0.46x and trading at an EV/Resource metric of only \$48/oz versus the peer group average of \$71/oz. *In summary, there are very few projects globally with less than US\$500M in initial capex, and over 150,000 oz/year of gold production not already owned by a major gold company.*

TriStar Gold (TSG-TSXV, \$46M Market Cap) owns the Castelo de Sonhos property in Para

Brazil. The Castelo de Sonhos project covers over a 17,000-hectare property that is close to existing infrastructure. The paleo-placer gold deposit is 100% controlled with mineralization close to surface and analogous to producing mines Tarkwa in Ghana and Jacobina in Brazil. This asset suggests a straightforward, open-pit, mining operation that is environmentally clean with no sulfides, simple metallurgy and 98% gold recoveries. The current mineral reserves of 1.4 million ounces at a grade of ~1.1 g/t are primarily contained in the higher grade Esperança South deposit. According to a prefeasibility study (PFS) funded by Royal Gold, assuming initial capex of \$261 million, annual production of 121,000 oz/year (146,000 oz/year in Phase 1 and 92,000 oz/year in Phase 2), AISC of \$900/oz and a \$1,550/oz base case gold price, the project has an After Tax NPV of US\$321 million and an IRR of 28%. This suggests 1.3 million ounces of gold production over an 11-year mine life and a 3-year payback period. There is significant upside as the mineralization is open along strike and at depth. As such, the resource has already grown by 8x and is still growing. The permitting process is underway with Terms of Reference (ToR) request needed for the Environmental Impact Assessment (EIA) approval already granted. The Company is expecting to complete the EIA and submit with application for Prior License (LP) in Q2 2022 and estimates that the LP will be granted in Q2 2023. *With the application of the Prior License a “go” as early as the second quarter, 2022 could be a big year for TriStar as they advance the Castelo de Sonhos gold project.*

Sigma Lithium Corp (SGML-TSXV, \$1.94B Market Cap) is building the largest sustainable mine and lithium concentration project in the Americas with the lowest carbon footprint in the industry.

Sigma Lithium is a Canadian corporation with mine and a lithium concentration plant in Minas Gerais which is a traditional mining jurisdiction in Southeastern Brazil. Historically this is one of the most developed states in Brazil given all of the mining resources that have already come out of the area so there is good infrastructure including shipping (Ilhéus Port), transmission lines, hydro power, existing highways to port, and a water license for a river at the property. Sigma Lithium is on track to build the largest mine and lithium concentration project in the Americas that supplies “value added” lithium product. Sigma has utilized existing technology and adapted it through a 6-stage process where they separate, concentrate, and purify spodumene ore to make it battery grade material. This results in high-purity, green and sustainable lithium concentrate which enables certified lithium hydroxide which lowers cost of lithium chemicals for EVs batteries by 20-30%. The company is signing commercial take or pay contracts and Sigma has a unique direct offtake with LG-Energy Solutions, a \$70 billion spinout of LG Group and the largest battery supplier in the market. Based on the Company’s Feasibility Study Report, Sigma plans to produce 240,000 tonnes battery grade lithium concentrate or 33,000 tonnes of lithium carbonate equivalent (LCE) in Phase 1 of production and expects to be amongst the world’s second lowest-cost producer at ~US\$340-360/tonne. This would make Sigma the fifth largest LCE producer in the world. In Phase 2, another 220,000 tons of production would take total production to 440,000 tonnes or 66,000 tonnes of LCE annually which would make Sigma the third largest global producer after Albermarle and SQM. The Company expects to commission the facility by the end of 2022 and with US\$121M in cash versus total capex of US\$113M they are fully funded to complete the first phase of the project. *Sigma intends to establish a new standard in ESG mining with a process that converts spodumene to lithium concentrate with no hazardous chemicals, utilizes 100% green hydro power at the plant, 100% recirculated water, 100% dry stacked tailings, create over 500 direct jobs, with a diverse board and management team and a “Net Zero” compliance target for 2024.*

4B Mining Participações Ltda. (private) is a privately held mining company created to consolidate iron ore and manganese assets in Brazil.

In November 2021, 4B Mining announced that it had acquired 51% ownership and operational control of MPP which owns the Corumba iron ore and manganese (Mn) project in Mato Grosso do Sul Brazil. The Company intends to be a high-grade green iron ore lump producer (Direct Shipping Ore DSO, +65Fe%) while conducting further exploration to delineate a high-grade, high-quality/low impurity manganese deposit which is located in an area that was previously mined for manganese in the past. Corumba is a past iron ore producer and the project is shovel ready, fully licensed, with no drilling, no blasting and fully funded to production. There is also great infrastructure in place with respect to logistics, power, roads, housing, and labour. There is a trial mining license in place for 300K tpy, renewable up to 600K tpy, and there is an environmental license in place for a 1.2M tpy operation in the second year, upon approval of the final Fe mining concession, which can then ramp to 2.1M tpy in the third year. There is an ongoing pilot test on green lump iron ore production and the first shipment of ore expected by the end of May with first cash flow anticipated in Q2 2022. There is a 5-year offtake with Glencore in place

for 100% Fe production. There is also potential organic growth from their manganese deposit. The asset has high grade premium Mn of over 42% Mn which is potential battery grade. Vale did some in situ ore analysis of 48-53% grades with low impurities and there is potential production of 3.5M tons of Mn. *Upcoming Catalysts include iron ore production in mid-March (2200 tpd) with 1st lump shipment and cash flow in May 2022. The other key catalyst is the 43-101 report and the PFS for the iron ore and the PEA for the manganese opportunity. The groundwork will be done for both of those over the next 60 days.*

Fides Mining (private) is a private mining company developing both gold and base metal assets in Brazil. The Company's main asset, Mina União, has been in production since 2017.

Fides has more than 55,000 hectares of mining rights in the state of Mato Grosso, a region considered one of the most promising in the world for mineral deposits. Large mining entities like Anglo American (3.9 million hectares), Nexa Resources (2.2 million hectares) and Codelco (1.9 million hectares) are also present and active in the region. Fides owns 100% of their three main assets Peteca Gold, Mina União, and Jaca Copper which are further organized under three divisions: Fides Gold (Mina União, Peteca Project), Fides Base Metals (Jaca Copper project) and Fides Exploration (regional exploration in Apiacas, Santo Adrea and Jurueña). These three main assets are located less than 100 Km away from each other. All management teams are on site and living in the region. Mina União produced 14,000 oz/year and is expected to produce 60,000 oz/year post expansion. A 2022 independent review yielded a 541,000 oz resource only on the sulfides (324,000 oz M&I plus 217,000 oz inferred). A 32,000m drilling campaign is targeting to add 500-800,000 oz of minable resources to União for a total of 1.5 million ounces (approximately 50% M&I). The Aline orebody has been drilled to 50m depth and they need to drill 150-180m depth. Expansion and the CIL plant would take throughput to 700,000 tpy and add production of 40,000 oz/year at AISC of \$1,100/oz. The Peteca Gold project is a high grade, narrow vein underground project. Peteca has underground resources of 1.5 million oz Au along a 4 km long mineralized trend. Peteca has an existing ~200,000 oz resource (24,000 M&I, 174,000 Inferred) at 23.55 g/t at Flor de Serra. A 20,000 m diamond drilling campaign contemplated for the year. The Jaca Copper project is a cluster of porphyry deposits in a geological arc. Anglo drilled 20 exploratory holes (13,000m) in the cluster but only 6 inside the main mineralized zone. Anglo's internal estimate was 300M tons at 0.6-0.8% Copper. *Fides offers investors a private company looking to increase its current gold production to 60,000 oz/year post expansion which will help fund its development assets in the Peteca Gold and Jaca Copper projects.*

Pilar Gold (private) is a Brazilian focused gold producer with flagship assets in Goiás Brazil.

The Company acquired the Pilar gold assets (Pilar de Goiás Desenvolvimento Mineral S.A. or PDGM) in April 2021 from Equinox Gold Corp (EQX-TSX) for US\$38 million in cash plus 11.4 million shares and a 1% production royalty. The acquisition included 3 underground mines, 2 in production and an open pit development project, a 4,000 tpd modern processing facility along with infrastructure and over 40,000 oz/year of gold production. Equinox Gold Corp also acquired a 9.9% equity interest in Pilar Gold as part of the transaction. Overall, Pilar/PDGM is a young mine that is open in every direction with a potentially long mine-life. Pilar/PDGM has a sizable resource base of 3.94 million oz of contained gold. Pilar has already updated the resource from ~3 million to ~4 million oz gold and with three drill programs currently ongoing, this resource should continue to grow. There has been 8,000 m of drilling completed since acquisition with 30,000 m drilling planned at PDGM, Maria Lazara Mine, Sertao, Cascavel and Livramento in 2022. The Company completed the amalgamation with Faina Gold which brought in assets that are in close proximity to Pilar/PDGM. They also acquired Pocone gold from Valterra for 4 million Pilar shares and also bought Bodó Tungsten in January 2022. For the remainder of the year Pilar has targeted an increase to monthly exit gold production from 3,800 oz currently to 6,000 oz by Q4 2022, a reduction in AISC to < US\$1,100 per ounce, the completion of a public listing by Q3 2022, and the commissioning of Bodó Tungsten by the end of 2022. *Right now, the grades are about 1 g/t and with high grade assets like Caiamar (3.0-3.3 g/t) the growth strategy is to increase grades over time. Also, according to management, at a recent financing price of C\$0.70/share Pilar is currently trading at an EV/Resource metric of US\$33/oz Au which is the cheapest of its peer group which includes Jaguar Mining (JAG-TSX), Aura Minerals (ORA-TSX), Amarillo Gold (AGC-TSXV), Equinox Gold (EQX-TSX), Great Panther Mining (GPR-TSX) and Serabi Gold (SBI-TSX).*

**Source: 2nd Brazil-Canada Virtual Mining Conference Company Presentations, Company Reports.*

Company Highlights

- ValOre Metals (“VO” or “the Company”) is focused on its Pedra Branca PGE project in Brazil. Pedra Branca, has a 2019 NI 43-101 inferred resource of over 1 million ounces of platinum, palladium plus gold (2PGE+Au) at grades of 1.22 g/t.
 - **A Large land package:** ValOre’s Pedra Branca project includes a 56,000-hectare land package with 52 exploration licenses that cover 60 km of the PGE belt.
 - **Historical Exploration:** There has been over 30 km of drilling in 5 resource areas and, including Anglo’s presence from 2003-2014, over US\$35M spent on historical exploration.
 - **Recent Drilling program:** ValOre spent C\$4.4M on 16,000m+ in exploration drilling in 2020/2021 and the Company expects to release a recalculated and re-estimated resource based on this program.
- ValOre also owns the Angilak uranium project in Nunavut Territory which has an existing high grade uranium resource and includes close to 50,000 hectares of land prospective for uranium, precious metals, and base metals.

Investment Highlights

1

Pedra Branca is a unique PGE opportunity in Brazil.

- The project has 5 PGE deposit areas including Santo Amaro, Curiu, Cedro, Esbarro and Tapia, which are all at surface and have significant expansion potential.
- Recent testing showed high grade recoveries of platinum, palladium and gold from an unweathered sample.
- Based on the recent C\$4.4 million exploration drilling program the Company expects to release a new resource estimate in Q1 2022.

2

ValOre also has uranium upside with the Angilak project in Nunavut.

- ValOre also owns the Angilak uranium project in Nunavut Territory which includes close to 50,000 hectares of land prospective for uranium, precious metals, and base metals.
- Angilak has a 2013 NI 43-101 inferred resource of 2,831,000 tonnes grading 0.69% U3O8 for total contained U3O8 of 43.3 million pounds.

3

ValOre Metals has high insider ownership and is part of the Discovery Group.

- ValOre Metals currently has over 20% insider ownership and is part of the Discovery group which is an alliance of 9 publicly traded companies.
- The Discovery Group has a proven track record of creating shareholder value and have been involved in multiple acquisitions including Northern Empire, Kaminak Gold, and most recently Great Bear Resources.

Why INFOR Supports ValOre

ValOre Metals provides a compelling opportunity for investors to participate in a large and growing PGE deposit in Brazil as well as a high-grade uranium asset.

ValOre Metals Corporate Snapshot

Capitalization & Key Metrics

Capitalization Table

Company Ticker:	TSXV: VO
Share Price (23-Mar-22)	\$0.56
Basic Shares Outstanding (M)	141.3
ITM Dilutive Securities (M)	27.2
ITM Convertible Debentures (M)	--
Fully-Diluted Shares Outstanding (M)	168.5
Fully-Diluted Market Cap (C\$M)	\$94.4
Add: Debt (C\$M)	--
Less: Cash (C\$M)	(\$11.6)
Less: Proceeds from ITM Securities (C\$M)	(\$11.1)
Net Debt (C\$M)	(\$22.7)
Enterprise Value (C\$M)	\$71.7

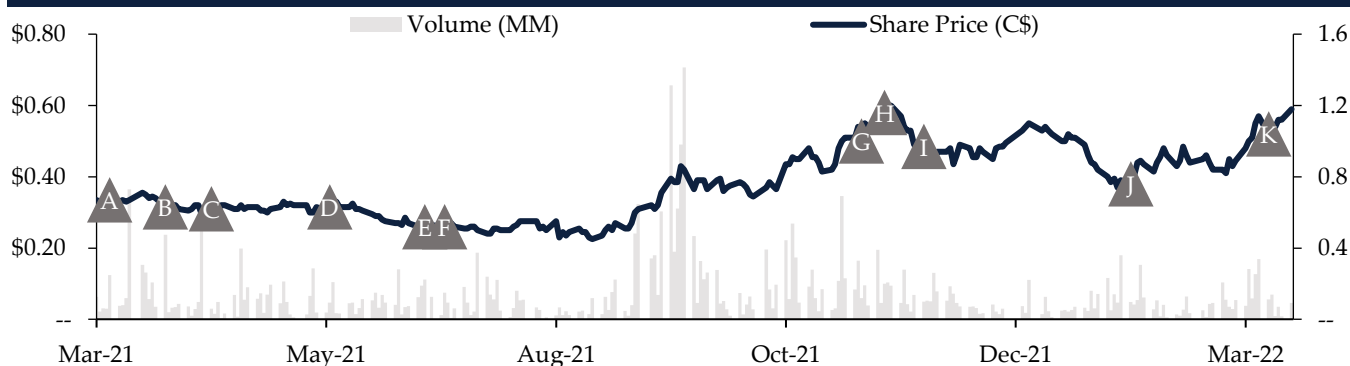
Estimated Ownership

Top Shareholders	(000s)	%
James Paterson	24,725	17.5%
Jangada Mine	14,500	10.3%
MM Asset Management	12,466	8.8%
Kestrel Holdings	3,447	2.4%
US Global Investors	1,500	1.1%
Subtotal	56,637	40.1%
Other Shareholders	84,651	59.9%
Total Basic Shares Outstanding	141,288	100.0%

Trading Summary ⁽¹⁾

52-Week Low / High Range (C\$)	\$0.22 / \$0.61
20-Day VWAP (C\$)	\$0.50
30-Day VWAP (C\$)	\$0.49
LTM Average Daily Volume (000s)	407 ⁽²⁾
LTM Average Daily Value (C\$000s)	\$154 ⁽²⁾

Share Price Performance (Last 12 Months)



Item	Date	Event	Price (C\$)
A	Mar-21	Appoints Colin Smith V.P. Exploration and Bolsters Pedra Branca Team	\$0.335
B	Apr-21	Outlines 2021 Exploration Plans at Pedra Branca Project	\$0.315
C	Apr-21	Announces High-Grade Platinum Group	\$0.310
D	Jun-21	Appoints Darren Klinck as Director; Ian Pritchard, Luis Azevedo as Strategic Advisors	\$0.315
E	Jun-21	Announces Initial Platinum Group Assay Results from Pedra Branca Drilling	\$0.260
F	Jul-21	Acquires 16,000 hectares of New Tenements at Pedra Branca PGE Project	\$0.260
G	Nov-21	Option Agreement on Hatchet Lake Uranium Project, Athabasca Basin, Saskatchewan	\$0.500
H	Nov-21	Announces Brokered Private Placement for up to C\$11M	\$0.580
I	Nov-21	Identifies High-Priority Targets for Fully Funded 2022 Exploration Program at Angilak Property	\$0.485
J	Jan-22	Accelerates Regional Trado® Exploration	\$0.380
K	Mar-22	Reports Recoveries of 82.9% for Platinum, 71% for Palladium and 85.2% for Gold	\$0.520

Company Highlights

- G Mining Ventures (“G Mining” or “the Company”) owns the high quality Tocantinzinho (TZ) gold asset and is “on track” to build the 3rd largest gold mine in Brazil.
 - **A Clear path to construction:** With the TZ acquisition, G Mining now has an asset with over 2.0M oz of reserves at 1.31 g/t, and 6 installation licenses which puts the project on a “clear path to construction”.
 - **A Strong Partner in Eldorado Gold:** Post the closing of the transaction in October 2021, Eldorado Gold is now a 19.9% shareholder and strategic partner to G Mining.
 - **A high Cash Flow operation when fully ramped:** Assuming 175,000 oz/year and an AISC of \$681/oz when fully ramped, at a US\$1,600/oz base-case gold price the project is expected to generate peak annual free cash flow of ~\$100 million.
- G Mining expects to generate close to 200,000 oz/year for the first 5 years of production which would make TZ the 3rd largest gold mine in Brazil.

Investment Highlights

1

Tocantinzinho (TZ) has attractive economics and a clear path to construction.

- A recently updated NI 43-101 Feasibility Study suggests an After-Tax NPV of \$622 million, an IRR of 24% assuming average production of 175,000 oz/year and an AISC of \$681/oz.
- This also suggests a payback period of 3.2 years and a 10.5-year life of mine (LOM) with total production of over 1.8M oz.
- With US\$58 million in cash on the balance sheet, the company is fully funded to a construction decision which is expected in the second half of 2022.

2

Commercial production expected in 2024 with upside outside of the main property.

- Tocantinzinho has over 2.0M oz of reserves at 1.31 g/t, and 6 installation licenses.
- A construction decision is expected in the second half of 2022 and assuming a two-year build, commercial production is expected in Q3 2024.
- G Mining also inherited a 688 km² land package with less than 5% of this area drill tested.

3

TZ has low initial capex and G Mining looks Undervalued versus its peers.

- Initial capex for Tocantinzinho is expected to be \$458 million to build the mine.
- According to Company estimates, G Mining is currently trading at only at 0.23x P/NAV versus the peer group average of 0.46x and an EV/Resource metric of only \$48/oz versus the peer group average of \$71/oz.

Why INFOR Supports G Mining

G Mining provides a compelling opportunity for investors to participate in a rare gold project that has less than US\$500M in initial capex, and over 150,000 oz/year of gold production not already owned by a major.

G Mining Corporate Snapshot

Capitalization & Key Metrics

Capitalization Table

Company Ticker:	TSXV: GMIN
Share Price (23-Mar-22)	\$0.84
Basic Shares Outstanding (M)	235.8
ITM Dilutive Securities (M)	45.8
ITM Convertible Debentures (M)	--
Fully-Diluted Shares Outstanding (M)	281.6
Fully-Diluted Market Cap (C\$M)	\$236.5
Add: Debt (C\$M)	--
Less: Cash (C\$M)	(\$57.6)
Less: Proceeds from ITM Securities (C\$M)	(\$36.7)
Net Debt (C\$M)	(\$94.3)
Enterprise Value (C\$M)	\$142.2

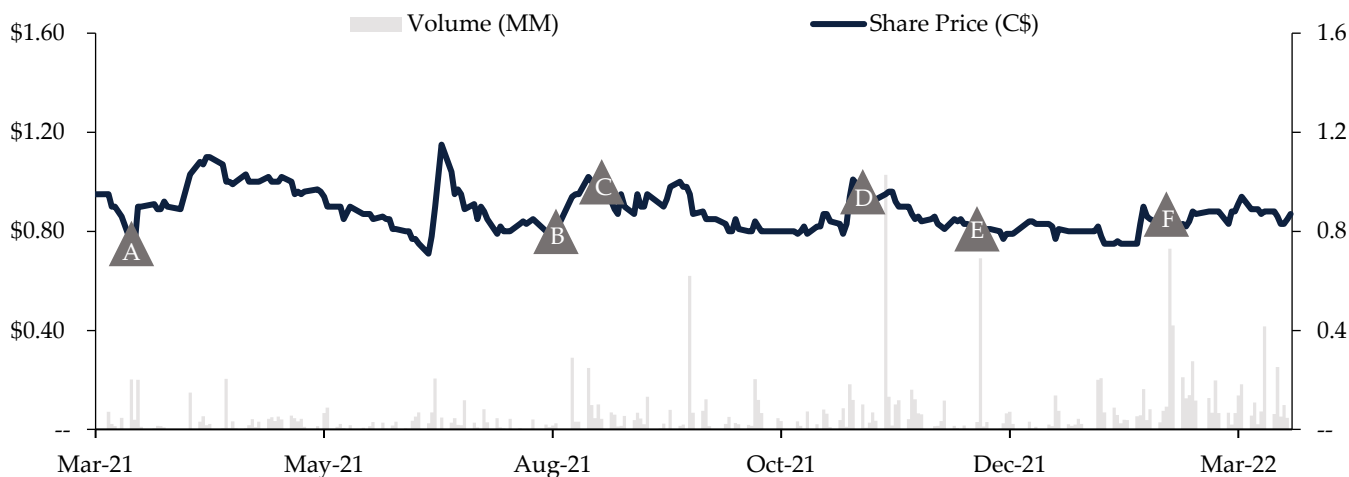
Estimated Ownership

Top Shareholders	(000s)	%
Eldorado Gold	46,926	19.9%
Franklin Resources	20,844	8.8%
CI Investments	17,633	7.5%
Sprott	16,592	7.0%
Life of Mine Investments	16,337	6.9%
Subtotal	118,332	50.2%
Other Shareholders	117,479	49.8%
Total Basic Shares Outstanding	235,811	100.0%

Trading Summary ⁽¹⁾

52-Week Low / High Range (C\$)	\$0.70 / \$1.25
20-Day VWAP (C\$)	\$0.88
30-Day VWAP (C\$)	\$0.88
LTM Average Daily Volume (000s)	407 ⁽²⁾
LTM Average Daily Value (C\$000s)	\$154 ⁽²⁾

Share Price Performance (Last 12 Months)



Item	Date	Event	Price (C\$)
A	Mar-21	Appoints Dušan Petković to Executive Team	\$0.750
B	Aug-21	Announces Acquisition of Tocantinzinho Gold Project from Eldorado Gold	\$0.800
C	Aug-21	Announces C\$70M Bought Deal Private Placement	\$1.000
D	Nov-21	Announces 10,000m Exploration and Drilling Program	\$0.960
E	Dec-21	Appointments Sonia Zagury to the Board of Directors	\$0.810
F	Feb-22	Delivers Robust New Feasibility Study for the Tocantinzinho Gold Project	\$0.870

Company Highlights

- TriStar Gold (“TriStar” or “the Company”) owns the Castelo de Sonhos property in Para, Brazil. The project covers over a 17,000-hectare property that is close to existing infrastructure. The Paleo-Placer gold deposit is 100% controlled with mineralization close to surface.
 - **Mineralization suggests a straightforward mining operation:** This asset suggests a straightforward, open-pit, mining operation that is environmentally clean with no sulfides, simple metallurgy, and 98% gold recoveries.
 - **The 1.4M oz resource has already grown dramatically and should continue to grow:** There is significant upside here as the mineralization is open along strike and at depth. As such, the resource has already grown by 8x and is still growing.
 - **Licensing is underway:** TriStar is expecting to complete the EIA and submit its application for Prior License (LP) in Q2 2022. The Company then estimates that the LP will be granted in Q2 2023.
- Overall, 2022 could be a big year for TriStar as they advance the Castelo de Sonhos gold project.

Investment Highlights

1

Castelo de Sonhos is a “straightforward” project with an analogue in Jacobina.

- The Paleo-Placer gold deposit has mineralization close to surface and is analogous to producing mines Tarkwa in Ghana and Jacobina in Brazil.
- According to a Prefeasibility Study (PFS) funded by Royal Gold, assuming annual production of 121,000 oz/year, AISC of \$900/oz, and a \$1,550/oz base case gold price, the project has an After-Tax NPV of US\$321M and an IRR of 28%.
- This suggests 1.3M oz of total gold production over an 11-year life of mine (LOM) and a 2.8-year payback period.

2

The project has low initial capex, and the resource continues to grow.

- According to the PFS, the project has an initial capex of only \$261 million.
- The current mineral reserves of 1.4M oz at a grade of ~1.1 g/t are primarily contained in the higher grade Esperança South deposit where Phase 1 of mine production (146,000 oz/year) will be focused. Phase 2 of production (92,000 oz/year) is expected to come from Esperança East and Center deposits.

3

The permitting process is underway with catalysts expected in 2022.

- The application for the Prior License (LP) is expected as early as Q2 2022.
- New interpretation of the gold bearing conglomerate horizon is generating new drill targets.

Why INFOR Supports TriStar Gold

TriStar Gold provides a compelling opportunity for investors to participate in a potentially “straightforward” mining project with low initial capex, over 100,000 ounces of annual production, and analogues in Tarkwa and Jacobina for a valuation of only \$45 million.

TriStar Gold Corporate Snapshot

Capitalization & Key Metrics

Capitalization Table

Company Ticker:	TSXV: TSG
Share Price (23-Mar-22)	\$0.20
Basic Shares Outstanding (M)	230.3
ITM Dilutive Securities (M)	0.4
ITM Convertible Debentures (M)	--
Fully-Diluted Shares Outstanding (M)	230.7
Fully-Diluted Market Cap (C\$M)	\$46.1
Add: Debt (C\$M)	--
Less: Cash (C\$M)	(\$7.9)
Less: Proceeds from ITM Securities (C\$M)	(\$0.1)
Net Debt (C\$M)	(\$7.9)
Enterprise Value (C\$M)	\$38.2

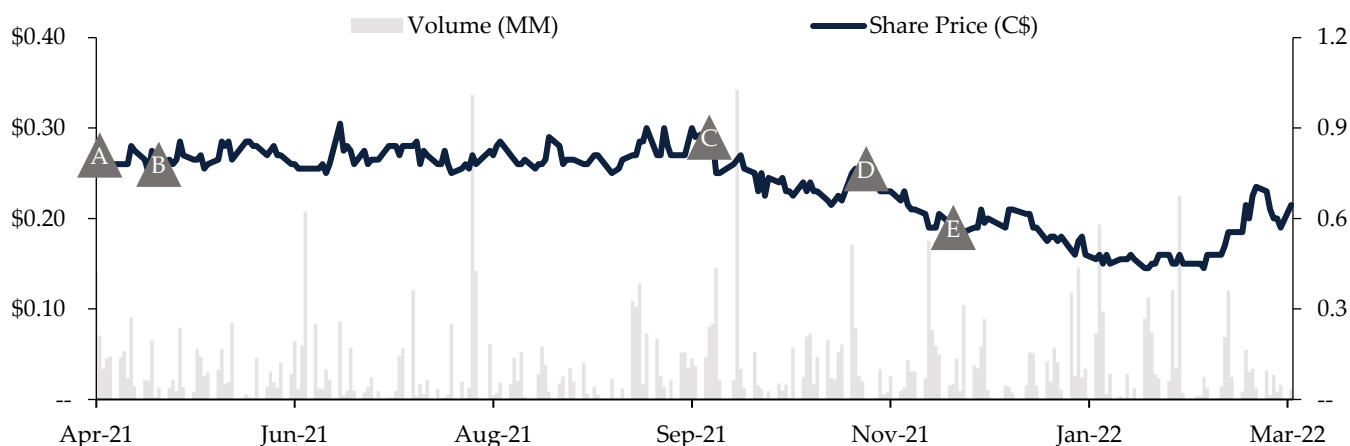
Estimated Ownership

Top Shareholders	(000s)	%
US Global Investors	30,600	13.3%
GAM Holding	10,008	4.3%
Mark Jones	8,815	3.8%
Royal Bank of Canada	8,521	3.7%
Nick Appleyard	2,100	0.9%
Subtotal	60,044	26.1%
Other Shareholders	170,066	73.9%
Total Basic Shares Outstanding	230,110	100.0%

Trading Summary ⁽¹⁾

52-Week Low / High Range (C\$)	\$0.14 / \$0.31
20-Day VWAP (C\$)	\$0.19
30-Day VWAP (C\$)	\$0.16
LTM Average Daily Volume (000s)	191 ⁽²⁾
LTM Average Daily Value (C\$000s)	\$46 ⁽²⁾

Share Price Performance (Last 12 Months)



Item	Date	Event	Price (C\$)
A	Apr-21	Continuity Confirmed at TriStar's Castelo de Sonhos as PFS Advances	\$0.270
B	Apr-21	Files Technical Report in Support of Interim Resource Estimate	\$0.260
C	Oct-21	Positive PFS with 1.4M oz Au Reserves, an After-Tax NPV of US\$321M and an IRR of 28%	\$0.290
D	Nov-21	Files Technical Report in Support of Prefeasibility Study	\$0.255
E	Dec-21	Advances Permitting and Initiates Plant Optimisation Study	\$0.190

Company Highlights

- Sigma Lithium Corp (“Sigma” or “the Company”) is a Canadian corporation with a mine and a lithium concentration plant in Minas Gerais which is a traditional mining jurisdiction in Southeastern Brazil. Sigma Lithium is building the largest sustainable mine and lithium concentration project in the Americas with the lowest carbon footprint in the industry.
 - **Sigma Lithium supplies “value added” product:** Through a proprietary process Sigma separates, concentrates and purifies spodumene ore to make it battery grade material.
 - **Sigma could grow to be one of the largest global producers:** Post Phase 2, Sigma could have total production of 440,000 tonnes or 66,000 tonnes of Lithium Carbonate Equivalent (LCE) annually.
 - **The Company is signing “take or pay” contracts with battery suppliers:** Sigma is signing commercial take or pay contracts and has a unique direct offtake with LG-Energy Solutions.
- Sigma intends to establish a new standard in ESG mining with their sustainable process that converts spodumene to lithium concentrate with no hazardous chemicals, recycled water, and a low carbon footprint.

Investment Highlights

1

Sigma could become the largest mine and lithium concentrate project in the Americas that supplies “value added” lithium product.

- Minas Gerais is one of the most developed states in Brazil so there is good infrastructure in place including a shipping port, transmission lines, hydro power, existing highways to port, etc.
- With over US\$120M in cash versus total capex of US\$113M Sigma is fully funded to complete the first phase of the project.
- The Company expects to commission the facility by the end of 2022.

2

Sigma could grow to become one of the world’s largest LCE producers.

- Sigma plans to produce 240,000 tonnes of battery grade lithium concentrate or 33,000 tonnes of lithium carbonate equivalent (LCE) in Phase 1. Phase 2 production would grow to 440,000 tonnes or 66,000 tonnes of LCE annually which would make Sigma the 3rd largest global producer after Albermarle & SQM.
- Sigma plans to do this while utilizing a sustainable, green, low carbon mining process.

3

Sigma is signing commercial “take or pay” contracts with major battery suppliers.

- Sigma has a unique 6-stage process resulting in high-purity, green and sustainable lithium concentrate which enables certified lithium hydroxide which lowers cost of lithium chemicals for EVs batteries by 20-30%.
- Sigma is signing commercial take or pay contracts and has a unique direct offtake with LG-Energy Solutions, the largest battery supplier in the market.

Why INFOR Supports Sigma Lithium

Sigma Lithium provides a compelling opportunity for investors to own what could become the third largest global lithium producer that also employs a sustainable process that converts spodumene to lithium concentrate with zero hazardous chemicals, 100% green hydro power and 100% recycled water.

Sigma Lithium Corporate Snapshot

Capitalization & Key Metrics

Capitalization Table

Company Ticker:	TSXV: SGML
Share Price (23-Mar-22)	\$17.93
Basic Shares Outstanding (M)	99.0
ITM Dilutive Securities (M)	9.4
ITM Convertible Debentures (M)	--
Fully-Diluted Shares Outstanding (M)	108.4
Fully-Diluted Market Cap (C\$M)	\$1,943.3
Add: Debt (C\$M)	\$0.3
Less: Cash (C\$M)	(\$172.2)
Less: Proceeds from ITM Securities (C\$M)	(\$2.5)
Net Debt (C\$M)	(\$174.4)
Enterprise Value (C\$M)	\$1,768.9

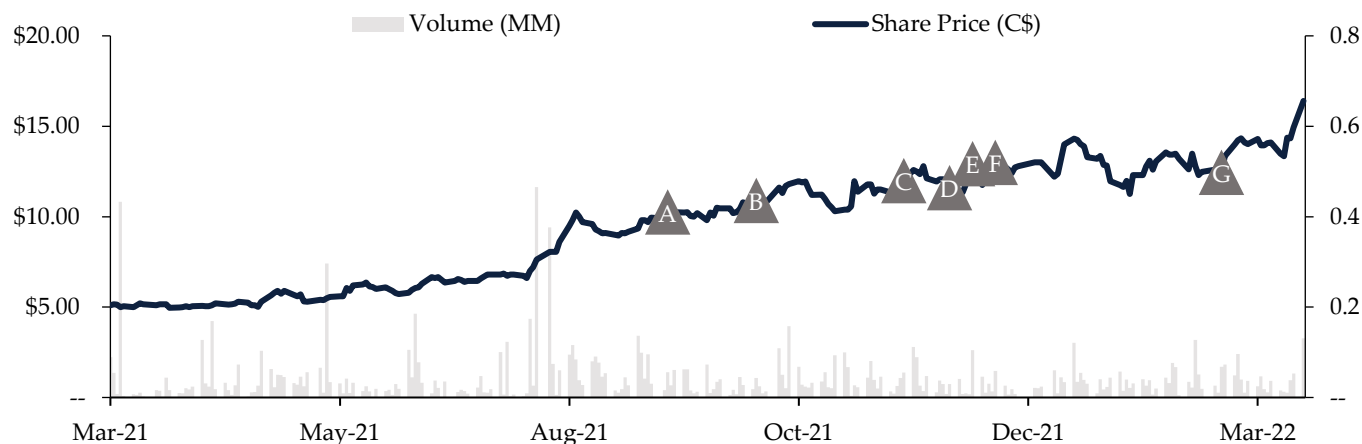
Estimated Ownership

Top Shareholders	(000s)	%
A10 Investimento	47,401	47.9%
BlackRock	5,859	5.9%
JGP	3,960	4.0%
CQS	1,809	1.8%
Waratah Capital Advisors	1,038	1.0%
Subtotal	60,066	60.7%
Other Shareholders	38,936	39.3%
Total Basic Shares Outstanding	99,002	100.0%

Trading Summary ⁽¹⁾

52-Week Low / High Range (C\$)	\$4.50 / \$16.78
20-Day VWAP (C\$)	\$14.13
30-Day VWAP (C\$)	\$13.76
LTM Average Daily Volume (000s)	221 ⁽²⁾
LTM Average Daily Value (C\$000s)	\$2,406 ⁽²⁾

Share Price Performance (Last 12 Months)



Item	Date	Event	Price (C\$)
A	Sep-21	Selects NASDAQ as its U.S. Market for its Dual-Listing	\$10.250
B	Oct-21	Strikes Supply Deal with LG Energy Over Lithium EV Batteries	\$10.890
C	Nov-21	Highlighted at COP-26 in Glasgow for its Clean Technology	\$12.000
D	Dec-21	Announces Filing of Canadian Base Shelf Prospectus and U.S. Shelf Registration Statement	\$11.600
E	Dec-21	Announces C\$60M Non-Brokered Private Placement	\$12.930
F	Dec-21	Previously Announced Private Placement Upsized to C\$137M, including C\$64M from BlackRock	\$13.000
G	Feb-22	Recognized by Bank of America as a Top 50 Stock for 10 Scarcity Themes	\$12.450

Company Highlights

- 4B Mining Participações Ltda. (“4B” or “the Company”) is a privately held mining company created to consolidate iron ore and manganese assets in Brazil. In November 2021, 4B Mining announced that it had acquired 51% ownership and operational control of MPP which owns the Corumba iron ore (Fe) and manganese (Mn) project in Mato Grosso do Sul Brazil.
 - **The Corumba project is “shovel ready”:** Corumba is fully licensed, requires no drilling or blasting and is fully funded to production.
 - **The mining and environmental license allows for near-term production:** There is a trial mining license in place for 300,000 tpy, and an environmental license in place for a 1.2M tpy operation once the final Fe exploration report is approved.
 - **4B expects to start generating cash flow this spring:** The first shipment of green lump iron ore is expected by the end of May with first cash flow anticipated in Q2 2022.
- 4B also has exposure to a high-grade Mn asset that has the potential to produce battery-grade material.

Investment Highlights

1

The Corumba project is “shovel ready” with good infrastructure already in place.

- The project is shovel ready with great infrastructure in place including power lines, roads, housing, and labour.
- There is a trial mining license in place for 300,000 tpy, renewable up to 600,000 tpy, and there is an environmental license in place for a 1.2M tpy operation in the second year, upon approval of the final Fe mining concession, which can then potentially ramp to 2.1M tpy in the third year.
- There is a 5-year offtake with Glencore in place for 100% Fe production.

2

First cash flow is expected in Q2 2022 from the lump iron ore production.

- There is an ongoing pilot test on green lump iron ore production and based on initial production of 2200 tpd (March) the first shipment of ore is expected by the end of May. The Company expects to generate cash flow as early as Q2 2022.
- The Company also expects a NI 43-101 Technical Report, a PFS for the iron ore asset, and a PEA for the manganese opportunity. These events are key catalysts for the story.

3

There is also organic growth upside from their manganese deposit.

- There is potential at their high grade, high-quality and low impurities manganese deposit, which is located in an area that was previously mined for manganese in the past.
- The asset has high grade premium Mn of over 42% which is potential battery grade.
- Vale did some in situ ore analysis of 48-53% grades with low impurities and there is potential production of 3.5M tons of Mn.

Why INFOR Supports 4B Mining

4B Mining provides a compelling opportunity for investors to own a near-term iron ore producer that is weeks away from first cash flow, with upside from a high-grade, low impurity, manganese asset located in the “shadow” of a past producer.

Company Highlights

- Fides Mining (“Fides” or “the Company”) is a private mining company developing both gold and base metal assets in Brazil. The Company’s main asset, Mina União, has been in production since 2017 and Fides has more than 55,000 hectares of mining rights in the state of Mato Grosso, a region considered one of the most promising in the world for mineral deposits. Fides owns 100% of their three main assets Mina União, Peteca Gold, and Jaca Copper which are further organized under three divisions:
 - **Fides Gold:** This division includes Mina União and the Peteca Gold project.
 - **Fides Base Metals:** This division includes the Jaca Copper project.
 - **Fides Exploration:** This division includes regional exploration in Apiacas, Santo Adrea and Juruena.
- Large mining entities like Anglo American (3.9 million hectares), Nexa Resources (2.2 million hectares) and Codelco (1.9 million hectares) are also present and active in the region.

Investment Highlights

1

Mina União is an operating asset poised to more than quadruple yearly production!

- Mina União produced 14,000 oz/year and is expected to produce ~60,000 oz/year post expansion.
- A 2022 independent review yielded a 541,000 oz resource only on the sulfides (324,000 oz M&I plus 217,000 oz inferred). A 32,000m drilling campaign is targeting to add 500-800,000 oz of minable resources to União for a total of 1.5M oz (approximately 50% M&I).
- Expansion and the Carbon-in-Leach plant would take throughput to 700,000 tpy and add 40,000 oz/year at an AISC of \$1,100/oz for total production of approximately 55,000-60,000 oz/year.

2

Peteca Gold is a high-grade gold development asset with optionality.

- The Peteca Gold project is a high grade, narrow vein underground project with underground resources of 1.5M oz Au along a 4 km long mineralized trend.
- Peteca has an existing ~200,000 oz resource (24,000 M&I, 174,000 Inferred) at 23.55 g/t at Flor de Serra.
- A 20,000 m diamond drilling campaign contemplated for the year.

3

The Jaca Copper Project is another “free option” in the Fides portfolio.

- The Jaca Copper project is a cluster of porphyry deposits in a geological arc.
- Anglo previously drilled 20 exploratory holes (~13,000m) in the cluster but only 6 inside the main mineralized zone. Anglo’s internal estimate was 300M tonnes at 0.6-0.8% Copper.

Why INFOR Supports Fides Mining

Fides Mining provides a compelling opportunity for investors to participate in a private mining company looking to quadruple its current gold production which will help fund its development assets in the Peteca Gold and Jaca Copper projects.

Company Highlights

- Pilar Gold (“Pilar” or “the Company”) is a Brazilian focused gold producer with flagship assets in Goiás, Brazil. The Company acquired the Pilar gold assets (PDGM) in April 2021 from Equinox Gold Corp (EQX-TSX) for total consideration of US\$38 million in cash plus 11.4 million shares and a 1% production royalty. In total, Pilar acquired the following assets as part of the transaction:
 - **Mining assets:** 3 underground mines, 2 in production and an open pit development project.
 - **Facilities and infrastructure:** a 4,000 tpd modern processing facility along with infrastructure.
 - **Current production:** over 40,000 oz/year of gold production.
- Equinox Gold Corp also acquired a 9.9% equity interest in Pilar Gold as part of the transaction.
- The company has several catalysts for the year including an increase to monthly gold production from 3,800 oz to 6,000 oz by Q4 2022, a reduction of AISC to < US\$1,100/oz, the completion of a public listing by Q3 2022 & the commissioning of Bodó Tungsten by the end of 2022.

Investment Highlights

1 Production at Pilar/PDGM is expected to grow by ~60% by the end of 2022!

- Pilar/PDGM has targeted an increase to monthly exit gold production from 3,800 oz currently to 6,000 oz by Q4 2022.
- Pilar/PDGM has a sizable resource base of 3.94M oz of contained gold and is a “young mine” that is open in every direction with a potentially long mine-life.
- Pilar has already updated the PDGM resource from ~3M to ~4M oz gold and with three drill programs currently ongoing, this resource should continue to grow.

2 Pilar Gold is building a portfolio of assets in close proximity to PDGM.

- Pilar completed the amalgamation with Faina Gold which brought in assets that are in close proximity to PDGM. The Company also acquired Pocone gold from Valterra for 4 million Pilar shares and bought Bodó Tungsten in January 2022.
- There has been 8,000m of drilling completed since PDGM acquisition with 30,000m drilling planned at PDGM, Maria Lazara Mine, Sertao, Cascavel and Livramento in 2022.

3 Pilar Gold looks Undervalued when compared to its peers.

- According to management, at a recent financing price of C\$0.70/share, Pilar is currently trading at an EV/Resource metric of US\$33/oz Au which is the cheapest of its peer group: Jaguar Mining (JAG-TSX), Aura Minerals (ORA-TSX), Amarillo Gold (AGC-TSXV), Equinox Gold (EQX-TSX), Great Panther Mining (GPR-TSX) and Serabi Gold (SBI-TSX).

Why INFOR Supports Pilar Gold

Pilar Gold provides a compelling opportunity for investors to participate in a precious metals company looking to increase its gold production by 60% while lowering its production costs and completing a “go-public” transaction by the end of 2022.

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FOOTNOTES

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Thank you for your interest.

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