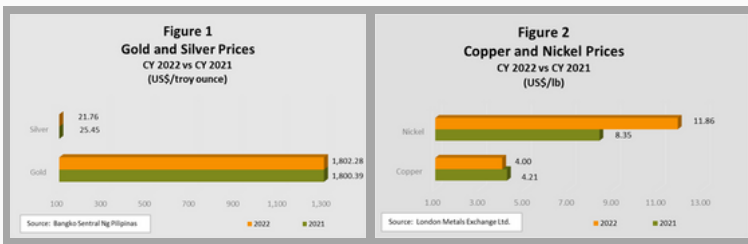


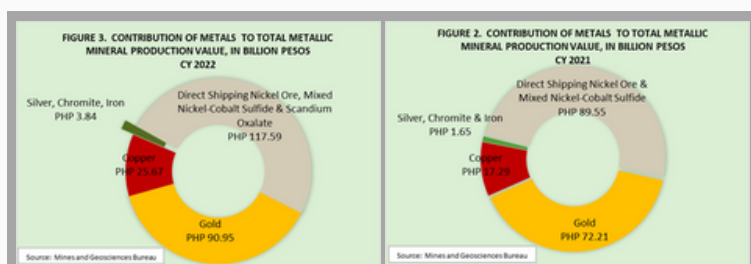
# METALLIC PRODUCTION-VALUE STAYS UPBEAT

Metallic mineral production value stayed upbeat in 2022 vis-à-vis 2021 from PhP180.71 billion to PhP238.05 billion, a growth of PhP57.34 billion or 31.73%.

This impressive showing was enjoyed amid the twin impact of the Covid-19 pandemic and the pro-longed Russia-Ukraine war. We saw the pandemic slow down global economic activities and the Russia-Ukraine war affecting key markets, particularly energy markets such as oil and gas. These unprecedented events have disrupted the supply and demand chain of major commodities. In terms of prices of metals copper and silver went down by 5.03% and 14.52%, respectively. The recorded price of copper in 2021 was US\$4.21 per pound to US\$4.00 per pound down by US\$0.21 while silver declined by US\$3.70 from US\$25.45 per troy ounce to US\$21.76 per troy ounce, year-on-year. Nickel price was still high in 2022 from US\$8.35 per pound to US\$11.86 per pound, a markup of US\$3.51, year-on-year. At the same time, gold was up by US\$1.90 from US\$1,800.39 per troy ounce to US\$1,802.28 per troy ounce year-on-year.



In terms of contribution to the total production value, nickel ore and its by-products, mixed nickel-cobalt sulfide (MNCS), and scandium oxalate continued to have the lion's share with PhP117.58 billion or 49.39%. Gold took the second spot with PhP90.95 billion or 38.21%. Copper was in third position with PhP25.67 billion or 10.78%. While the collective values of silver, chromite, and iron ore accounted for PhP3.84 billion or 1.61%. The Projects that made the big change were OceanaGold (Phils) Inc (OGPI) for its copper, gold, and silver output, TVI Resource Development (Phils) Inc., Balabag Gold-Silver Project for its gold and silver, and Taganito HPAL Nickel Corporation with its MNCS, scandium oxalate and chromite plant output. In addition, a new entrant to nickel production was Vista Buena Mining Corporation located on Dinagat Island in July 2022. It is important to note that in CY 2021 TVI Resources and OGPI only started production in September and November, respectively.

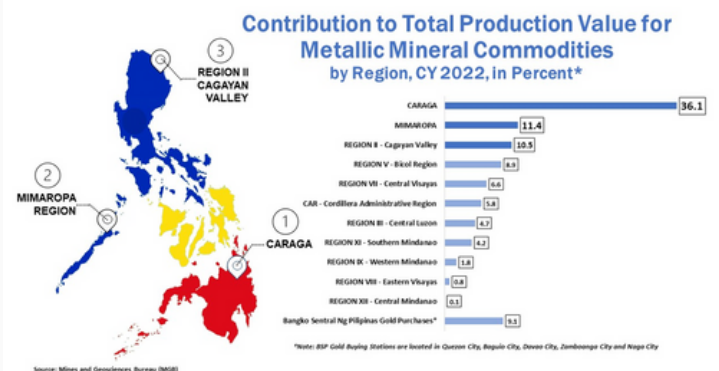


While, in terms of regional contribution to the total production value of metallic minerals, Caraga played the lead role with 36.13% or PhP86.08 billion, followed by MIMAROPA with 11.43% or PhP27.21 billion, and in third was Cagayan Valley with 10.45% or PhP24.86 billion, in terms of the number of operating metallic mines in the Region. Caraga remains the country's mining core, with two gold mines, one chromite mine, 18 nickel mines, one hydrometallurgical processing plant, and one gold processing plant. MIMAROPA has three nickel mines and one hydrometallurgical processing plant while Cagayan Valley has one gold mine, one copper mine, and one nickel mine. FCF Minerals Corporation and OGPI in Region II hold a Financial or Technical Assistance Agreement (FTAA). In addition, the Bangko Sentral Ng Pilipinas (BSP) gold purchases amounted to about PhP21.73 billion with five gold buying stations strategically located across the country. The BSP figures include the 25% of OGPIs gold dore production in CY 2022. It is essential to note that the government required the company to sell 25% of its gold dore to BSP as part of the terms and conditions in their FTAA renewal contract.

Table 1. Contribution to Total Production-Value for Metallic Mineral Commodities, By Region (CY 2022)

REGION	Metallic Mineral Commodities	PRODUCTION VALUE (In Billion PhP)
Caraga	Chromite, Gold, Silver, Mixed Nickel Cobalt-Sulfide, Nickel Ore, Scandium Oxalate	86.08
MIMAROPA	Mixed Nickel Cobalt-Sulfide, Nickel Ore	27.21
REGION II - Cagayan Valley	Copper, Gold, Silver, Nickel Ore	24.86
REGION V - Bicol Region	Gold, Silver	21.06
REGION VII - Central Visayas	Copper, Gold, Silver	15.63
Cordillera Administrative Region*	Copper, Gold, Silver	13.69
REGION III - Central Luzon	Iron Ore, Nickel Ore	11.29
REGION XI - Southern Mindanao	Gold, Silver, Nickel Ore	10.07
REGION IX - Western Mindanao	Gold, Silver	4.39
REGION VIII - Eastern Visayas	Chromite, Iron Ore, Nickel Ore	1.89
REGION XII - Central Mindanao	Gold, Silver	0.14
Bangko Sentral Ng Pilipinas Gold Purchases*	Gold	21.73
Total		238.05

\*Does not include the gold purchases from Acupan Contract Mining Project and Loacan Iligan Pocket Miners Association located in Benguet. Mine output of these Projects was integrated with the contribution of the Cordillera Administrative Region.

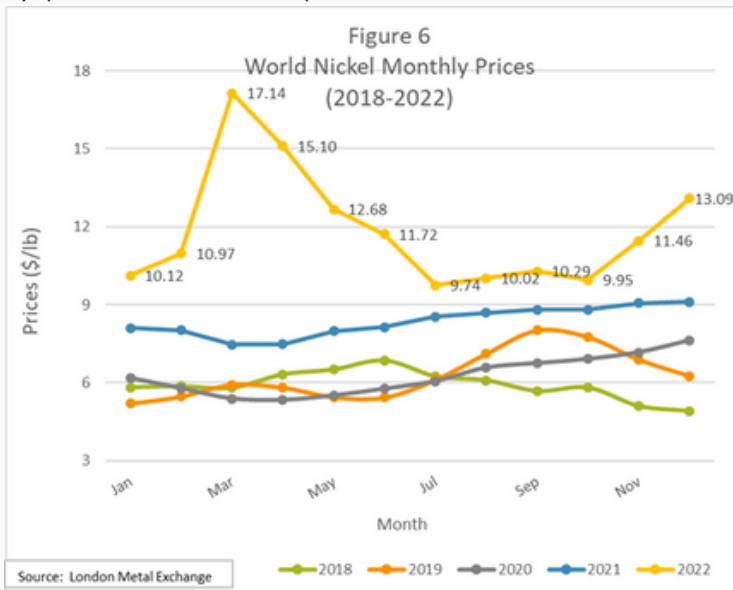


\*Note: BSP Gold Buying Stations are located in Quezon City, Baguio City, Davao City, Zamboanga City and Naga City

# METALLIC PRODUCTION-VALUE STAYS UPBEAT

The consolidated values of nickel direct shipping ore, MNCS, and scandium oxalate had another great run in CY 2022 with PhP117.58 billion from PhP89.55 billion, up by as much as PhP27.93 billion. Although, the production volume of nickel direct shipping ore shaved 11% off from 32,933,346 dry metric tons to 29,269,864 dry metric tons, due to the production shortfall incurred by most nickel Projects. Estimated production value managed to pool a 9% growth from PhP56.33 billion to PhP61.61 billion, up by almost PhP5.27 billion year-on-year. Based on the published London Metal Exchange price matrix the average nickel price registered in CY 2022 was 42.01% higher than in 2021 from US\$8.35 per pound to US\$11.86 per pound, year-on-year. Looking closely at the LME nickel price in 2022, it peaked in March 2022 at US\$17.14 per pound but fell to as low as US\$9.74 per pound in July and slowly recovered closing the year at US\$13.09 per pound (Refer to Figure 6). Generally, CY 2022 prices were still higher than recorded prices since CY 2012. In terms of regional nickel ore production Caraga the nickel hub of the Philippines accounted for 67.47% with 19,748,780 dry metric tons, followed by MIMAROPA with about 14.46% or 4,233,746 dry metric tons while Regions III and VIII accounted for about 9.91% or 2,900,376 dry metric tons and 6.31% or 1,847,210 dry metric tons, respectively. Finally, Region XI (ARC Nickel Resources, Inc.) and Regions II, (Dinapigue Mining Corporation) completed the production circle with 272,180 dry metric tons and 267,571 dry metric tons, respectively. While for MNCS production volume of Coral Bay Nickel Corporation and Taganito HPA Nickel Corporation (THPAL), grew by 7% from 75,400 dry metric tons to 80,991 dry metric tons year-on-year.

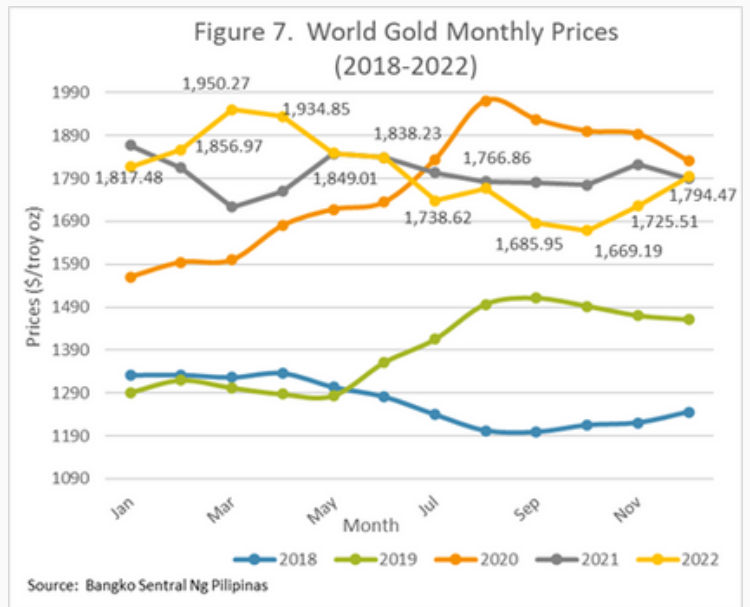
Production volume of scandium oxalate of THPAL likewise increased by as much as 26% from 16,008 Dry-Kg to 20,148 Dry-Kg, year-on-year. The scandium oxalate is a by-product of THPAL's operation.



Production volume and value of gold stood tall with 15% and 26% growth from 25,332 kilograms with an estimated value of PhP72.21 billion to 29,007 kilograms with an estimated value of PhP90.95 billion. This strong performance can be attributed largely to the contribution of TVI Resources Development (Phils) Inc. located in Zamboanga del Sur and OGPI in Nueva Vizcaya.

Also, the top three gold producers in the country during the year were Philippine Gold Processing & Refining Corporation (Masbate Gold Project) in Region V with 6,617 kilograms; OGPI (Didipio Copper-Gold Project) in Region II with 3,258 kilograms this is net of the 25% gold dore sold to BSP; and Apex Mining Company Inc. in Region XI with 2,834 kilograms. About 263.75 kilograms of gold dore was sold to BSP by OGPI. Switzerland, Hongkong, and India were the country's top destinations for this metal.

The average price of the yellow metal in 2022 was slightly higher compared to CY 2021 from US\$1,800.39 per troy ounce to US\$1,802.28 per troy ounce, year-on-year.

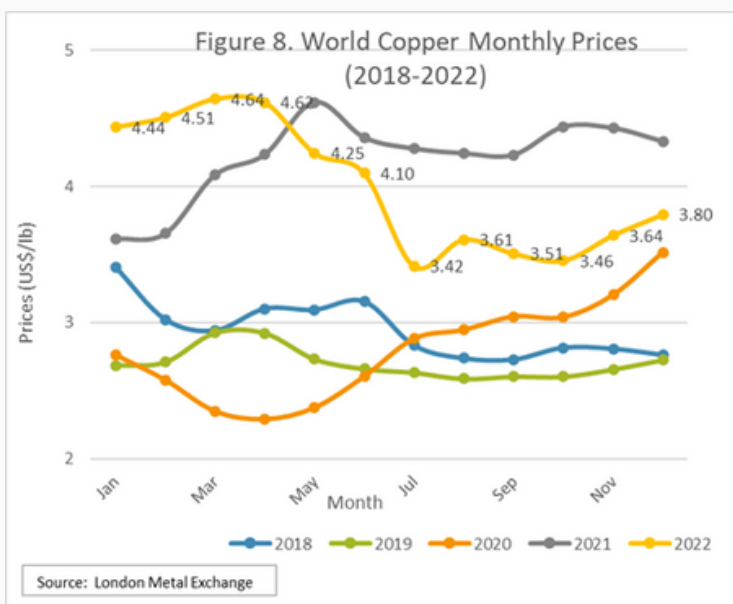


Silver production volume and value were robust in CY 2022 this was supported by the output of TVI Resources Development (Phils.) Inc., Balabag Gold-Silver Project from 7,123 kilograms with an estimated value of PhP266.33 million to 26,081 kilograms with an estimated value of PhP1.01 billion, year-on-year. TVI accounted for 46.39% of the country's silver output. Apex Mining Company, Inc. which used to dominate the production scene was now at the second spot with 11,783 kilograms with an estimated value of PhP445.37 million. PGPRC followed with 6,089 kilograms with an estimated value of PhP222.32 million. The country's total silver volume and value rose by 82% and 78%, respectively from 30,856 kilograms with an estimated value of PhP1.20 billion to 56,227 kilograms with an estimated value of PhP2.13 billion, year-on-year. The average price of silver during the review period declined by 14.52% from US\$25.45 per troy ounce to US\$21.76 per troy ounce, year-on-year. Silver is a co-product of gold mines and a by-product of copper mines.

Production volume and value of copper rose by 21% and 48%, respectively from 214,684 dry metric tons with an estimated value of PhP17.29 billion to 258,729 dry metric tons with an estimated value of PhP25.67 billion, year-on-year. Carmen Copper Corporation accounted for 136,759 dry metric tons or 52.86% of the total production. While OGPI and Philex Mining Corporation contributed 64,547 dry metric tons and 57,423 dry metric tons, respectively. Copper prices dropped by 5% from US\$4.21 per pound to US\$4.00 per pound. The country's copper was shipped to China, Japan, and South Korea.



# METALLIC PRODUCTION-VALUE STAYS UPBEAT



Iron ore production volume and value went up by 11% and 24% from 68,191 dry metric tons with an estimated value of PhP187.60 million to 75,771 dry metric tons with an estimated value of PhP232.35 million year-on-year. Ore Asia Mining & Development Corporation in Bulacan produced 96% or 72,762 dry metric tons while the remaining 4% came from the Leyte Ironsand Project of MacArthur Iron Projects Corp with 3,009 dry metric tons. Atro Mining Vitali Iron Inc. still reported zero production.

On chromite production, volume and value also presented progress from 30,721 dry metric tons with an estimated production value of PhP261.89 million to 147,492 dry metric tons with an estimated production value of PhP1.47 billion year-on-year. Only Techiron Resources Inc. in Eastern Samar and Taganito THPAL in Surigao del Norte recorded production. THPAL chromite production is a by-product of its MNCS output. Krominco Inc. in Dinagat Island was still under care and maintenance status.

For the short to medium term, the outlook for the mining industry remains optimistic with the anticipated recovery of the global economy and the continued strength in the demand, particularly for gold and nickel direct shipping ore. The recent lifting of China's "zero covid policy," which slowed down the Philippines' export of nickel last year due to stringent lockdowns in China, is a highly welcome development considering that China is the Philippines' most significant market in terms of nickel and copper exports. Last 09 December 2022, China shifted from a Covid Zero policy to a full-on economic reopening. The push for a global transition to the electrification of vehicles (EV) will feed the demand for nickel, which is required for producing lithium-ion batteries.

The long overdue passage of policies by the government, such as the lifting of the moratorium on accepting applications for Mineral Agreements under DAO No. 201021 and the lifting of the ban on open pit mining for copper, gold, silver, and complex ores in the country under DAO No. 2021-40, has given the much-needed boost to the industry and has communicated positive signals to interested new players to invest in the minerals sector.

Currently, the country has 56 listed operating metallic mines of which 45 are commercially operating while the remaining 11 are under care and maintenance status. Basically, new to the production scene were Nickelace Inc; Emir Mineral Resources Corporation both located in Eastern Samar, ARC Nickel Resources Inc. in Davao Oriental, TVI Resource Development (Phils) Inc, in Zamboanga del Sur, Vista Buena Mining Corporation in Dinagat Island not to mention the returning OGPI to the production loop were positive developments to stimulate and sustain the expansion of the industry 2023 onwards. Also, something to look forward to, under the latest list of Priority Projects of the Mines and Geosciences Bureau, which encompassed 3 Phases, under Phase I a total of 33 Projects are expected to commence within the next six months. Of the 33 about 14 Projects are for metallic minerals.

- Region II (1) - Magnetite Sand (Iron)
- Region III (1) - Nickel Laterite
- Region V (1) - Gold
- Region VIII (1) - Nickel Laterite
- Region IX (2) - Copper, Gold and Iron
- Region XI (5) - Nickel, Copper and Gold
- Region XIII (3) - Nickel, Copper and Gold

This would naturally add to the positive expectation that the nation will be able to produce and export more of these minerals given the likely improved level of metal demand most especially from our major trading partner China.

The country has also seven (7) processing plants, a copper smelter (Philippine Associated Smelting and Refining Corporation; four (4) for gold (Philippine Gold and Refining Corporation, Mindanao Mineral Processing and Refining Corporation, TMC Tribal Mining Corporation & Hexat Mining Corporation; and two (2) Hydrometallurgical Processing Plant (Coral Bay Nickel Corporation and Taganito THPAL).

In addition, the policy direction of the government is geared towards (1) the Construction of modular processing plants for value addition in the mineral sector; (2) Mandate the establishment of mineral smelting and refining facilities; (3) Mandate the establishment of iron making industry, and (4) Mandate the establishment of nickel refineries. This step by the government is in support of the long-awaited expansion and growth of the export of value-added mineral products. As aptly stated by the Department of Environment and Natural Resources Secretary Antonia Yulo Lozaga in one of her interviews, "We want to move out from being just part of the supply chain. We want to be part of the value chain. Without the processing of mineral ores, we will just be a vendor country."

On small-scale mining, in the continued effort of the government to integrate and formalize this sector there are a total of 53 Declared Minahang Bayan geographically spread across the country 17 in the Luzon area, three in Visayas, and 33 in Mindanao. Breaking it down further the 53 MB 44 are for gold, seven for chromite, one for magnesite, and only one non-metallic mineral for silica quartz.

# METALLIC PRODUCTION-VALUE STAYS UPBEAT

It is important to note that of the Philippines' total land area of 30 million hectares, as of June 2022, only about 2.54% or 763,378 hectares is covered by mining tenements. Based on Mines and Geosciences Bureau data nine (9) million hectares are identified as having high mineral potential. Still, only about 8.48% of the 9 million hectares considered to be highly mineralized areas are covered by mining tenements. Not included in the estimation is the Local Government issued permits like quarry permits, industrial and commercial sand & gravel permits. When it comes to mineral endowment the Philippines is among the countries abundantly endowed with nickel, gold, copper, and other important minerals.

All things considered, a robust mining industry would mean more investments, higher revenue collection by the government, higher employment rate, improved quality of life of the host/neighborhood mining communities, and finally a more significant impact to the country's Gross Domestic Product.

**Table 2. Philippines Metallic Mineral Production  
CY 2022 vs CY 2021**

Mineral Commodity	Unit Used	CY 2022		CY 2021		% Change	
		Quantity	Estimated Value	Quantity	Estimated Value	Quantity	Value
Gold	KGS.	29,007	90,952,774,235	25,332	72,213,375,687	15	26
Silver	KGS.	56,227	2,133,935,180	30,856	1,200,126,554	82	78
Copper Concentrate	DMT	258,729	25,673,401,385	214,684	17,294,104,371	21	48
Nickel Direct Shipping Ore	DMT	29,269,864	61,605,035,837	32,933,346	56,333,334,619	(11)	9
Mixed Nickel-Cobalt Sulfide	DMT	80,991	55,529,005,262	75,400	32,807,785,180	7	69
Scandium Oxalate	Dry-Kg	20,148	451,364,295	16,008	408,618,128	26	10
Chromite	DMT	147,492	1,474,265,562	30,721	261,890,270	380	463
Iron Ore	DMT	75,771	232,347,048	68,191	187,596,966	11	24
<b>TOTAL</b>			<b>238,052,128,803</b>		<b>180,706,831,775</b>		<b>31.73</b>

Source: Mines and Geosciences Bureau