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## Discussion-Opinion-Editorial™

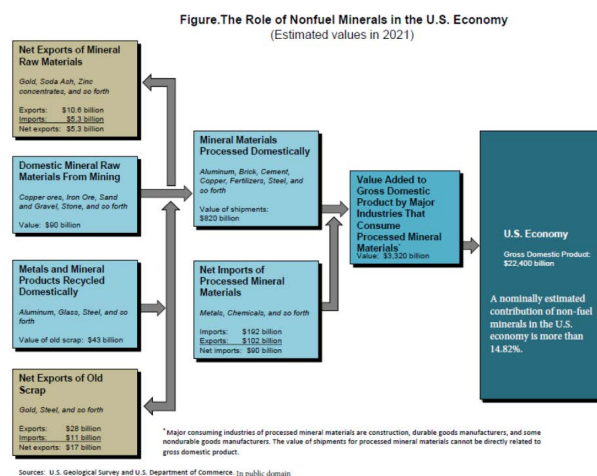
# Non-Fuel Mineral Production under Pandemic in the US: Perception Belies Reality

There is a common perception in the informed sections of the public that the mineral sector is down in major western economies of the world. The pandemic was supposed to further dampen the demand as the general demand was down as the economic activities stalled in large parts of the world. Moreover, people tend to believe that the western world's dependence on minerals is down. Let us discuss now the data from the recently published U.S. Department of the Interior U.S. Geological Survey Mineral Commodity Summaries, 2022. This source is gratefully acknowledged.

## Supply Tightening

The supply shortages spiked the prices even if the demand was dormant such that in 2021, the estimated total value of nonfuel mineral production in the United States was \$90.4 billion, an increase of 12% from the revised total of \$80.7 billion in 2020. The estimated value of metals production increased by 23% to \$33.8 billion. The increased price for copper, which was projected to be about \$4.20 per pound in 2021, an all-time high, contributed to the increased value of metal production. The total value of industrial minerals production was \$56.6 billion, a 6% increase from that in 2020. Of this total, \$29.2 billion was

construction aggregate production (construction sand and gravel and crushed stone). Crushed stone was the leading nonfuel mineral commodity in 2021, with a production value of more than \$19.3 billion and accounted for 21% of the total value of U.S. nonfuel mineral production.



Increases in consumption of nonfuel mineral commodities in commercial construction, steel production, and automotive and transportation industry were attributed to the restarting of the economy after closure because of the global COVID-19 pandemic. For the metals sector,

the copper, iron ore, steel, and zinc industries were particularly affected by increased demand from manufacturing. For the industrial minerals sector, the largest increases in production were in cement, crushed stone, sand and gravel, and soda ash, commodities that are closely tied to the performance of the construction industry.

## Trade Issues

On October 31, 2021, it was announced the additional 10% and 25% ad valorem tariffs under section 232 of the Trade Expansion Act of 1962 (86 FR 64748) on aluminum and steel imports, respectively, from the European Union would be replaced with an import quota effective from January 1, 2022. An agreement was reached between the United States and the European Union to remove the ad valorem tariff on aluminum and steel imports that was imposed in 2018 under the authority of section 232 of the Trade Expansion Act of 1962. Effective in January 2022, the tariff would only be applied to imports from countries in the European Union that exceed specified quotas.

The additional 25% ad valorem duty for products imported from China (Lists 1, 2, and 3) and the 7.5% ad valorem duty for products imported from China (List 4) are imposed under section 301(b) of the Trade Act of 1974, (19 U.S.C. 2411, as amended) by the United States Trade Representative continued in 2021. Likewise, China imposed additional import duties for certain items originating in the United States. In 2021, widespread supply chain disruptions were experienced by most industries, particularly in cargo transportation. In March, a large container ship blocked the Suez Canal for six days,

severely delaying global trade. Delays in offloading ships at docks resulted from the lack of truck drivers to remove cargo containers, and ports ran out of space to store containers. Cargo ships were forced to remain at sea until space was available to unload them. Additionally, ongoing travel- and work-related restrictions put in place to mitigate the effects of the global COVID-19 pandemic continued throughout the year. Lockdowns took place in various countries as COVID-19 and its variants spread throughout the world. U.S. ports continued to experience lengthy delays, especially at the Ports of Long Beach, CA, Los Angeles, CA, and Savannah, GA. Despite a Presidential order for ports to remain open 24 hours per day, worker, truck, and rail shortages and other logistic issues restricted easing of congestion.

## U.S. Production and Consumption

As shown in the figure, minerals remained fundamental to the U.S. economy, contributing to the real gross domestic product at several levels, including mining, processing, and manufacturing finished products. The estimated value of nonfuel minerals produced at mines in the United States in 2021 was \$90.4 billion. The value of the net exports of mineral raw materials increased to \$5.3 billion from \$4.0 billion in 2020. Domestically recycled products totaled \$43 billion, and iron and steel scrap contributed \$18 billion to that total. Domestic raw materials and domestically recycled materials were used to produce mineral materials worth \$820 billion. These mineral materials as well as imports of processed mineral materials, which decreased by 9% in 2021, were, in

**Table .—U.S. Mineral Industry Trends**

	2017	2018	2019	2020	2021*
Total mine production (million dollars):					
Metals	26,800	28,000	26,900	27,500	33,800
Industrial minerals	52,800	56,300	55,800	53,200	56,600
Coal	26,100	27,200	25,500	16,800	18,700
Employment (thousands of workers):					
Coal mining, all employees	52	52	51	42	42
Nonfuel mineral mining, all employees	134	140	140	137	140
Chemicals and allied products, production workers	525	546	559	535	530
Stone, clay, and glass products, production workers	305	311	312	294	290
Primary metal industries, production workers	292	295	302	272	270
Average weekly earnings of workers (dollars):					
Coal mining, all employees	1,484	1,546	1,617	1,521	1,590
Chemicals and allied products, production workers	1,010	1,072	1,066	1,065	1,110
Stone, clay, and glass products, production workers	873	945	966	982	1,010
Primary metal industries, production workers	996	1,035	1,025	1,008	1,070

\*Estimated.

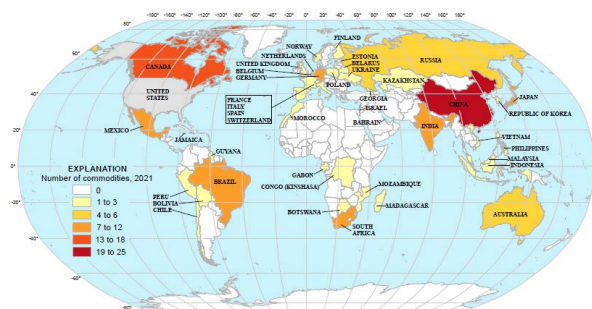
Sources: U.S. Geological Survey, U.S. Department of Energy, and U.S. Department of Labor.

turn, consumed by downstream industries creating an estimated value of \$3.32 trillion in 2021, an 8% increase from that in 2020.

## Reliance on Foreign Sources

The reliance of the United States on foreign sources for raw and processed mineral materials: In 2021, imports made up more than one-half of the U.S. apparent consumption for 47 nonfuel mineral commodities, and the United States was 100% net import reliant for 17 of those. Of the 35 minerals or mineral material groups identified as “critical minerals” published in the Federal Register on May 18, 2018 (83 FR 23295), the United States was 100% net import reliant for 14, and an additional 15 critical mineral commodities had a net import reliance greater than 50% of apparent consumption.

Figure —Major Import Sources of Nonfuel Mineral Commodities for Which the United States was Greater Than 50% Net Import Reliant in 2021



Source: U.S. Geological Survey

The Figure below shows the countries that were sources of nonfuel mineral commodities for which the United States was greater than 50% net import reliant in 2021 and the number of mineral commodities for which each highlighted country was a leading supplier. China, followed by Canada, supplied the largest number of these nonfuel mineral commodities. The countries that were the leading sources of imported mineral commodities with greater than 50% net import reliance were: China, 25 mineral commodities; Canada, 16 mineral commodities; Germany, 11 mineral, 5 commodities; South Africa, 10 mineral commodities; and Brazil and Mexico, 9 mineral commodities each.

The estimated value of U.S. metal mine production in 2021 was \$33.8 billion, 23% higher than the revised value in 2020. Principal contributors to the total value of metal

mine production in 2021 were copper, 35%; gold, 31%; iron ore, 13%; and zinc, 7%. The estimated value of U.S. industrial minerals production in 2021, including construction aggregates, was \$56.6 billion, about 6% more than the revised value of 2020. The value of industrial minerals production in 2021 was dominated by crushed stone, 34%; cement (masonry and Portland ), 19%; and construction sand and gravel, 17%. In 2021, U.S. production of 14 mineral commodities was valued at more than \$1 billion each. These commodities were, in decreasing order of value, crushed stone, copper, cement, gold, construction sand and gravel, iron ore, salt, lime, industrial sand and gravel, zinc, soda ash, phosphate rock, palladium, and molybdenum. In 2021, 13 states each produced more than \$2 billion worth of nonfuel mineral commodities. These states were, in descending order of production value, Arizona, Nevada, Texas, California, Minnesota, Alaska, Utah, Florida, Missouri, Michigan, Wyoming, Georgia, and Montana (Table 3, Figure 4). The west region was the leading region in the production of metals and metallic minerals, and other industrial minerals production with a value of \$28 billion and \$10.4 billion, respectively, in 2021 (Figures 5, 6). In 2021, there were seven states produced more than \$900 million worth of crushed stone. These States were, in descending order of production value, Texas, Pennsylvania, Florida, North Carolina, Georgia, Virginia, and Missouri. Construction sand and gravel were produced in every State. California and Texas were the only two states that produced more than \$1 billion worth of construction sand and gravel in 2021. Arizona, Utah, Washington, Ohio, New York, Colorado, Michigan, and Florida, in descending order of production value, were the other top 10 producing states. The Defense Logistics Agency Strategic Materials (DLA Strategic Materials) is responsible for the operational oversight of the National Defense Stockpile (NDS) of strategic and critical materials. Managing the security, environmentally sound stewardship, and ensuring the readiness of all NDS stocks is the mission of the DLA Strategic Materials. The NDS currently contains 46 unique commodities stored at 10 locations within the continental United States. In the fiscal year 2021, approximately \$4.95 million of new stocks were acquired, and \$75.45 million of excess materials were sold. Revenue from the Stockpile Sales Program fund the operation of the NDS and the acquisition of new stocks. As of September 30, 2021, the NDS inventory had a fair market value of \$1.28 billion. For reporting purposes, NDS stocks are categorized as

held in reserve or available for sale. The majority of stocks are held in reserve.

## Prospects for the Future

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As it seems the demand for minerals in the US economy is not going to go down anytime soon. There may be some

political positioning and posturing by few, but the mainstream demands are not going to drop. The economy is trying to become greener but for minerals, it is only shifting demand from one end to the other; there is a little effect on the value as such. And for notes, the above is only for the minerals, mostly nonfuel minerals; we will talk about oil and gas at another time.