

SAND AND GRAVEL (CONSTRUCTION)¹

(Data in million metric tons unless otherwise noted)

Domestic Production and Use: In 2022, 960 million tons of construction sand and gravel valued at \$10 billion was produced by an estimated 3,300 companies operating 6,200 pits and 200 sales and (or) distribution yards in 50 States. Leading producing States were, in order of decreasing tonnage, California, Texas, Arizona, Minnesota, Washington, Utah, Michigan, Colorado, Ohio, and New York, which together accounted for about 53% of total output. An estimated 42% of construction sand and gravel was used as portland cement concrete aggregates, 26% for road base and coverings, 13% for construction fill, 10% for asphaltic concrete aggregate and for other bituminous mixtures, and 6% for other miscellaneous uses. The remaining 3% was used for concrete products, filtration, golf course maintenance, plaster and gunite sands, railroad ballast, road stabilization, roofing granules, and snow and ice control.

The estimated output of construction sand and gravel in the United States shipped for consumption in the first 9 months of 2022 was 724 million tons, a slight increase compared with that in the same period in 2021. Third-quarter shipments for consumption increased slightly compared with those in the same period in 2021. Additional production information, by quarter, for each State, geographic division, and the United States is reported by the U.S. Geological Survey in its quarterly Mineral Industry Surveys for construction sand and gravel and crushed stone.

<u>Salient Statistics—United States:</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022^e</u>
Production	912	914	888	942	960
Imports for consumption	6	5	5	5	4
Exports	(²)				
Consumption, apparent ³	918	919	893	946	960
Price, average unit value, dollars per metric ton	9.18	9.65	9.93	10.36	11
Employment, mine and mill, number ⁴	38,600	39,600	37,900	37,800	37,000
Net import reliance ⁵ as a percentage of apparent consumption	1	1	1	(²)	(²)

Recycling: Road surfaces made of asphalt concrete and portland cement concrete surface layers, which contain sand and gravel aggregate, were recycled on a limited but increasing basis in most States. In 2022, asphalt and portland cement concrete road surfaces were recycled in all 50 States.

Import Sources (2018–21): Canada, 95%; Mexico, 2%; and other, 3%.

<u>Tariff:</u>	<u>Item</u>	<u>Number</u>	<u>Normal Trade Relations</u>
			<u>12–31–22</u>
	Sand, other	2505.90.0000	Free.
	Pebbles and gravel	2517.10.0015	Free.

Depletion Allowance: Common varieties, 5% (domestic and foreign).

Government Stockpile: None.

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Events, Trends, and Issues: U.S. construction sand and gravel production was about 960 million tons in 2022, a slight increase compared with that in 2021. Apparent consumption also increased to 960 million tons. Consumption of construction sand and gravel increased in 2022 because of growth in the private and public construction markets. Usually, commercial and heavy-industrial construction activity, infrastructure funding, labor availability, new single-family housing unit starts, and weather affect growth in construction sand and gravel production and consumption. Long-term increases in construction aggregates demand are influenced by activity in the public and private construction sectors, as well as by construction work related to infrastructure improvements around the Nation. The underlying factors that would support a rise in prices of construction sand and gravel are expected to be present in 2023, especially in and near metropolitan areas.

The construction sand and gravel industry continued to be concerned with environmental, health, permitting, safety, and zoning regulations. On November 15, 2021, the Infrastructure Investment and Jobs Act was signed into law. The legislation reauthorizes surface transportation programs for 5 years and invests \$110 billion in additional funding to repair roads and bridges and support major, transformational projects. Movement of sand and gravel operations away from densely populated regions was expected to continue where zoning regulations and local sentiment discouraged them. Resultant regional shortages of construction sand and gravel and higher fuel costs could result in higher-than-average price increases in industrialized and urban areas.

World Mine Production and Reserves:

	Mine production		Reserves⁶
	2021	2022^e	
United States	942	960	Reserves are controlled largely by land use and (or) environmental concerns.
Other countries ⁷	NA	NA	
World total	NA	NA	

World Resources:⁶ Sand and gravel resources are plentiful throughout the world. However, because of environmental regulations, geographic distribution, and quality requirements for some uses, sand and gravel extraction is uneconomical in some cases. The most important commercial sources of sand and gravel have been glacial deposits, river channels, and river flood plains. Use of offshore deposits in the United States is mostly restricted to beach erosion control and replenishment. Other countries routinely mine offshore deposits of aggregates for onshore construction projects.

Substitutes: Crushed stone, the other major construction aggregate, is often substituted for natural sand and gravel, especially in more densely populated areas of the Eastern United States. Crushed stone remains the dominant choice for construction aggregate use. Increasingly, recycled asphalt and portland cement concretes are being substituted for virgin aggregate, although the percentage of total aggregate supplied by recycled materials remained very small in 2022.

^eEstimated. NA Not available.

¹See also the Sand and Gravel (Industrial) and Stone (Crushed) chapters.

²Less than ½ unit.

³Defined as production + imports – exports.

⁴Including office staff. Source: Mine Safety and Health Administration.

⁵Defined as imports – exports.

⁶See Appendix C for resource and reserve definitions and information concerning data sources.

⁷No reliable production information is available for most countries owing to the wide variety of ways in which countries report their sand and gravel production. Some countries do not report production for this mineral commodity. Production information for some countries is available in the U.S. Geological Survey Minerals Yearbook, volume III, Area Reports—International.