

ZINC

(Data in thousand metric tons of zinc content unless otherwise noted)

Domestic Production and Use: The value of zinc mined in 2018, based on zinc contained in concentrate, was about \$2.5 billion. Zinc was mined in six States at 15 mines operated by five companies. Two smelter facilities, one primary and one secondary, operated by two companies, produced commercial-grade zinc metal. Of the total reported zinc consumed, most was used in galvanizing, followed by brass and bronze, zinc-based alloys, and other uses.

Salient Statistics—United States:	2014	2015	2016	2017	2018^e
Production:					
Zinc in ore and concentrate	831	825	805	774	790
Refined zinc ¹	180	172	126	132	130
Imports for consumption:					
Zinc in ore and concentrate	(²)	(²)	(²)	7	40
Refined zinc	805	771	713	729	770
Exports:					
Zinc in ore and concentrate	644	708	597	682	870
Refined zinc	20	13	47	32	22
Shipments from Government stockpile	—	—	—	—	—
Consumption, apparent, refined zinc ³	965	931	792	829	880
Price, average, cents per pound:					
North American ⁴	107.1	95.5	101.4	139.3	145.0
London Metal Exchange (LME), cash	98.1	87.6	94.8	131.3	137.0
Reported producer and consumer stocks, refined zinc, yearend	88	87	80	120	100
Employment:					
Mine and mill, number ⁵	2,620	2,670	2,350	2,420	2,660
Smelter, primary, number	259	250	246	240	250
Net import reliance ⁶ as a percentage of apparent consumption (refined zinc)	81	81	84	84	85

Recycling: In 2018, about 25% (32,000 tons) of the refined zinc produced in the United States was recovered from secondary materials at both primary and secondary smelters. Secondary materials included galvanizing residues and crude zinc oxide recovered from electric arc furnace dust.

Import Sources (2014–17): Ore and concentrate: Peru, 99%; and other, 1%. Refined metal: Canada, 71%; Mexico, 14%; Peru, 8%; Australia, 6%; and other, 1%. Waste and scrap: Canada, 72%; Mexico, 27%; and other, 1%. Combined total: Canada, 70%; Mexico, 14%; Peru, 8%; Australia, 6%; and other, 2%.

Tariff: Item	Number	Normal Trade Relations 12–31–18
Zinc ores and concentrates, Zn content	2608.00.0030	Free.
Zinc oxide; zinc peroxide	2817.00.0000	Free.
Unwrought zinc, not alloyed:		
Containing 99.99% or more zinc	7901.11.0000	1.5% ad val.
Containing less than 99.99% zinc:		
Casting-grade	7901.12.1000	3% ad val.
Other	7901.12.5000	1.5% ad val.
Zinc alloys	7901.20.0000	3% ad val.
Zinc waste and scrap	7902.00.0000	Free.

Depletion Allowance: 22% (Domestic), 14% (Foreign).

Government Stockpile:⁷

Material	Inventory As of 9–30–18	FY2018		FY 2019	
		Potential Acquisitions	Potential Disposals⁸	Potential Acquisitions	Potential Disposals⁸
Zinc	7.25	—	7.25	—	7.25

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Events, Trends, and Issues: Global zinc mine production in 2018 was estimated to be 13 million tons, a slight increase from that of 2017. Notable zinc mine production increases took place in Australia with the opening of the Dugald River Mine in late 2017 and the commissioning of two tailings projects; in Cuba, with the opening of the Castellanos Mine in late 2017; and in Peru, with increased production at the Antamina Mine.

In 2018, the zinc metal market continued the deficit observed in 2017, with consumption exceeding production. According to the International Lead and Zinc Study Group,⁹ global refined zinc production in 2018 was estimated to be 13.42 million tons, and metal consumption was estimated to be 13.74 million tons, resulting in a production-to-consumption deficit of 322,000 tons of refined zinc.

Domestic zinc mine production increased slightly in 2018, owing to the addition of production from a reopened mine in New York. Refined zinc production decreased slightly owing to maintenance outages at the Clarksville, TN, smelter. Despite the slight decrease in refined zinc production, calculated apparent consumption for 2018 increased by 6% to 880,000 tons owing to an increase of imports.

The monthly average North American Special High Grade (SHG) zinc price decreased by about 28% in the first 9 months of 2018 to an average of \$1.19 per pound in September from \$1.64 per pound in January.

World Mine Production and Reserves: Reserves for the United States, Canada, India, and Sweden were revised based on company data. The reserves estimates for China and Peru were revised based on data from Government reports.

	Mine production ¹⁰		Reserves ¹¹
	2017	2018 ^e	
United States	774	790	11,000
Australia	842	940	¹² 64,000
Bolivia	473	520	4,800
Canada	344	340	3,000
China	4,400	4,300	44,000
India	833	800	10,000
Kazakhstan	330	390	13,000
Mexico	674	650	20,000
Peru	1,470	1,600	21,000
Sweden	251	220	1,400
Other countries	2,140	2,300	33,000
World total (rounded)	12,500	13,000	230,000

World Resources: Identified zinc resources of the world are about 1.9 billion tons.

Substitutes: Aluminum and plastics substitute for galvanized sheet in automobiles; and aluminum alloys, cadmium, paint, and plastic coatings replace zinc coatings in other applications. Aluminum- and magnesium-base alloys are major competitors for zinc-base die-casting alloys. Many elements are substitutes for zinc in chemical, electronic, and pigment uses.

^eEstimated. — Zero.

¹Includes primary and secondary refined production.

²Less than ½ unit.

³Defined as refined production + refined imports – refined exports + adjustments for Government stock changes.

⁴Platts Metals Week price for North American SHG zinc; based on the LME cash price plus premium.

⁵Includes mine and mill employment at all zinc-producing mines. Source: Mine Safety and Health Administration.

⁶Defined as imports – exports + adjustments for Government stock changes.

⁷See Appendix B for definitions.

⁸Disposals are defined as any barter, rotation, sale, or upgrade of National Defense Stockpile stock.

⁹International Lead and Zinc Study Group, 2018, ILZSG session/forecasts: Lisbon, Portugal, International Lead and Zinc Study Group press release, October 8, 6 p.

¹⁰Zinc content of concentrate and direct shipping ore.

¹¹See Appendix C for resource and reserve definitions and information concerning data sources.

¹²For Australia, Joint Ore Reserves Committee-compliant reserves were about 24 million tons.