

LIME¹(Data in thousand metric tons, unless otherwise noted)²

Domestic Production and Use: In 1997, lime producers at 115 plants in 34 States sold or used 19.3 million tons (21.3 million short tons) of lime valued at about \$1.13 billion, an increase of about 200,000 tons (220,000 short tons) and a decrease of about \$10 million from 1996 levels. Ten companies, operating 35 plants, accounted for 68% of the total output. Principal producing States, each with production over 1 million tons, were Alabama, Kentucky, Missouri, Ohio, Pennsylvania, and Texas. These six States produced about 10.9 million tons (9.89 million short tons) or 56% of the total output.

Salient Statistics—United States:	1993	1994	1995	1996	1997^e
Production ³	16,700	17,400	18,500	19,100	19,300
Imports for consumption	201	204	289	262	230
Exports	69	74	72	50	58
Consumption, apparent ⁴	16,900	17,500	18,700	19,300	19,500
Quicklime average value, dollars per ton at plant	55.02	56.43	56.77	56.68	55.40
Hydrate average value, dollars per ton at plant	67.84	67.71	72.09	79.64	73.80
Stocks, yearend	NA	NA	NA	NA	NA
Employment, mine and plant, number	5,500	5,500	5,500	5,600	5,700
Net import reliance ⁵ as a percent of apparent consumption	—	—	—	1	1

Recycling: Large quantities of lime are regenerated by paper mills. Some municipal water treatment plants regenerate lime from softening sludge. Quicklime is regenerated from waste hydrated lime in the carbide industry. Data for these plants are not included as production in order to avoid duplication.

Import Sources (1993-96): Canada, 91%; and Mexico, 9%.

Tariff: Item	Number	Most favored nation (MFN) 12/31/97	Non-MFN⁶ 12/31/97
Quicklime	2522.10.0000	Free	0.2¢/kg. ⁷
Slaked lime	2522.20.0000	Free	0.3¢/kg. ⁷
Hydraulic lime	2522.30.0000	Free	0.2¢/kg. ⁷

Depletion Allowance: 14% (Domestic), 14% (Foreign), for limestone produced and used for lime production.

Government Stockpile: None.

LIME

Events, Trends, and Issues: The lime industry continued to add new capacity in 1997. New lime plants were constructed in Alabama and Ohio, and capacity was added at existing plants in Alabama, Kentucky, and Ohio. Subtracting capacity lost with the closure of one small plant in Pennsylvania and the shut down of old kilns being replaced by new kilns, the net capacity increase was about 960,000 tons (1,060,000 short tons). After several years of large capacity increases the pace of construction activity appears to be slowing, although there are still a few new plants or kilns scheduled for start up in the 1998-99 time frame.

International discussions on reducing greenhouse gas emissions are being monitored very closely by the lime industry. Lime production produces carbon dioxide from the combustion of fuels (primarily coal) to fire the kilns and as a result of the calcination process, which dissociates calcium carbonate into calcium oxide (lime) and carbon dioxide. Any program regulating carbon dioxide emissions would have a direct impact on the lime industry.

World Lime Production and Limestone Reserves and Reserve Base:

	Production		Reserves and reserve base ⁸
	1996	1997 ^e	
United States	19,100	19,300	Adequate for all countries listed.
Belgium	1,800	1,800	
Brazil	5,700	5,700	
Canada	2,500	2,500	
China	20,000	22,000	
France	3,000	3,000	
Germany	8,000	8,000	
Italy ⁹	3,500	3,500	
Japan (quicklime only)	7,670	7,700	
Mexico	6,600	6,600	
Poland	2,500	2,500	
Romania	1,700	1,700	
South Africa (sales)	1,691	1,700	
United Kingdom	2,500	2,500	
Other countries	<u>35,000</u>	<u>35,000</u>	
World total (rounded)	121,000	124,000	

World Resources: Domestic and world resources of limestone and dolomite suitable for lime manufacture are adequate.

Substitutes: Limestone is a substitute for lime in many uses, such as agriculture, fluxing, and sulfur removal. Limestone contains less reactive material, is slower to react, and may have other disadvantages to lime depending on the use; however, limestone is considerably less expensive than lime. Calcined gypsum is an alternative material in industrial plasters and mortars. Cement and lime kiln dust and fly ash are potential substitutes for some construction uses of lime.

^eEstimated. NA Not available.

¹Data are for quicklime, hydrated lime, and refractory dead-burned dolomite. Excludes Puerto Rico, unless noted.

²See Appendix A for conversion to short tons.

³Sold or used by producers.

⁴Stocks data are not available; stock changes are assumed to be zero for apparent consumption and net import reliance calculations.

⁵Defined as imports - exports + adjustments for Government and industry stock changes.

⁶See Appendix B.

⁷Rates include weight of the container.

⁸See Appendix D for definitions.

⁹Includes hydraulic lime.