

LIME^{1 2}(Data in thousand metric tons, unless noted)³

Domestic Production and Use: In 1995, lime producers at 113 plants in 33 States sold or used 18.5 million tons (20.4 million short tons) of lime valued at about \$1,190 million, an increase of about 1.1 million tons (1.2 million short tons) and \$170 million from 1994 levels. Most of the increase was accounted for by commercial and captive producers reporting higher quicklime production. Ten companies, operating 28 plants, accounted for 66% of domestic output. Principal producing States, in decreasing order, were Ohio, Missouri, Alabama, Pennsylvania, Kentucky, Texas, and Illinois. These seven States produced 11.5 million tons (12.7 million short tons) or 62% of the total output. Based on monthly data, the leading markets were chemical and industrial, steel, environmental, and construction.

Salient Statistics—United States:	1991	1992	1993	1994	1995^e
Production ⁴	15,700	16,200	16,800	17,400	18,500
Imports for consumption	158	193	201	204	290
Exports	47	59	69	74	75
Consumption, apparent ⁵	15,800	16,300	16,900	17,500	18,700
Quicklime average value, dollars per ton at plant	55.04	55.48	55.02	56.43	62.70
Hydrate average value, dollars per ton at plant	69.78	72.15	67.84	67.71	77.10
Stocks, yearend	NA	NA	NA	NA	NA
Employment, mine and plant	5,500	5,500	5,500	5,500	5,500
Net import reliance ⁶ as a percent of apparent consumption	<1	<1	<1	<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 (1991-94): Canada, 91%; Mexico, 8%; and other, 1%.

Tariff:	Item	Number	Most favored nation (MFN) 12/31/95	Non-MFN⁷ 12/31/95
	Quicklime	2522.10.0000	Free	0.2¢/kg. ⁸
	Slaked lime	2522.20.0000	Free	0.3¢/kg. ⁸
	Hydraulic lime	2522.30.0000	Free	0.2¢/kg. ⁸

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

Government Stockpile: None.

LIME

Events, Trends, and Issues: The deadline for phase I compliance with sulfur dioxide (SO₂) emission regulations of the Clean Air Act Amendments of 1990 was January 1, 1995. After that date, it is unlawful for any affected utility unit to emit SO₂ in excess of the tonnage limitation of the utility's emission allowances. To supply lime for this flue gas desulfurization market (FGD), the lime industry planned to install in excess of 1.8 million tons per year (2.0 million short tons per year) of new capacity by yearend 1995. Kilns are being added to existing plants in Kentucky, Nevada, Tennessee, and West Virginia, and a new plant is being built in Missouri.

The surge in demand by the FGD and steel markets temporarily outstripped the construction of new production capacity. As a result, after an extended period of price stagnation, lime prices increased dramatically in 1995. During the period 1985-94, the value per ton of quicklime as prepared for sale, increased on average only 1.1% per year. But in inflation-adjusted constant 1994 dollars, the value per ton of quicklime decreased an average of 2.1% per year. Based on a sampling of producers, quicklime and hydrate values per ton are projected to be up 11% and 14%, respectively in 1995. The prices vary by region and are affected by regional shortages and long-term supply contracts.

World Lime Production and Limestone Reserves and Reserve Base:

	Production		Reserves and reserve base ⁹
	1994	1995 ^e	
United States	17,400	18,500	Adequate for all countries listed.
Belgium	1,750	1,700	
Brazil	5,700	5,700	
Canada	2,390	2,400	
China	19,500	20,000	
France	2,500	2,500	
Germany	7,500	7,500	
Italy ¹⁰	3,500	3,500	
Japan (quicklime only)	7,710	7,700	
Mexico	6,500	6,500	
Poland	2,500	2,500	
Romania	3,000	3,000	
South Africa, (sales)	1,600	1,600	
United Kingdom	2,500	2,500	
Other countries	<u>34,000</u>	<u>34,000</u>	
World total (rounded)	118,000	120,000	

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.

²Excludes Puerto Rico, unless noted.

³See Appendix A for conversion to short tons.

⁴Sold or used by producers.

⁵Stocks data are not available; stock changes are assumed to be zero for apparent consumption and net import reliance calculations.

⁶Defined as imports - exports + adjustments for Government and industry stock changes.

⁷See Appendix B.

⁸Rates include weight of the container.

⁹See Appendix C for definitions.

¹⁰Includes hydraulic lime.