

LIME¹

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: In 2007, 20.2 million tons (22.3 million short tons) of quicklime and hydrate was produced (excluding commercial hydrators) at a value of about \$1.8 billion. Production came from 35 companies, which included 24 companies with commercial sales and 11 companies that produced lime strictly for internal use (for example, sugar companies). These companies operated 82 plants in 35 States and Puerto Rico. Principal producing States, each with production of more than 1 million tons, were Alabama, Kentucky, Missouri, Nevada, Ohio, Pennsylvania, and Texas. These seven States produced about 12.8 million tons (14.1 million short tons), or 63% of the total output. Major markets for lime were steelmaking, flue gas desulfurization (fgd), mining, construction, pulp and paper, precipitated calcium carbonate, and water treatment.

Salient Statistics—United States:	2003	2004	2005	2006	2007^e
Production ²	19,200	20,000	20,000	21,000	20,200
Imports for consumption	202	232	310	298	390
Exports	98	100	133	116	200
Consumption, apparent	19,300	20,100	20,200	21,200	20,400
Quicklime average value, dollars per ton at plant	61.40	64.80	72.10	78.10	84.00
Hydrate average value, dollars per ton at plant	84.80	89.80	91.10	98.30	105.00
Stocks, yearend	NA	NA	NA	NA	NA
Employment, mine and plant, number	5,350	5,350	5,300	5,300	5,300
Net import reliance ³ as a percentage of apparent consumption	(⁴)	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 sources were not included as production in order to avoid duplication.

Import Sources (2003-06): Canada, 74%; Mexico, 25%; and other, 1%.

Tariff:	Item	Number	Normal Trade Relations
			12-31-07
	Calcined dolomite	2518.20.0000	3% ad. val.
	Quicklime	2522.10.0000	Free.
	Slaked lime	2522.20.0000	Free.
	Hydraulic lime	2522.30.0000	Free.

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

Government Stockpile: None.

Events, Trends, and Issues: In 2007, owing to a downturn in major markets, such as construction, mining, and steel, lime production decreased by about 4% compared with that of 2006. Prices continued to increase, with quicklime prices increasing an estimated \$6 per metric ton and hydrate prices increasing \$7 per ton. This continues the trend in recent years that has seen quicklime prices increase by 38% since 2003.

Carmeuse North America and Oglebay Norton Co. announced an agreement under which Carmeuse would acquire Oglebay Norton. Oglebay Norton has two groups—ON Minerals, which produces lime and limestone products, and Oglebay Norton Industrial Sands. One of ON Minerals' important limestone markets is fgd, which is expected to combine well with Carmeuse's expertise in lime-based fgd products. Carmeuse has lime plants in Alabama, Illinois, Indiana, Kentucky, Louisiana, Michigan, Ohio, and Pennsylvania. ON Minerals' lime and limestone facilities are in Georgia, Indiana, Michigan, Ohio, Pennsylvania, Tennessee, and Virginia. The transaction was expected to be finalized by the end of 2007.⁵

Pete Lien & Sons, Inc. was in the planning and permitting stage for the construction of a new limestone quarry, lime plant, and hydrating plant, on a tract of land about 9 miles north of Laramie in Albany County, WY. The cost of the project is estimated to be \$50 to \$80 million and plant startup is expected to be in 2008 or 2009.⁶

Western Lime Corp. commissioned a new lime plant in Port Inland, MI. The plant has a preheater rotary kiln with the capacity to produce more than 230,000 metric tons per year of high-calcium lime from limestone that is quarried on site. Quarry operations will cease in the winter, so the plant has the capacity to stockpile about 200,000 t of limestone, which allows the plant to operate year round. Western Lime has two other plants in Eden and Green Bay, WI.⁷

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World Lime Production and Limestone Reserves and Reserve Base:

	Production		Reserves and reserve base ⁸
	2006	2007 ^e	
United States	21,000	20,200	Adequate for all countries listed.
Austria	2,000	2,000	
Belgium	2,400	2,400	
Brazil	6,900	6,900	
Bulgaria	2,500	2,500	
Canada	2,410	2,500	
China	160,000	170,000	
France	3,500	3,000	
Germany	7,000	7,000	
Iran	2,500	2,500	
Italy ⁹	4,800	4,800	
Japan (quicklime only)	8,900	8,900	
Mexico	5,700	5,800	
Poland	2,000	1,800	
Romania	2,000	2,000	
Russia	8,200	8,500	
South Africa (sales)	1,600	1,600	
Turkey (sales)	3,600	3,400	
United Kingdom	2,000	2,000	
Other countries	<u>22,000</u>	<u>19,000</u>	
World total (rounded)	271,000	277,000	

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 applications, such as agriculture, fluxing, and sulfur removal. Limestone, which contains less reactive material, is slower to react and may have other disadvantages compared with lime, depending on the application; however, limestone is considerably less expensive than lime. Calcined gypsum is an alternative material in industrial plasters and mortars. Cement, lime kiln dust, and fly ash are potential substitutes for some construction uses of lime. Magnesium hydroxide is a substitute for lime in pH control, and magnesium oxide is a substitute for dolomitic lime as a flux in steelmaking.

^eEstimated. NA Not available.

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

²Sold or used by producers.

³Defined as imports – exports + adjustments for Government and industry stock changes; stock changes are assumed to be zero for apparent consumption and net import reliance calculations.

⁴Less than ½ unit.

⁵Carmeuse North America, 2007, Carmeuse to acquire Oglebay Norton for \$36 per share in cash: Pittsburgh, PA, Carmeuse Lime press release, October 12, 3 p.

⁶LeClair, Aaron, 2007, Development of limestone plant moves forward: Laramie Boomerang, July 25. (Accessed October 29, 2007, at <http://www.laramieboomerang.com/news/archivemore.asp?StoryID=106895>.)

⁷Ferenco, 2007, Western Lime announces new facility commissioned: Vancouver, British Columbia, Canada, Ferenco news release, August 16, 2 p.

⁸[See Appendix C for definitions.](#)

⁹Includes hydraulic lime.