



2014 Minerals Yearbook

GYPSUM [ADVANCE RELEASE]

GYPSUM

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In 2014, the United States ranked fourth worldwide in the production of crude mined gypsum, with 11.0 million metric tons (Mt) of production and a reported value of \$98.0 million. That was an increase of 4% from the 10.6 Mt of produced crude gypsum in 2013 and a slight increase from the 2013 value of \$96.5 million. China was the world's leading producer and consumer of mined gypsum, with estimated production of 130 Mt of crude gypsum, followed by Iran (16 Mt), and Thailand (12 Mt) (table 7). Apparent consumption of gypsum in the United States increased by 22% to 29.8 Mt in 2014 from 24.5 Mt in 2013. Calcined gypsum production increased slightly to 14.7 Mt in 2014 compared with 14.6 Mt produced in 2013.

The estimated sales of synthetic gypsum increased to 15.2 Mt in 2014. Coal-burning powerplants in the United States are required to operate sulfur dioxide scrubbing systems, which results in the precipitation of large amounts of byproduct gypsum. Because byproduct gypsum is available at a substantially lower cost than its mined counterpart, a number of wallboard production facilities have been constructed adjacent to coal-fired powerplants. Approximately 51% of the synthetic gypsum produced in 2014 was neither sold nor used and in most cases was discarded (American Coal Ash Association, 2015).

Legislation and Government Programs

Several million tons of gypsum waste are generated every year by building demolition, wallboard installation, and wallboard manufacturing. Construction costs are lower when full pieces of uncut wallboard are used rather than multiple, smaller remnants. As a result, between 10% and 12% of the wallboard used in new construction and renovation is discarded as scrap. Only a small part of this waste has been recycled. The most recent legislative actions concerning the disposal of gypsum was in 2010 when the Massachusetts Department of Energy and Environmental Affairs banned the disposal of clean wallboard from State waste disposal facilities (Massachusetts Department of Energy and Environmental Affairs, 2011). To date, no other State has instituted a similar regulation that addresses the disposal of wallboard. As landfill space becomes more scarce, recycling is expected to increase. In addition to recycling scrap in wallboard plants, wallboard scrap may also be ground and used as a soil conditioner.

Wallboard manufacturers and the construction industry have been exploring ways to return scrap and waste wallboard to plants for recycling. Other potential markets for recycled gypsum include cement production, as a stucco additive, sludge drying, water treatment, grease absorption, and marking of athletic fields. Until costs and legislation associated with the disposal of scrap gypsum in landfills become more restrictive, recycling likely will continue to remain a low priority within the industry.

Imports of corrosive wallboard from China into the United States remained an issue, although new complaint reports have slowed. The U.S. Consumer Product Safety Commission received 4,051 reports of possible corrosive wallboard from residents in 44 States, the District of Columbia, American Samoa, and Puerto Rico. Most complaints were filed for homes constructed between 2006 and 2007 (U.S. Consumer Product Safety Commission, 2015). Sulfide gases emitted from the problematic drywall were suspected of damaging copper wiring and plumbing and also posed concerns for human health (Global Gypsum Magazine, 2010a). Following several years of complaints regarding corrosive wallboard imported from China, a class-action settlement among owners of approximately 20,000 affected single-family homes, most of which are located in Gulf Coast and southern U.S. States, and Chinese wallboard manufacturer, Knauf Plasterboard Tianjin Co. Ltd., was settled on July 9, 2013, with claims accepted through October 25, 2013 (U.S. District Court, 2013). In January 2015, 19,726 of a total 22,491 claims received had been reviewed under the \$76.2 million Chinese Drywall Settlement Program (U.S. District Court, 2015).

Production

Industry data for gypsum were collected by the U.S. Geological Survey (USGS) from semiannual and annual surveys of gypsum operations and from quarterly data provided by the Gypsum Association. In 2014, the USGS annual survey canvassed 117 gypsum operations that accounted for all domestic output of crude, calcined, and byproduct gypsum. Data were available for all the operations through this survey, the Gypsum Association, the American Coal Ash Association, State agencies, and Federal agencies. Of the 117 operations, 17 did not respond to the survey and their respective production levels were estimated on the basis of prior reported production levels in conjunction with employment records published by the Mine Safety and Health Administration.

The United States was the world's fourth-leading producer of crude gypsum in 2014, accounting for 4% of global output (table 7). During 2014, crude gypsum in the United States was produced at 50 mines in 16 States (table 2). The leading crude-gypsum-producing States were, in descending order, Oklahoma, Texas, Nevada, Kansas, Iowa, Arkansas, California, Colorado, Indiana, and Arizona, which together accounted for 91% of total domestic output.

The U.S. gypsum industry primarily consisted of a few large, vertically integrated companies that mined gypsum and manufactured wallboard, plaster, and other gypsum products. Companies with the highest production levels of crude gypsum were USG Corp. (USG) with nine mines, National Gypsum Co.

with six mines, CertainTeed Corp. with four mines, American Gypsum with three mines, Georgia-Pacific LLC with three mines, and PABCO Gypsum with one mine. In 2014, these six companies produced an estimated 50% of U.S. crude gypsum.

In 2014, domestic output of calcined gypsum increased slightly to 14.7 Mt valued at \$437 million (table 1); 12.5 Mt of calcined gypsum was used in the production of plasters and prefabricated products (table 3).

In addition to crude gypsum production, synthetic gypsum was generated as a byproduct of various industrial processes. The primary source of synthetic gypsum was flue gas desulfurization (FGD) systems at coal-fired electric powerplants. Smaller quantities of synthetic gypsum were derived as byproducts of chemical processes such as acid neutralization, citric acid production, sugar production from sugar beets, and titanium dioxide production. Synthetic gypsum was used as a substitute for crude gypsum, principally for wallboard manufacturing, cement production, and agricultural purposes, in descending order of tonnage.

Approximately 400 synthetic gypsum producers synthesized an estimated 34.1 Mt of flue-gas desulfurized gypsum in 2014. Of the total 34.1 Mt of synthetic gypsum produced, only 15.2 Mt was sold or used in 2014, with a total estimated value of \$76.0 million (American Coal Ash Association, 2015). An estimated 51% of all synthetic gypsum produced in 2014 was neither sold nor used and in most cases was discarded.

For 2014, gypsum-derived products, including agricultural products, cement, plasters, and wallboard, totaled 14.3 Mt with a value of \$3.17 billion. This represented a slight production increase compared with the 14.1 Mt produced in 2013 and a 5% increase in value from \$3.01 billion (table 3).

During 2014, seven companies manufactured gypsum wallboard products in the United States. Approximately 21.5 billion square feet (2.0 billion square meters) of wallboard products were shipped, a slight decrease compared with that of 2013 (table 4).

The decline in the U.S. housing market that began in 2007 and continued through 2010 resulted in flat and declining sales for most gypsum producers, which led to layoffs and the idling of wallboard production plants (Crangle, 2011). However, beginning in late 2010 and continuing through 2014, housing starts, an indicator of gypsum consumption in residential construction, increased each year. In 2014, housing starts increased by 8% from those of 2013 (fig. 1; U.S. Census Bureau, 2015b).

Consumption

In 2014, U.S. apparent consumption of domestic gypsum was 29.8 Mt, 22% more than that of 2013. Domestic sources (mined crude plus an estimated 15.2 Mt of synthetic gypsum consumed) met approximately 87% of domestic consumption requirements; imports, totaling 3.72 Mt, satisfied the remaining need. Sales of synthetic gypsum were 40% more than those of 2013. This was largely the result of the lower costs associated with the purchase and transportation of FGD gypsum, which is often available near the same urban centers where wallboard production facilities are located.

Gypsum output is categorized as either calcined or uncalcined (table 3). Calcined gypsum was produced domestically from mined crude and synthetic gypsum to manufacture wallboard and plaster products. Uncalcined gypsum was used to produce portland cement and in agriculture. Miscellaneous uses, such as athletic field markings, accounted for less than 1% of consumption.

In 2014, 99% of calcined gypsum was used in the production of prefabricated products, most of which consisted of wallboard (tables 3, 4). Type X gypsum board, so named because of extra fire retardation qualities, consumed 41%, by weight, of calcined gypsum. Half-inch wallboard accounted for 37% of total calcined gypsum consumption. Water- and moisture-resistant board, typically used in bathroom and kitchen walls, accounted for 10% of calcined gypsum. Other wallboard, including mobile-home board, predecorated wallboard, sheathing, and veneer base composed most of the balance (table 4).

Uncalcined gypsum consumption in the United States increased by 23% to 1.77 Mt in 2014 from 1.44 Mt in 2013. About 1.12 Mt, or 63%, was consumed in portland cement production (table 3). Gypsum is added to cement to retard its setting time and accounts for 3% to 7%, by weight, of cement output (van Oss, 2005, p. 8; Roskill Information Services Ltd., 2009, p. 320). Most of the remainder of the uncalcined gypsum consumed, about 652,000 t, was used for agricultural purposes, an increase of 15% from that of 2013. Finely ground gypsum rock was used in agriculture and other industries to neutralize acidic soils, improve soil permeability, add nutrients, stabilize slopes, and provide catalytic support for maximum fertilizer benefits. Small quantities of high-purity gypsum also were used in a wide range of industrial applications, including the production of food, glass, paper, and pharmaceuticals.

Gypsum waste generated by the wallboard manufacturing process may be recycled. The gypsum core and paper covering are separated, and the gypsum is reinjected with new material into the manufacturing stream.

Prices

In 2014, the average unit values (free on board, mine or plant) reported by U.S. producers were \$8.91 per metric ton for crude gypsum, a slight decrease from that of 2013, and \$29.76 per ton for calcined gypsum, an increase of 8% from that of 2013 (table 1). The average unit value for plaster reported by domestic producers during the year was \$429 per ton, slightly less than that in 2013 (table 3). The average unit value of uncalcined gypsum used primarily for agricultural purposes was approximately \$43 per ton, a 6% increase from that in 2013, and that used in cement production was about \$19.30 per ton, a 6% decrease from that in 2013 (table 3).

During 2014, the average unit value of gypsum wallboard increased by 7% and total wallboard production decreased slightly (table 4). The combined average price of ½-inch wallboard for 20 major U.S. metropolitan cities at yearend 2014 was \$272 per 100 square meters (\$253 per 1,000 square feet) (Engineering News-Record, 2015).

Foreign Trade

The United States imported crude gypsum from 13 countries and exported to 83 countries and territories; 48% of total exports went to Canada. Imports of crude gypsum in 2014 increased by 13% from those of 2013 and accounted for 12% of apparent consumption. Canada and Mexico accounted for 75% of imported gypsum, and imports from Spain supplied most of the remainder. The majority of imports from Canada went to east coast plants, and sources in Mexico chiefly served the west coast. Most of the crude gypsum imported by the United States from Mexico was produced by Compañía Minera Caopas, S.A. de C.V., and Compañía Occidental Mexicana, S.A. de C.V., in Baja California Sur, both of which operate mines on the Baja California Peninsula (Compañía Occidental Mexicana, S.A. de C.V., 2005; Compañía Minera Caopas, S.A. de C.V., 2010). Almost all gypsum imported from Canada came from Nova Scotia. The completion of large wallboard manufacturing plants near coal-fired powerplants along the east coast may reduce gypsum imports in the future.

Wallboard exports decreased slightly in 2014, totaling about 829,000 t valued at \$150 million, of which approximately 93% went to Canada. Wallboard imports, almost all of which originated from Canada and Mexico, increased by 11% in 2014 to 362,000 t valued at \$84.0 million (table 6).

World Review

Global crude gypsum production in 2014 was estimated to be 253 Mt, a slight increase compared with that of 2013, when production totaled 245 Mt (table 1). In 2014, 81 countries produced gypsum, with the top 10 producers accounting for 83% of total world production (table 7). China was the leading producer of crude gypsum in 2014 with an estimated 130 Mt, followed, in decreasing tonnages, by Iran with 16.0 Mt, Thailand with 12.4 Mt, the United States with 11.0 Mt, Turkey with 9.0 Mt, Italy with 8.6 Mt, Spain with 7.0 Mt, Mexico with 5.5 Mt, Japan with 4.7 Mt, and Russia with 4.4 Mt. Gypsum production in Iran of 16.0 Mt in 2014 was based on dated historical production that does not fully account for 25 years of double-digit inflation, unemployment in the range of 10%, nor the increased cost of land and housing in urban areas, all of which have likely hampered the actual production level of gypsum (Esmaeili, 2008; Khajepour, 2013).

Production in North America accounted for 8% of total crude gypsum production. Although the use of gypsum wallboard increased worldwide, only industrialized nations used gypsum primarily for wallboard products. In developing countries, especially in Asia and the Middle East, most gypsum was used in the production of cement or plaster products. World production may have been underestimated because output by some foreign gypsum producers was used to manufacture products onsite, which may not have been reported. Additionally, production from small deposits in developing nations was intermittent and in many cases unreported.

Worldwide, the leading use of gypsum is in the manufacture of cement and concrete. In 2013, the last year worldwide end-use data were available, cement manufacture accounted for approximately 50% of worldwide gypsum consumption,

and plaster products, including wallboard, accounted for approximately 30% of all consumption (Satterthwaite, 2013; van Oss, 2015).

As a low-value, high-bulk mineral commodity mined from deposits widely distributed throughout the world, gypsum tended to be consumed within the many countries where it was produced. Less than 20% of the world's crude gypsum production was estimated to enter international trade. Only a few countries, such as Canada, Mexico, Spain, and Thailand, were major crude gypsum exporters; of these, Canada and Mexico were significant exporters because their large deposits were near wallboard markets in the United States.

Estimated world production capacity for gypsum wallboard in 2014 exceeded 17 billion square meters per year (about 183 billion square feet per year) at more than 250 plants worldwide. Approximately 20% of this capacity was in the United States; Asia and Western Europe each accounted for about 20% of capacity.

Australia.—Boral Ltd., Australia's leading building and construction materials producer, announced a 38% increase of \$141 million at its 50–50 gypsum joint venture with USG. Boral remained the leading supplier of wallboard to Asia in 2014, generating \$494 million of revenue. Boral Gypsum had a 40% wallboard market share throughout Asia (Boral Ltd., 2014, p. 14; 2015, p. 4, 79).

Canada.—Canada produced an estimated 1.79 Mt of crude gypsum in 2014, unchanged from that of 2013 (revised). About 1.19 Mt, or 66% of Canada's production, was exported to the United States. In 2014, CGC Inc. (a subsidiary of USG) was the leading manufacturer of gypsum wallboard in eastern Canada and accounted for approximately \$344 million in net sales, or 8% of USG's total global net sales (USG Corp., 2015, p. 2, 30).

China.—In 2014, Beijing New Building Materials PLC (BNBM), the largest gypsum board producer in the world, managed 43 wallboard plants, in production or under construction, in China with an estimated production capacity of 1.65 billion square meters per year (Beijing New Building Materials PLC, 2015). Between 2006 and 2013, China's wallboard production grew at an annual production rate of 21%, with 2.7 billion square meters of wallboard manufactured in 2013 (Tiwari, 2014). Wallboard has become the standard building material in commercial construction for non-load-bearing walls and ceilings in China, with an estimated 80% of all domestically consumed wallboard used in commercial construction (Global Gypsum Magazine, 2011). Because gypsum use in residential construction is relatively low when compared with other countries, the potential for substantial growth in wallboard consumption exists in China, in the event residential gypsum-use patterns become widely adopted (Rapoza, 2013).

France.—Saint-Gobain S.A reported an increase of 4.7% in 2014 sales within its interior solutions unit, which was dominated by wallboard and other gypsum-related products (Saint-Gobain S.A., 2015). Siniat International, headquartered in Avignon, France, was one of the largest suppliers of wallboard and plaster products to Europe in 2014 (Siniat International, 2015).

India.—Saint-Gobain S.A. announced a planned expansion of gypsum wallboard production and sales in India, which ranked second in the world in cement production in 2014. India produced an estimated 280,000 Mt of gypsum but ranked only 20th in terms of its gypsum wallboard production (Global Gypsum Magazine, 2015; van Oss, 2015).

Japan.—Yoshino Gypsum Co., Ltd., which opened Japan's first wallboard factory in 1921, was the leading wallboard producer with 16 plants throughout Japan. The company's combined capacity of 350 million square meters per year of its Tiger Board product accounted for 78% of Japan's total wallboard output (Yoshino Gypsum Co., Ltd., 2015; Global Gypsum Magazine, 2012). With few crude gypsum mining resources, Japan stopped producing crude gypsum in 1976 and has relied on synthetic and recycled gypsum since then to meet much of its domestic demand (Pressler, 1984; Global Gypsum Magazine, 2010b).

Mexico.—In 2014, gypsum production in Mexico was 5.5 Mt, an 8% increase from that of 2013. About 1.41 Mt, or 26% of Mexico's 2014 crude gypsum production, was exported to the United States. In 2014, USG Mexico, S.A. de C.V., the leading manufacturer of wallboard in Mexico with three manufacturing facilities, produced more than 59% of Mexico's wallboard with net sales of \$195 million (USG Corp., 2015, p. 2, 30).

Poland.—Norgips Sp. z o.o. Sp. k., headquartered in Warsaw, was a main supplier to Eastern Europe of a variety of gypsum products, including plasterboard, joint compound, and gypsum adhesives (Norgips Sp. z o.o. Sp. k., 2015).

Outlook

The average median sales price for residential new homes increased nationwide in 2014 by approximately 7% from that of 2013 (U.S. Census Bureau, 2015a). A combination of increased housing starts, up by more than 8% from 2013, coupled with historically low 30-year mortgage interest rates and a low level of housing inventory continued to encourage increased sales activities within the housing sector in 2014, and by extension, the wallboard market (Freddie Mac, 2014; Carlyle, 2015). Because the residential housing market is responsible for approximately 60% of the consumption of gypsum products, a key economic indicator used by the gypsum and wallboard industries is the number of new housing starts, as measured by the issuance of new building permits. Since 1959, an increase in housing starts has been closely paired with an increase in gypsum consumption. Likewise, during periods of economic recession when housing starts often precipitously declined, gypsum consumption, also, decreased in tandem (fig. 1).

Since 1959, the average number of housing starts, including multidwelling units, is 1.5 million per year. Housing starts averaged about 1.8 million per year during the 5 years preceding the recessionary years, which began in 2007. Housing starts in 2013 and 2014 were 925,000 and 1,003,000, respectively (U.S. Census Bureau, 2015b). As the surplus of residential real estate constructed before 2009 is drawn down, the Nation's annual population growth of more than 3,000,000, alone, may necessitate

an increase in residential construction in the near future (Bachman, 2015; Reyes, 2015; U.S. Census Bureau, 2015c).

Production of synthetic gypsum, following more than 20 years of large annual growth rates, may begin to slow as significant supplies of comparatively less expensive and cleaner burning natural gas compete with coal in the generation of electrical power. The increased production and consumption of domestic shale gas could lead to a corresponding decrease in coal consumption and, with it, a decrease in the production of synthetic gypsum. Shale-gas production in 2013, the last year for which data were available, was 11.4 billion cubic feet, which was 10% more than that of 2012 and more than five times the 2.12 billion cubic feet produced in 2008 (U.S. Energy Information Administration, 2015).

In the long term, as disposal areas reach capacity and the opening of new disposal sites becomes increasingly difficult, power companies may continue in the trend of converting electrical generation plants to operate on natural gas, especially if shale-gas supplies continue to offer an economically attractive alternative to coal. Because the retrofitting of coal-fired electric powerplants with desulfurization systems has been accomplished for most plants and less expensive natural gas is available for electrical generation, FGD production may stabilize. The changeover of crude to FGD gypsum likely will be limited to FGD plants within close proximity to wallboard production facilities or to new wallboard plants that would be constructed adjacent to existing FGD plants.

The U.S. gypsum industry has been moving toward the use of large-capacity wallboard plants supplied from multiple sources, including synthetic gypsum from coal-fired powerplants. These larger wallboard plants have been built in regions of high population and growth, which are the areas of highest consumption. Older and less efficient crude-gypsum-fed plants may find it increasingly difficult to compete but could see a revival resulting from lesser amounts of FGD being produced. In response to increased public awareness, the gypsum industry may boost the recycling of scrap gypsum in its raw materials streams. The industry may also increase the use of labels, such as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program, which certifies varying levels of ecologically conscious building practices (U.S. Green Building Council, undated).

Industry trends indicate significant capacity developments abroad in the coming decade. The pace and magnitude of wallboard plant construction in Asia, particularly in China, India, and Thailand, suggest that the continent, with billions of potential consumers, will likely become one of the world's leading gypsum wallboard markets. Should the economic conditions in the United States more favorably affect the U.S. housing sector, and in turn domestic consumption for gypsum, Canada's gypsum production could increase. Elsewhere, wallboard production capacity growth and the recognition of the convenience and economy of wallboard as a building material in Central America, Europe, and South America means that wallboard manufacturing may require increased gypsum production in future years. A decline in national and global economic conditions, however, could hamper such growth.

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TABLE 1
SALIENT GYPSUM STATISTICS¹

(Thousand metric tons and thousand dollars)

	2010	2011	2012	2013	2014
United States:					
Crude:					
Production:					
Quantity	8,110 ^r	7,870 ^r	9,140 ^r	10,600 ^r	11,000
Value	56,100 ^r	65,800 ^r	72,100 ^r	96,500 ^r	98,000
Imports for consumption	3,330	3,330	3,250	3,290	3,720
Synthetic gypsum sales ²	10,700	11,800	12,100	10,800	15,200
Calcined:					
Production:					
Quantity	12,400	11,900	12,800	14,600	14,700
Value	366,000	340,000	366,000	402,000	437,000
Products sold, value	1,530,000	1,470,000	2,230,000	2,940,000	3,090,000
Exports, value	42,200	48,300	39,200	44,100	45,800
Imports for consumption, value	7,180	7,780	7,150	5,830	7,620
World, production	230,000 ^r	237,000 ^r	237,000 ^r	245,000 ^r	253,000 ^e

^eEstimated. ^rRevised.

¹Data are rounded to no more than three significant digits.

²Source: American Coal Ash Association.

TABLE 2
CRUDE GYPSUM MINED IN THE UNITED STATES, BY STATE¹

State	2013			2014		
	Active mines	Quantity (thousand metric tons)	Value (thousands)	Active mines	Quantity (thousand metric tons)	Value (thousands)
Arizona, Colorado, New Mexico	7	1,030 ^r	\$8,910 ^r	7	1,210	\$10,900
Nevada and Utah	6	1,350 ^r	12,100 ^r	5	1,210	10,300
Arkansas and Louisiana	2	W	W	2	W	W
California	7	892 ^r	15,400 ^r	5	689	6,030
Iowa and Indiana	6 ^r	1,440 ^r	11,900 ^r	5	1,410	12,500
Michigan	3	233 ^r	1,930 ^r	3	233	2,050
South Dakota and Wyoming	2 ^r	W	W	3	W	W
Kansas, Oklahoma, Texas	18	4,670 ^r	37,400 ^r	20	5,060	44,700
Total	51 ^r	10,600 ^r	96,500 ^r	50	11,000	98,000

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 3
GYPSUM PRODUCTS (MADE FROM DOMESTIC, IMPORTED, AND
SYNTHETIC GYPSUM) SOLD OR USED IN THE UNITED STATES, BY USE¹

(Thousand metric tons and thousand dollars)

Use	2013		2014	
	Quantity	Value	Quantity	Value
Uncalcined:				
Portland cement	875	18,000	1,120	21,700
Agriculture and miscellaneous ²	569	22,900	652	27,800
Total	1,440	40,900	1,770	49,500
Calcined:				
Plasters	79	34,000	80	34,300
Prefabricated products ³	12,600	2,940,000	12,500	3,090,000
Total	12,600	2,970,000	12,500	3,120,000
Grand total	14,100	3,010,000	14,300	3,170,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes synthetic gypsum.

³Includes weight of paper, metal, or other materials and some synthetic gypsum.

TABLE 4
PREFABRICATED GYPSUM PRODUCTS SOLD OR USED IN THE UNITED STATES¹

Product	2013			2014		
	Quantity (thousand square feet)	Quantity ² (thousand metric tons)	Value (thousands)	Quantity (thousand square feet)	Quantity ² (thousand metric tons)	Value (thousands)
Veneer base	213,000	155	\$34,100	230,000	167	\$41,500
Sheathing	467,000	339	112,000	446,000	324	134,000
Regular gypsum board:						
³ / ₈ -inch	527,000	167	36,900	454,000	144	31,800
¹ / ₂ -inch	10,700,000	4,860	1,070,000	10,300,000	4,660	1,030,000
⁵ / ₈ -inch	962,000	567	141,000	1,210,000	712	180,000
1-inch	218	--	98	--	--	--
Total	12,200,000	5,590	1,250,000	11,900,000	5,520	1,240,000
Type X gypsum board	6,970,000	5,060	1,110,000	6,960,000	5,050	1,220,000
Predecorated wallboard	W	W	W	W	W	W
⁵ / ₁₆ -inch mobile-home board	W	W	W	W	W	W
Water- and moisture-resistant board	1,660,000	1,210	379,000	1,670,000	1,210	401,000
Other	159,000	115	15,900	160,000	116	16,000
Grand total	21,800,000	12,600	2,940,000	21,500,000	12,500	3,090,000

W Withheld to avoid disclosing company proprietary data; included in "Grand total." -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes weight of paper, metal, or other materials.

TABLE 5
IMPORTS FOR CONSUMPTION OF CRUDE GYPSUM, BY COUNTRY¹

(Thousand metric tons and thousand dollars)

Country	2013		2014	
	Quantity	Value	Quantity	Value
Canada ²	1,080	14,400	1,190	18,800
Mexico	1,410	14,900	1,600	17,800
Spain	800	13,200	900	19,100
Other	1	167	38	1,120
Total	3,290	42,600	3,720	56,800

¹Data are rounded to no more than three significant digits; may not add to total shown.

²Includes anhydrite.

Source: U.S. Census Bureau.

TABLE 6
U.S. GYPSUM AND GYPSUM PRODUCTS FOREIGN TRADE¹

(Thousand metric tons and thousand dollars)

Year	Crude ²		Plasters ³		Boards ⁴		Other, value ⁵	Total, value
	Quantity	Value	Quantity	Value	Quantity	Value		
Exports:								
2013	142	25,100	121	44,100	834	150,000	60,300	280,000
2014	67	29,900	101	45,800	829	150,000	73,100	298,000
Imports for consumption:								
2013	3,290	42,600	16	5,830	327	66,800	33,300	149,000
2014	3,720	56,800	20	7,620	362	84,000	37,300	186,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data are for "Gypsum, anhydrite," Harmonized Tariff Schedule of the United States (HTS) code 2520.10.0000.

³Data are for "Plasters," HTS code 2520.20.0000.

⁴Data are for "Boards, sheets, panels, tiles, and similar articles, not ornamented—Faced or reinforced with paper or paperboard only," HTS code 6809.11.0000.

⁵Data are for "Boards, sheets, panels, tiles, and similar articles, not ornamented: Other," HTS code 6809.19.0000, and "Other articles," HTS code 6809.90.0000.

Source: U.S. Census Bureau.

TABLE 7
GYPSUM: WORLD PRODUCTION, BY COUNTRY^{1,2}

(Thousand metric tons)

Country ³	2010	2011	2012	2013	2014
Algeria	1,610	1,610 ^{r,c}	1,958 ^r	2,078	2,130 ^c
Argentina	1,347	1,453	1,433	1,550 ^r	1,500 ^c
Australia ^c	2,880 ^r	2,220 ^r	2,120 ^r	2,270 ^r	2,580
Brazil ⁴	2,638	3,229	3,750	3,333 ^r	3,330 ^c
Canada ⁴	3,046 ^r	2,449 ^r	1,832 ^r	1,837 ^r	1,793
Chile	758	918	799	1,015	843
China ^c	126,000	127,000	128,000	129,000	130,000
Egypt ⁴	3,000 ^r	2,138 ^r	2,200 ^{r,c}	2,200 ^{r,c}	2,200 ^c
France ⁴	3,440 ^c	4,231	3,685	3,455 ^r	3,279
Germany, marketable ⁴	1,822	2,021	1,949	1,778 ^r	1,802
India	4,531 ^r	5,214 ^r	3,648 ^r	3,538	3,540 ^c
Iran ⁵	13,672 ^r	15,353 ^r	14,179 ^r	15,800 ^r	16,000 ^c
Italy	4,441	5,939	2,563	2,994 ^r	8,551
Japan	4,868 ^r	4,770 ^r	5,002 ^r	4,771 ^r	4,674
Mexico ⁴	3,560	3,560	4,693	5,091	5,496
Oman	653 ^r	1,254	1,915 ^r	2,785	3,387
Pakistan	745 ^r	1,164 ^r	1,276 ^r	1,229 ^r	1,436
Poland ⁴	1,179	1,225	1,228	1,085 ^r	1,052
Russia	3,349 ^r	3,907 ^r	4,179 ^r	4,223 ^r	4,400 ^c
Saudi Arabia ^c	2,100	2,205 ^{r,6}	1,700 ^r	1,700 ^r	1,780
Spain ⁴	6,990	7,826	6,360	7,125 ^r	7,000 ^c
Thailand	10,173 ^r	10,994 ^r	11,447 ^r	12,383 ^r	12,445
Turkey	6,322 ^r	5,723 ^r	8,248 ^r	9,790 ^r	9,051
United Kingdom ^{c,4}	1,200 ^r	1,200 ^r	1,200 ^r	1,200 ^r	1,200
United States ⁷	8,110 ^r	7,870 ^r	9,140 ^r	10,600 ^r	11,000
Other	11,108 ^r	11,172 ^r	12,153 ^r	11,848 ^r	12,143
Total	230,000 ^r	237,000 ^r	237,000 ^r	245,000 ^r	253,000 ^c

^cEstimated. ^rRevised.

¹World totals, U.S. data, and estimated data are rounded to no more than three significant digits; may not add to totals shown.

²Includes data available through June 22, 2016.

³In addition to the countries listed, Colombia, El Salvador, Honduras, Latvia, Luxembourg, Mongolia, and Serbia produced gypsum, but available information is inadequate to make reliable estimates of output levels.

⁴Includes anhydrite.

⁵Data are for years beginning March 21 of that stated.

⁶Excludes byproduct gypsum.

⁷Reported figure.

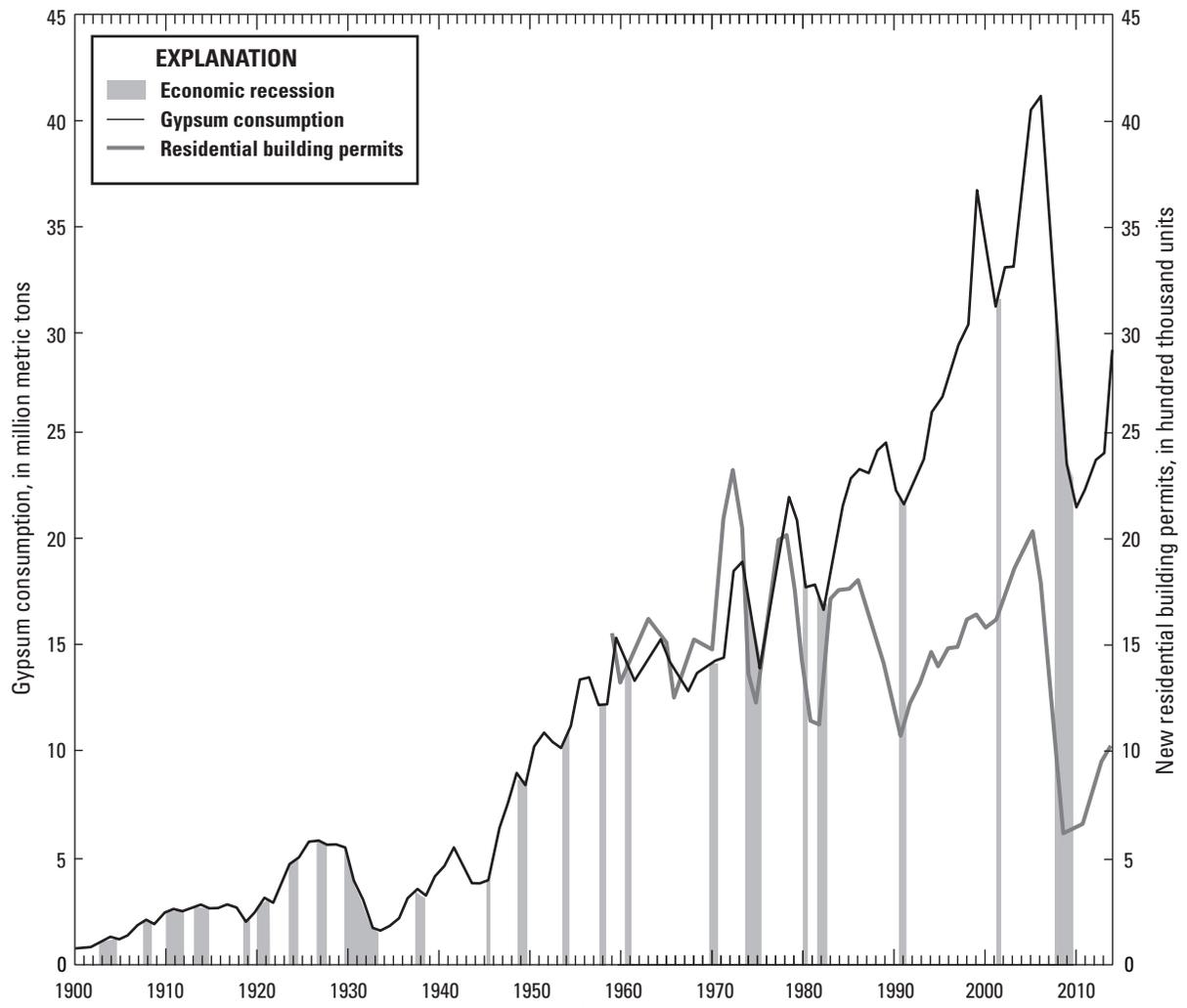


Figure 1. U.S. gypsum consumption, new residential building permits, and economic recessions from 1900 through 2014. Sources: U.S. Census Bureau, National Bureau of Economic Research, U.S. Census Bureau, U.S. Geological Survey.