science for a changing world

Mineral Industry Surveys

For information, contact:
E. Lee Bray, Magnesium Commodity Specialist
National Minerals Information Center
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4979, Fax: (703) 648-7757
Email: lbray@usgs.gov

Sidney DeLoach-Overton (Data)
Telephone: (703) 648-4927
Fax: (703) 648-7975
Email: sdeloach-overton@usgs.gov

Internet: https://www.usgs.gov/centers/national-minerals-information-center

MAGNESIUM METAL IN THE FOURTH QUARTER 2021

All forms of magnesium metal imports for consumption in the fourth quarter of 2021 were 11,600 metric tons (t), 6% less than the revised imports in the third quarter of 2021, 21% less than those in the fourth quarter of 2020, and 26% less than those in the fourth quarter of 2019 (table 1). Total magnesium imports for consumption in 2021 were 49,900 t, 22% and 10% less than total imports in 2020 and 2019, respectively.

Compared with the revised imports in the third quarter of 2021, imports of metal, alloys, and semifabricated products decreased by 14%, 4%, and 40%, respectively but imports of scrap increased by 5%. In the fourth quarter of 2021, magnesium metal accounted for 24% of the imports, with Turkey (44%), Russia (26%), and Israel (20%) being the leading sources (fig. 1). Scrap accounted for 41% of the imports in the fourth quarter of 2021, with Canada (49%), Mexico (18%), and India (17%), as the leading sources. Alloys accounted for 30% of the imports, with Czechia (45%), Israel (24%), and Canada (10%) as the leading sources (table 1).

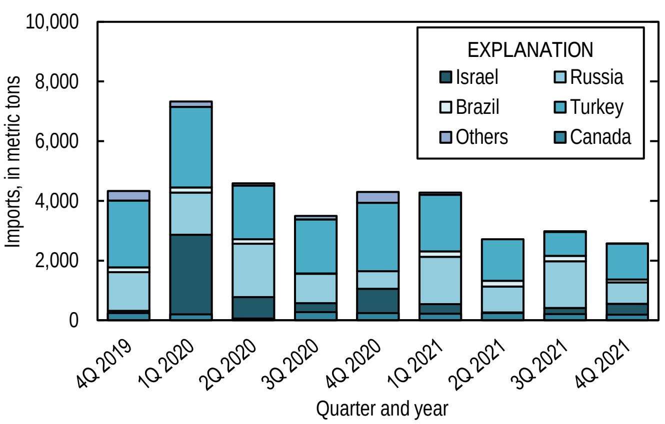

Figure 1. Quarterly imports of magnesium metal from the fourth quarter of 2019 through the fourth quarter of 2021. Source: U.S. Census Bureau.

Total magnesium metal exports in the fourth quarter of 2021 were 18% more than exports in the third quarter of 2021, 61% less than those in the fourth quarter of 2020, and 36% less than those in the fourth quarter of 2019. Exports of alloys and scrap increased by 127% and 8%, respectively, compared with exports in the third quarter of 2021. These increases were partly offset by decreased exports of metal and semifabricated products, which declined by 14% and 59%, respectively (table 1). Total magnesium exports in 2021 were 7,590 t, 49% and 35% less than total exports in 2020 and 2019, respectively.

Canada (63%), Greece (16%), the Netherlands (5%), Australia (4%) and Czechia (4%) were the leading destinations for magnesium exports in the fourth quarter of 2021. Canada received 30% of metal, more than 99% of alloys, 40% of semifabricated product, and 47% of scrap exports. Australia and Mexico received 26% and 10%, respectively, of semifabricated product exports. The Netherlands and Czechia received 23% and 18%, respectively, of scrap exports.

The U.S. spot dealer average price for magnesium increased by 28% in the fourth quarter of 2021. At the end of October, the U.S. spot dealer average price was $7.63 per pound compared with $5.13 per pound at the end of September. By the end of November, the U.S. spot dealer average price dropped to $6.50 per pound and at the end of December it was $6.58 per pound. The average U.S. spot Western price for imported magnesium increased by 28% during the fourth quarter of 2021. At the end of October, the U.S. spot Western import average price was $7.63 per pound compared with $5.13 per pound at the end of September. By the end of November, the U.S. spot Western import average price dropped to $6.88 per pound and at the end of December it was $6.58 per pound. In Europe, the average price was 28% less at the end of the quarter compared with that of the beginning of the quarter (table 2).

Update

The increases of the U.S. spot dealer and U.S. spot Western import prices were attributed to the continued shutdown of an undisclosed amount of capacity at U.S. Magnesium LLC’s smelter in Rowley, UT. On September 29, US Magnesium declared force majeure and notified customers with contracts that deliveries would be adjusted, citing an equipment failure at its 63,500-metric-ton-per-year smelter. (See Magnesium in the

Third Quarter 2021.) In early January 2022, industry sources reported that US Magnesium had received equipment necessary to repair the smelter but a completion schedule for the repairs was not available. Uncertainty of when production would resume was cited for increasing prices and limited volumes for annual supply contracts. Many consumers reported that they were reluctant to lock in full year volumes at current prices but were purchasing enough for at least the first quarter of 2022. Contract prices ranged from $5.25 per pound for large volume deliveries for in the full year of 2022 to $6.00 per pound for large shaped, potentially oxidized magnesium delivered in the first half of 2022. Other 2022 contracts were reported at $6.45 per pound for standard magnesium ingot (McBeth, 2021a, b; 2022).

Magnesium prices in Europe decreased during the quarter as many producers in China increased production after shutdowns in September to comply with emission targets. (See Magnesium in the Third Quarter 2021.) Because about 90% of the magnesium consumed in Europe was produced in China, prices in Europe were based on production and prices in China. At the end of October, the price average price in Europe was $8,300 per metric ton, compared with $10,750 per metric ton at the end of September. By the end of November, the average price in Europe was $7,500 per metric ton but at the end of December it increased to $7,750 per metric ton. Production costs in China remained high and volatile during the fourth quarter of 2021, attributed to tight supplies of coal and ferrosilicon used to produce magnesium by the Pidgeon process, especially in Shaanxi Province. In November, supplies in China were volatile as production increased but stockpiling was also reported in Shaanxi Province. By mid-December, supplies increased and prices declined, but concerns about decreased production in February 2022 during the Chinese New Year and the Winter Olympics caused many consumers to place orders for shipment in January 2022, limiting price declines. In the last week of December, prices in China increased as capacity at many smelters was shut down following environmental inspections. The annual average magnesium price in China in 2021 was $3,986 per metric ton, 86% higher than that of the prior year and was a record high. Magnesium product exports from China were reported to be 477,200 t in 2021, a 21% increase compared with those in 2020 (Leung, 2021; McBeth, 2021b; S&P Global Platts Metals Daily, 2021a, b; 2022).

References Cited

Leung, Joshua, 2021, Spot magnesium supply increases in China, prices edge down—Trade: S&P Global Platts Metals Daily, v. 10, no. 249, December 20, p. 6.

McBeth, Karen, 2021a, US, European magnesium prices hold above historical norms as buyers lock in supply: S&P Global Platts Metals Daily, v. 10, no. 248, December 17, p. 6–7.

McBeth, Karen, 2021b, US, European magnesium prices steady with upward potential seen: S&P Global Platts Metals Daily, v. 10, no. 252, December 23, p. 4–5.

McBeth, Karen, 2022, Chinese magnesium prices again on the upswing with knock-on effects: S&P Global Platts Metals Daily, v. 11, no. 5, January 7, p. 7–8.

S&P Global Platts Metals Daily, 2021a, China's 2021 magnesium output seen dipping 10%, but exports to rise 26%—CNIA: S&P Global Platts Metals Daily, v. 10, no. 248, December 17, p. 7.

S&P Global Platts Metals Daily, 2021b, China's magnesium prices soar to Yuan 50,000/mt—Sources: S&P Global Platts Metals Daily, v. 10, no. 254, December 28, p. 4–5.

S&P Global Platts Metals Daily, 2022, China's magnesium exports hit all-time high in 2021—CNIA: S&P Global Platts Metals Daily, v. 11, no. 26, February 7, p. 4.

List services and web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to https://www.usgs.gov/centers/national-minerals-information-center/minerals-information-publication-list-services.

TABLE 1
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF MAGNESIUM[1]

(Metric tons)

		2021			
	2020	October	November	December	January–December
Imports for consumption:					
Metal	20,400	513	759	1,480	13,400
Waste and scrap	23,800	1,770	1,490	1,450	19,000
Alloys (magnesium content)	16,200	1,150	1,250	1,120	14,100
Sheet, tubing, ribbons, wire, powder, and other (magnesium content)	3,390	203	231	177	3,390
Total	63,800	3,640	3,740	4,230	49,900
Exports:					
Metal	7,250	285	41	59	1,690
Waste and scrap	2,300	33	160	115	1,510
Alloys (gross weight)	2,950	327	242	648	2,430
Sheet, tubing, ribbons, wire, powder, and other (gross weight)	2,370	44	132	46	1,950
Total	14,900	690	574	868	7,590

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

Source: U.S. Census Bureau; data adjusted by the U.S. Geological Survey.

TABLE 2
MAGNESIUM PRICES, FOURTH QUARTER 2021

		Beginning of quarter	End of quarter
U.S. spot dealer import	dollars per pound	4.50–5.75	6.25–6.90
U.S. spot Western	do.	4.50–5.75	6.25–6.90
European free market	dollar per metric ton	10,000–11,500	7,500–8,000

do. Ditto.

Source: S&P Global Platts Metals Week.