Magnesium – The Next Critical Mineral to Ignite?

written by Christopher Ecclestone | April 9, 2026

A favorite experiment of lazy high school chemistry teachers is to trot out the magnesium strip. “Have bunsen burner, will travel!” One can easily and not messily provide a fiery introduction to a subject that might otherwise wallow in a plethora of valences and atomic weights. With a flash, the students are engaged. Then the boredom sets in.

The rise and then fall of Magnesium in 2021-22 seemed to be a similar flash in the pan. Was that a one-off or the harbinger of a turnaround?

Magnesium has scarcely crossed our transom in the past, except for four encounters. The first was as an element in the Salar de Uyuni in Bolivia, the world’s largest Lithium *salar* which was a frequent target for naysayers to claim that magnesium was a deleterious element. Of which more anon. Then there was someone that in 2016 offered us a magnesium deposit in Iran, of all places. We passed on that. Then we came across an explorer pursuing the element in British Columbia in 2024. Most recently, our work on the EU’s critical elements targets we looked at a very advanced project in Romania that has been favoured by Brussels.

What is it? Why should we care?

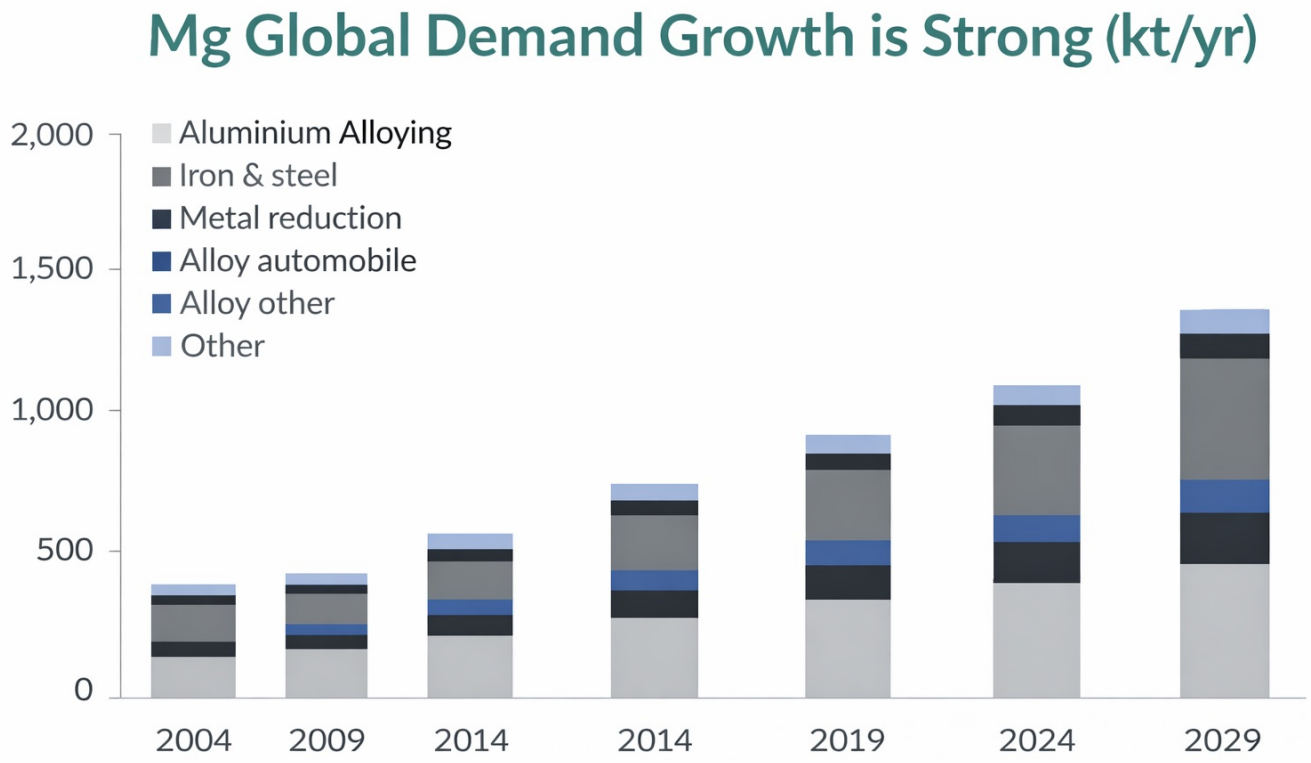
Magnesium has the symbol Mg and atomic number 12. It is a shiny gray metal having a low density, low melting point, and high chemical reactivity. Like the other alkaline earth metals (Group 2 of the periodic table), it occurs naturally only in

combination with other elements. As per teenage chemistry lessons, the free metal burns with a brilliant white light.

Magnesium is the eighth most abundant element in the Earth’s crust and the fourth most common element in the Earth (after iron, oxygen, and silicon), making up 13% of the planet’s mass and a large fraction of the planet’s mantle. It is the third most abundant element dissolved in seawater, after sodium and chlorine.

The metal is obtained mainly by electrolysis of magnesium salts obtained from brine. It is less dense than aluminium and is used primarily as a component in strong and lightweight alloys that contain aluminium.

The leading use for primary magnesium metal, which accounted for 45% of reported consumption, was in castings, principally used for the automotive industry. Aluminium-base alloys that were used for packaging, transportation, and other applications accounted for 35% of primary magnesium metal consumption; desulfurization of iron and steel, 16%; and all other uses, 4%. About 31% of the secondary magnesium was consumed for structural uses, and about 69% was used in aluminium alloys.



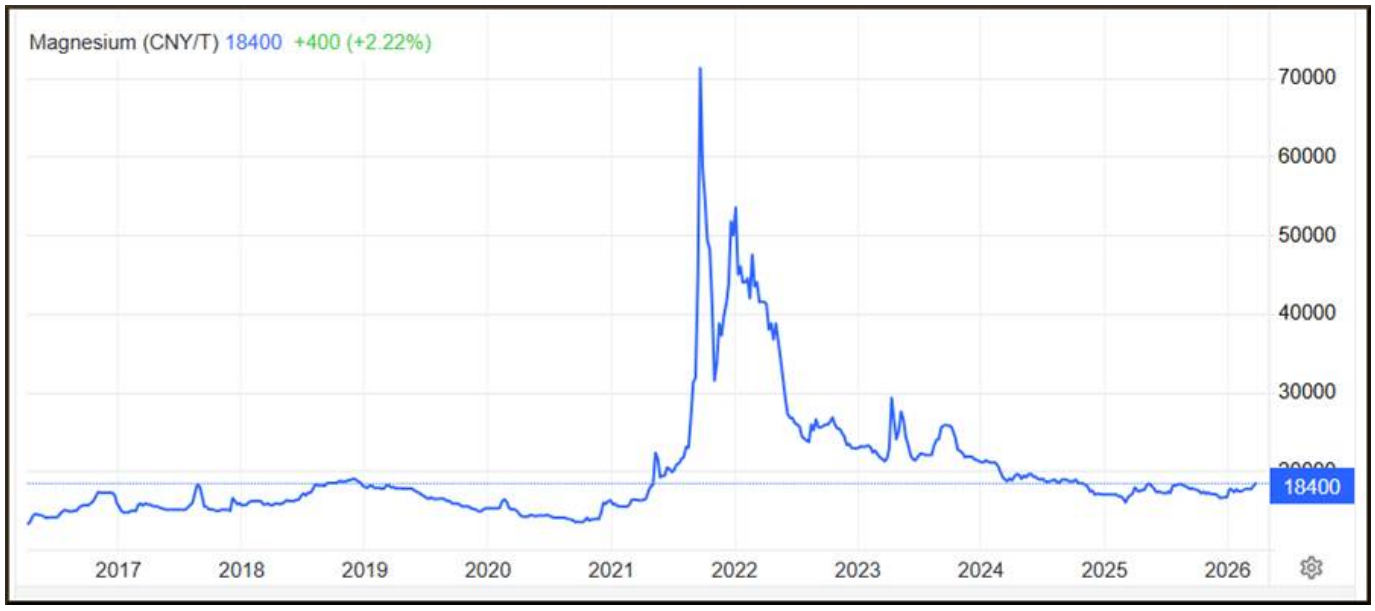
The use of magnesium in automobile parts continued to increase as automobile manufacturers sought to decrease vehicle weight for increased fuel efficiency. Magnesium castings have substituted for aluminium, iron, and steel in some automobiles. The substitution of aluminium for steel in automobile sheet continued to increase the consumption of magnesium in aluminium alloy sheet.

The Great Magnesium Meltup

At the start of the Pandemic, magnesium became one of those obscure metals that soared into public attention.

As the chart below (in yuan per tonne) shows spot magnesium prices started going intergalactic in China and Europe starting in March of 2021. The price range in Europe for the first 3 months was US$2,600 to US$2,700 per metric ton. By mid-October,

the price ranged from $12,000 to $15,000 per metric ton. In late October, the price range started to decrease and was $7,700 to $9,500 per metric ton by mid-November, before “normalising”.



Source: Trading Economics

A number of factors were cited by the USGS, including constrained shipping, high freight rates, and stockpiling by speculators as reasons for soaring magnesium prices and supply shortages. These combined with strong demand for magnesium by aluminium smelters and diecasters.

Also, in August and September of 2021, many smelters in China closed capacity to comply with energy consumption targets, leading to further shortages which further juiced up prices.

The Producers – Real & Wannabes

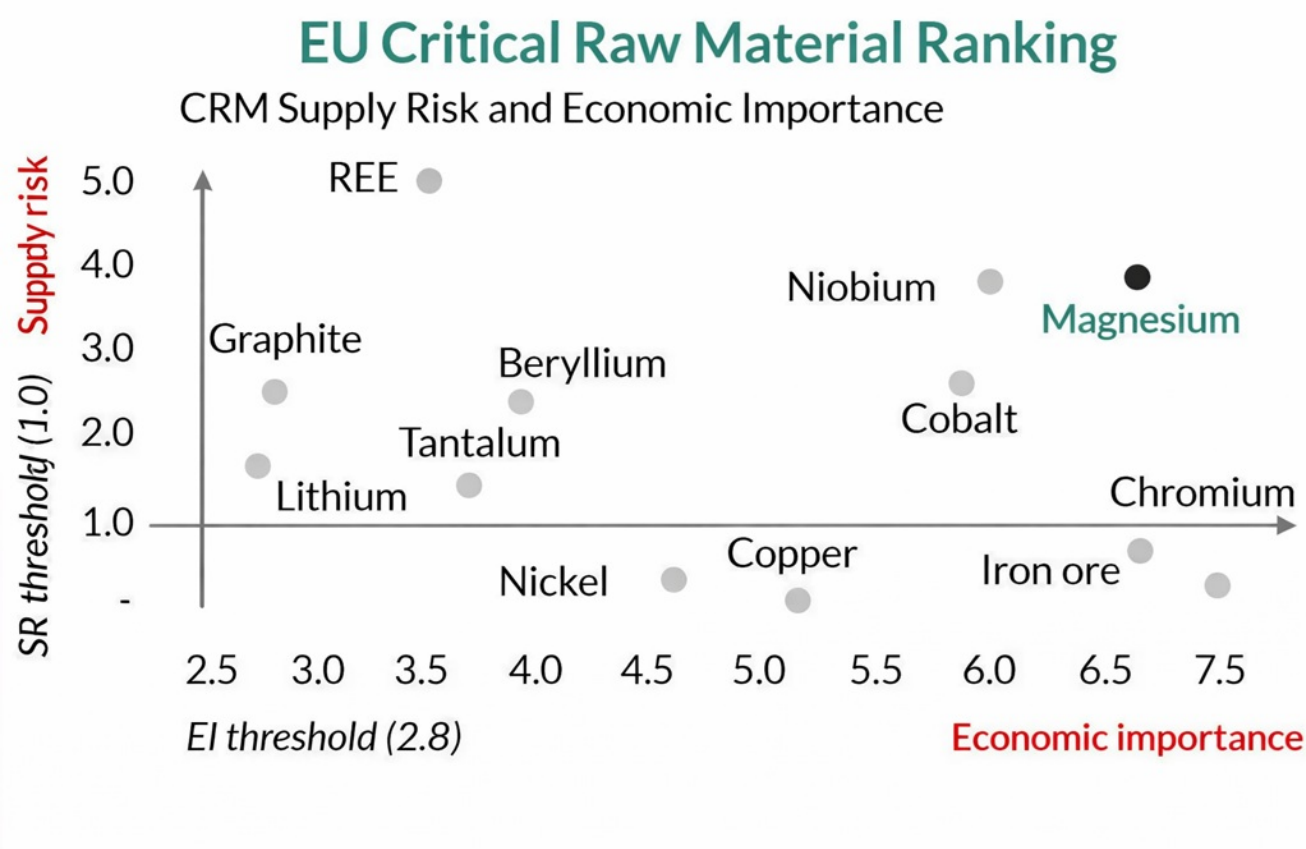
In 2021, primary magnesium was produced by one company in Utah. Secondary magnesium was recovered from scrap at smelters that produced magnesium ingot and castings and from aluminium alloy scrap at secondary aluminium smelters. Primary magnesium production in 2021 was estimated to have decreased significantly from that in 2020.

This was due to the bankruptcy of US Magnesium LLC, which had operated an electrolytic process smelter that recovered magnesium from brines from the Great Salt Lake. That then became a tug of war in the courts between the State of Utah and another buyer. The other buyer desisted in January of 2026 and Utah's $30mn offer seemed to get through. Maybe we misinterpreted the rationale, but it seemed to be directed towards getting the State's hands on the 144,000 acre-feet of water-drawing rights from the Great Salt Lake annually and "efforts to address environmental risks". This doesn't sound like they want to revive production.

It's interesting to note the widely divergent potential sources of Magnesium, not that these have produced all that much product. The USGS in its latest musings said that one company in Australia that planned to recover magnesium from coal fly ash. A company in Quebec planned to construct a primary magnesium smelter to produce magnesium from serpentine-bearing asbestos tailings. The same company in Canada completed construction of an 18,000-ton-per annum secondary magnesium smelter at the same location and started production.

Making it to the EU's Hit List

While seemingly unexciting, the Magnesium space was electrified by the Chinese squeeze during the Pandemic and thus the element managed to secure itself a position on the EU's critical minerals list.



Verde Magnesium – The EU’s Anointed

This company, backed by US private equity investor Amerocap, aims to start production in Western Romania project by 2027. Its plan is to revive a disused mine, shut down in 2014, which would be the first new magnesium metal project in Europe in decades. This has the potential to produce as much as 90,000 tonnes of magnesium a year, meeting around 50% of the EU’s demand.

Verde aims to become the EU’s first dedicated primary metallic magnesium producer and also plans to build processing facilities that would use renewable power to recycle aluminum.

This company has vowed to invest US$1 billion in Romania as the country’s government has granted it the go-ahead.

This project has made it to the rather exclusive (45 in number) projects that the EU is prioritising.

Inomin Mines Inc. (TSXV: MINE) – Lone Mg Warrior

This company came to our attention in 2025, and we had a call with management out of curiosity as to its resource. Inomin holds a 100% interest in the 11,000-hectare Beaver-Lynx property in British Columbia, of which it is the project operator. It is advancing with Sumitomo Metal Mining, one of Japan's largest mining and smelting companies. The deal is an earn-in and joint venture agreement through which Sumitomo may earn a 60% to 80% interest in the project by funding exploration and providing Inomin other consideration.

The exploration efforts to date, including multiple drill programs, indicates that the Beaver property has potential to host significant volumes of nickel and magnesium. Time will

tell.

Latrobe Magnesium Limited (ASX: LMG) – Coal Ash as the Feed

This company is constructing a 1,000 tpa demonstration magnesium production plant in Hazelwood North, Latrobe Valley 150km southeast of Melbourne which was expected to start production in 2025 but doesn't seem to have done so. The company's patented hydrometallurgical extraction/thermal reduction process extracts magnesium metal from fly ash produced by brown coal power plants. The Latrobe Valley was famous for the size and longevity of its brown coal deposits in the days when Australis produced energy and made things.

LMG hopes to eventually construct a 10,000 tpa commercial production facility in the Latrobe Valley.

Summing Up

With a market size of around US$6 billion in 2025, Magnesium is not really niche, but the number who focus on it in the marketplace (particularly the mining markets) is de minimis. As we have hoped to point out here, the listed players figure on less than the fingers of one hand. Thus, the potential to enter the market is fairly wide open, but few have been bothered. Many in the lithium space have regarded it as a deleterious element either because they could not be bothered adding a circuit or because they preferred to bad mouth projects/*salares* that had it.

Clearly, the supply crunch of 2021 has opened some eyes to the potential.