# NICKEL

(Data in metric tons, nickel content, unless otherwise specified)

**Domestic Production and Use:** In 2025, the underground Eagle Mine in Michigan produced approximately 10,000 tons of nickel in concentrate, which was exported to smelters in Canada and overseas. In the United States, the leading uses for primary nickel were alloys and steels, electroplating, and other uses including catalysts and chemicals. Stainless and alloy steel and nickel-containing alloys typically account for more than 85% of domestic consumption.

| Salient Statistics—United States: | 2021 | 2022 | 2023 | 2024 | 2025[e] |
|---|---|---|---|---|---|
| Production: | | | | | |
| Mine | 18,400 | 17,500 | 16,400 | 7,490 | 10,000 |
| Refinery, byproduct | W | W | W | W | W |
| Imports: | | | | | |
| Ores and concentrates | 18 | ([1]) | 4 | 12 | 20 |
| Primary | 108,000 | 127,000 | 112,000 | 105,000 | 100,000 |
| Secondary | 34,400 | 37,300 | 39,600 | 40,000 | 45,000 |
| Exports: | | | | | |
| Ores and concentrates | 14,900 | 15,200 | 9,100 | 5,630 | 11,000 |
| Primary | 11,600 | 11,100 | 12,200 | 15,900 | 9,800 |
| Secondary | 29,200 | 44,400 | 57,200 | 46,900 | 35,200 |
| Consumption: | | | | | |
| Reported, primary | 92,100 | 96,700 | 107,000 | 114,000 | 120,000 |
| Reported, secondary, purchased scrap[2] | 156,000 | 153,000 | 140,000 | 121,000 | 130,000 |
| Apparent, primary[3] | 97,500 | 117,000 | 98,500 | 90,300 | 90,000 |
| Apparent, total[4] | 254,000 | 270,000 | 238,000 | 211,000 | 220,000 |
| Price, average annual, London Metal Exchange (LME), cash: | | | | | |
| Dollars per metric ton | 18,476 | 25,815 | 21,495 | 16,812 | 15,000 |
| Dollars per pound | 8.38 | 11.71 | 9.75 | 7.63 | 6.90 |
| Stocks, yearend: | | | | | |
| Consumer | 25,100 | 23,200 | 25,700 | 25,500 | 25,000 |
| LME U.S. warehouses | 1,296 | 6 | 1,506 | 258 | 110 |
| Net import reliance[5, 6] as a percentage of total apparent consumption[e] | 38 | 43 | 41 | 43 | 41 |

**Recycling:** Most secondary nickel was in the form of nickel content of stainless-steel scrap. Nickel in alloyed form was recovered from the processing of nickel-containing waste. Most recycled nickel was used to produce new alloys and stainless steel. In 2025, nickel recovered from scrap accounted for approximately 60% of apparent consumption.

**Import Sources (2021–24):** Primary nickel: Canada, 44%; Norway, 11%; Australia, 8%; Brazil, 7%; and other, 30%. Nickel-containing scrap, including nickel content of stainless-steel scrap: Canada, 41%; Mexico, 27%; United Kingdom, 9%, and other, 23%.

| Tariff: Item | Number | Normal Trade Relations 12–31–25 |
|---|---|---|
| Nickel ores and concentrates, nickel content | 2604.00.0040 | Free. |
| Ferronickel | 7202.60.0000 | Free. |
| Unwrought nickel, not alloyed | 7502.10.0000 | Free. |
| Nickel waste and scrap | 7503.00.0000 | Free. |

**Depletion Allowance:** 22% (domestic), 14% (foreign).

**Government Stockpile:** The U.S. Department of Energy is holding approximately 9,700 tons of radiologically contaminated nickel at Paducah, KY.

**Events, Trends, and Issues:** Prices continued their downward trend from 2022 highs. In 2025, the annual average LME nickel cash price was estimated to have decreased by 11% compared with that in 2024. According to the International Nickel Study Group, the global primary nickel market balance (the difference between production and consumption) has been in a state of surplus since 2022. The surplus was estimated to be 98,500 tons in 2022, 170,000 tons in 2023, and 182,000 tons in 2024. Through the first 9 months of 2025, the estimated surplus was 189,000 tons, compared with 107,000 tons during the same period in 2024.

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Nickel-bearing mine projects were under consideration or development in Alaska, Michigan, Minnesota, Nevada, and Oregon. In Minnesota, a company continued to progress a feasibility study for the Tamarack nickel-copper-cobalt project. In 2025, the Nikolai and NorthMet projects, located in Alaska and Minnesota, respectively, were designated as Federal Transparency Projects under the Fixing America's Surface Transport Act and added to the permitting dashboard. Three companies were considering or developing nickel refinery projects in Missouri, Oklahoma, and Texas. In Oklahoma, a company built a pilot-scale nickel refining facility. The last U.S. primary nickel refinery, the Port Nickel facility in Louisiana, ceased operations in 1985. Small amounts of nickel continued to be recovered domestically as a byproduct of copper and platinum-group-metals processing and from recycled materials.

Executive Order 14285, issued in April, called for the development of seabed mineral deposits to help secure supplies of critical minerals such as nickel. Following the order, several companies submitted applications to explore regions prospective for nickel-bearing ferromanganese crusts and polymetallic nodules. A 2022 U.S. Geological Survey study estimated that global seabed deposits contain approximately 4.5 billion tons of nickel.[7]

Estimated global nickel mine production increased by 5% to an estimated 3.9 million tons in 2025. Production in Indonesia increased by an estimated 13% as new operations continued to ramp up production. Canadian production increased after a company completed a mine expansion. In New Caledonia, production increased as a result of more consistent operating conditions after the interruptions in 2024. Production in Australia decreased by an estimated 54% after multiple companies placed mines into care-and-maintenance status owing to low prices. In the Philippines, production declined by an estimated 24% after multiple mines reported production cuts. In the Philippine Province of Palawan, a 50-year ban on new mining permits was announced. The ban did not affect existing operations.

**World Mine Production and Reserves:** Production in 2024 for Canada was revised significantly based on a Government report. Reserves for Australia, Indonesia, and the United States were revised based on company and Government reports.

| | Mine production | | Reserves[8] |
|---|---|---|---|
| | 2024 | 2025[e] | |
| United States | 7,490 | 10,000 | 340,000 |
| Australia | 98,000 | 45,000 | [9]25,000,000 |
| Brazil | 67,500 | 70,000 | 16,000,000 |
| Canada | 125,000 | 140,000 | 2,200,000 |
| China | [e]115,000 | 120,000 | 4,400,000 |
| Indonesia | 2,310,000 | 2,600,000 | 62,000,000 |
| New Caledonia[10] | 116,000 | 140,000 | 7,100,000 |
| Philippines | 354,000 | 270,000 | 4,800,000 |
| Russia | 205,000 | 200,000 | 8,300,000 |
| Other countries | 308,000 | 290,000 | >9,100,000 |
| World total (rounded) | 3,710,000 | 3,900,000 | >140,000,000 |

**World Resources:**[8] Globally, nickel resources have been estimated to contain more than 350 million tons of nickel, with 54% in laterites and 35% in magmatic sulfide deposits. Hydrothermal systems such as iron-nickel alloy, sedimentary-hosted polymetallic, and volcanogenic massive sulfide deposits, as well as seafloor manganese crusts and nodules contain 10%, and miscellaneous resources such as tailings, 1%.

**Substitutes:** Low-nickel, duplex, or ultrahigh-chromium stainless steels have been substituted for austenitic grades in construction. Nickel-free specialty steels are sometimes used in place of stainless steel in the power-generating and petrochemical industries. Titanium alloys can substitute for nickel or nickel-base alloys in corrosive environments.

[e]Estimated. W Withheld to avoid disclosing company proprietary data.

[1]Less than ½ unit.

[2]Significant revisions were made to secondary scrap estimates following review of updated data.

[3]Defined as primary imports – primary exports ± adjustments for industry stock changes, excluding secondary consumer stocks.

[4]Defined as apparent primary consumption + reported secondary consumption.

[5]Defined as imports – exports ± adjustments for consumer stock changes.

[6]Includes the nickel content of stainless steel and alloy scrap. Excluding scrap, net import reliance would be nearly 100%.

[7]Mizell, K., Hein, J.R., Au, M., Gartman, A., 2022, Manganese nodules and ferromanganese crusts in the global ocean based on regional variations and genetic types of nodules, chap. 3 *of* Sharma, Rahul, Perspectives on deep-sea mining: Cham, Switzerland, Springer, p. 53–80.

[8]See Appendix C for resource and reserve definitions and information concerning data sources.

[9]For Australia, Joint Ore Reserves Committee-compliant or equivalent reserves were 11 million tons.

[10]Overseas territory of France.