

JAPAN

Specific Conditions and Competitive Advantages #1



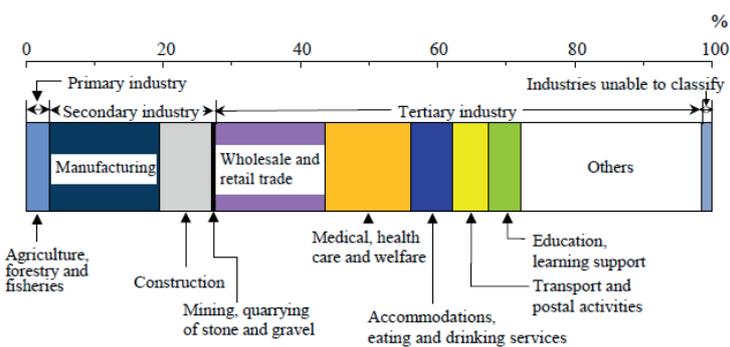
Japan's **domestic mineral reserves are depleted, or are not economically or technically feasible to exploit** and, in general, the mining sector has no importance for the country's economy (except for some construction minerals and gold – Japan has one of the most valuable gold mines in the world).

Sophisticated demand (based on high product quality, consistency over time, and compliance with stringent standards) has led to **refinement of mineral processing methods and technologies**, which have made Japan a specialised producer of high-quality metal alloys and metal products.

On the contrary, Japan's **manufacturing industry** is one of the most developed in the world, working with cutting-edge technologies and producing products with high added-value, demanding a stable and constant supply of diverse mineral raw materials. This supply is guaranteed through a **sophisticated mineral processing sector** that imports ores and produces a variety of mineral-based end products that feed multiple downstream industrial clusters, including the production of vehicles and machinery, electric and electronic equipment, circuits, parts, and communication electronics.

The structure of the mineral processing industry is consolidated and functional, working in large groups that cover the **whole value chain** of a product within a **circular economy approach**, where recycling and re-use of materials are taken into account in product design and development.

The development of Japan as a 'processing country' has been enabled by a successful long-term policy of securing a stable supply of mineral commodities, particularly via **securing imports**. The Government actively supports **international cooperation** through JOGMEC, which conducts overseas geological surveys (on land and on the deep-sea floor) to help Japanese companies secure mineral interests, provides equity capital (for asset acquisition), advances loans and liability guarantees for metal exploration and development by Japanese companies, works in the development of human resources, and develops joint ventures between Japanese and foreign companies.



Distribution of employment by industry in Japan in 2017. Source: Statistical Handbook of Japan 2018

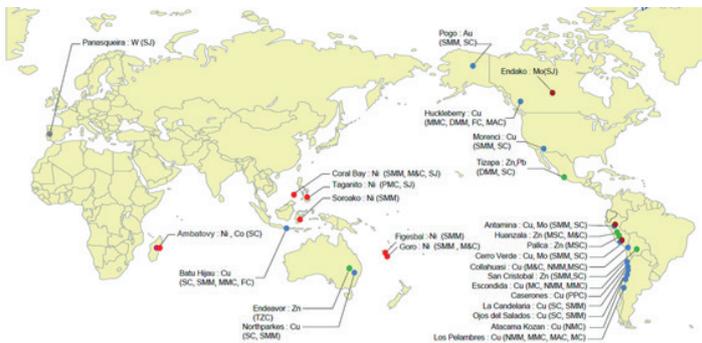
JAPAN

Specific Conditions and Competitive Advantages #2



Japan's resources policy includes not only securing the supply of primary raw materials via agreements with other countries, but also **direct investment of private capital in overseas mines**. Over the years, Japan has invested in base metals, rare metals, and rare earth mines in Asia, Australia, North and South America, and Africa. Most of these investments have been made with the objective of securing an influential share of ownership in the target companies.

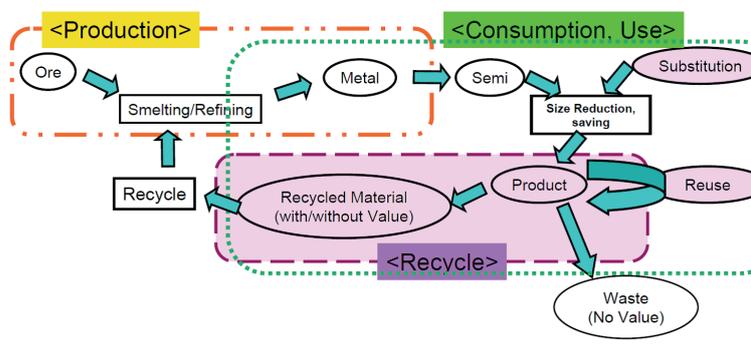
Recycling plays a vital role in Japan's resources policy. Japan has probably the most sophisticated recycling industry in the world, with recycling rates of metals above 98%. Recycling is considered from the product conception stage on, together with resource efficiency considerations.



[abbr.]
 DMM : Dowa Metals & Mining
 FC : Furukawa Co. Ltd.
 PFC : Pacific Metals Co. Ltd.
 PPC : Pan Pacific Copper Co. Ltd.
 MMC : Mitsui & Co. Ltd.
 MC : Mitsubishi Corporation
 MSC : Mitsui Mining & Smelting Co. Ltd.
 MAC : Manubeni Corporation
 MMC : Mitsubishi Materials Corporation
 NMM : Nippon Mining & Metals Co. Ltd.
 SC : Sumitomo Corporation
 SJ : Sumitomo Corporation
 SMM : Sumitomo Metal Mining Co. Ltd.
 TZC : Toho Zinc Co. Ltd.
 Cu / Copper
 Zn / Zinc
 Ni / Nickel
 Mo / Molybdenum
 W / Tungsten, Japan Oil, Gas and Metals National Corporation

Major Base Metal Mining Investment by Japanese Companies. Source: Kamijya, 2008

- Promote 3R:Reduce,Recycle,Reuse
- Reduce Carbon Emission



Sustainable Material Supply in Japan. Source: Kamijya, 2008

The strong **technological and innovation culture** in Japan is a fundamental driver for the development of its industry. Together with the active involvement of the government, social ethics, and the sophisticated organisation of industries it explains the success of Japan's mineral processing industries.

