

JAPAN

By Jun Kamura

Japan Oil, Gas and Metals National Corp London

In recent years, recycling of natural resources and environmental conservation have been priorities for Japan's smelting and mining industry. Nevertheless, during 2003, Japan's nonferrous smelters were affected by a strengthening yen and less attractive concentrate treatment and refining charges. However, an improvement in domestic demand for copper and nickel, as well as soaring base metals prices during the second half of 2003, enabled Japan's eight major metals companies to achieve higher turnovers and improved earnings for the year. The beginnings of an economic recovery in the US and strong demand from China were also supportive factors for Japanese smelters.

Production

Most of Japan's mines are shut down. The exceptions are Toyoha and Hishikari. Toyoha, the country's only lead/zinc mine produced 78,000 t of zinc concentrate and 10,000 t of lead concentrate in 2003, a 6% improvement on 2002. At Sumitomo Metal Mining Co's Hishikari gold mine, annual output continues to average 7-8 t.

In 2003, Japan's production of refined copper, lead and zinc increased after three consecutive years of decline. Despite the concern expressed by Pan-Pacific Copper Co (a JV between Nippon Mining & Metals Co and Mitsui Mining & Smelting Co) that copper output might be down 15% because of a landslide at the Grasberg copper mine in Indonesia in October 2003, the accident had a only minor impact on Japan's smelter business, and Japan's total refined copper production increased by 2% in 2003.

Refined lead production in 2003 rose by 5.9%, encouraged by robust battery demand from the automobile sector. Also, normal operations resumed at Hosokura Smelting & Refining Ltd, after a five-month closure, which reduced output in 2002.

Refined zinc production rose by 1.7%, mainly as a result of increased demand galvanizing. However, Japan's production of refined nickel in 2003 dipped by 1.1%.

Demand

The total domestic demand for the refined metals increased in 2003, with demand rising by 11.4% for copper, 0.4% for lead, 3.1% for zinc and 7.4% for nickel.

The recovery in copper demand was most evident during the second half of 2003. Sustained demand for extruded copper, a shortage of scrap material and strong demand from the IT sector all served to bolster demand. Consumption of lead in Japan is running at 310,000 t/y and 84% is used in

car batteries. In 2003, demand for lead in batteries increased by 6.1% for automobile and motorbikes, to 205,714 t. The total demand for lead in batteries has increased by 8.4% for two consecutive years. On the other hand, usage for soldering is continuing to decline.

Demand for refined zinc was stronger in the second half of 2003, and demand for galvanised steel plate rose by 7.9% over the full year to 13.6 Mt. Also, demand for die-casting products rose, by 2.5% to 35,375 t as a result of robust demand by the automobile sector. Demand for hot-dip galvanising for use in building and construction has doubled over the past ten years.

According to Japan Aluminum Association, total demand for aluminum and its products increased by 3.2% to 4.15 Mt in 2003. The strong demand was due to robust offtake by the automobile, shipping and digital home appliances sectors.

Environment

The environmental business activities of Japanese smelting and metal companies are well established, and the consolidated environmental business turnovers of ten major smelting and mining companies accounted for ¥105.9 billion in 2003, or about 4.1% of the gross turnover. Furthermore, environmental business is a growing sector, and has grown by 20% over the past three years. According to Japan Mining Association, the amount of recycled scrap treated in 2002 reached 429,000 t, much of it being used lead batteries, followed by copper, zinc and electrical parts/materials. The amounts of recycled copper, lead and zinc in 2002 were 130,443 t, 103,344 t and 95,791 t, respectively.

The increased involvement of Japan's major metal mining companies in metal recycling and industrial waste treatment has been in response to environmental legislation such as the Home Appliances Recycle Law and the End-of-Life Vehicles Law. For companies such as Dowa Mining Co, the environmental sector is becoming a core business; Dowa has developed an application to utilise its smelting technique to collect metals from industrial waste for recycling, and has embarked on a three-year investment plan for its environmental business that it hopes will achieve an operating profit of ¥220 billion by 2006.

Also, Dowa has announced that a full-scale operation began in 2003 of a metal and steam recycling incinerator. This is intended to facilitate the recovery of metals from automobile shredder residues, and re-use of the steam that is generated.

Alliances and mergers

Nippon Mining and Metals Co is to strengthen its metal processing division in the growing East Asian market by widening its business network there. The company is investing in facilities in Taiwan and Shanghai in order to strengthen its metal-processing capacity in China.

In South America, Mitsubishi Corp plc, Nippon Mining & Metals Co and
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Mitsubishi Materials Corp, have committed to develop a new JV copper project at Escondida in Chile with BHP Billiton and Rio Tinto. The US\$400 million project will produce 3 Mt/y of copper ore.

Nippon PGM America Inc, (Dowa Mining 51%, Tanaka Kikinzoku Kogyo KK 34%, Toyota Tsusho America Inc 15%) was established in December 2003. The focus is on increasing usage of platinum for automobile catalysts, especially in Japan and North America. The new company (based in New Jersey) will analyse the grade of collected PGMs in North America, and operations were scheduled to start in August 2004.

Dowa Mining has established the first recycling company in China's industrial region, and will concentrate on precious metal recycling and the complete waste management of used electronic substrate. The plant operation will start in June 2005, at the latest. Meanwhile, the company continues to expand its waste management and reclamation of contaminated soils businesses in other areas of China.

Finally, a merger that took place in 2003 between Japan National Oil Corp (JNOC) and the Metal Mining Agency of Japan. The new organisation, Japan Oil, Gas and Metals National Corp (JOGMEC), aims to continue to support exploration, development and production of non-ferrous mineral resources, as well as oil and natural gas.

Refined metal production

	2002	2003
Gold (kg)	144,748	161,399
Silver (kg)	2,259,551	2,453,204
Copper (t)	1,401,079	1,430,365
Lead (t)	213,138	226,426
Zinc (t)	639,925	651,246
Nickel (t)	32,203	31,854

Source: Ministry of Economy, Trade and Industry of Japan