

Metals

[Upstream]

[Midstream]

[Downstream]

Resource Development



Los Pelambres Mine [Chile]



Caserones Copper Deposit [Chile]

Overview

High earnings continue on metal price hikes

We participate in promising overseas resource development projects principally in Chile, from their initial stages.

The Los Pelambres Mine, the Collahuasi Mine and the Escondida Mine in Chile continue to operate steadily and generate high earnings due to high metal prices.

Pan Pacific Copper Co., Ltd. (PPC) acquired an interest to the Caserones Copper Deposit in July 2006 and is now conducting a pre-feasibility study on the deposit with a view to mine development and construction of a hydrometallurgical smelter. In that project, the Nippon Mining & Metals Group will utilize the SX / EW process as it aims to build its first overseas integrated production system covering mining through to refined copper production.

Further, PPC acquired an interest to the Quechua Copper Deposit from Mitsui Mining & Smelting Co., Ltd., in March 2008.

Basic Strategy

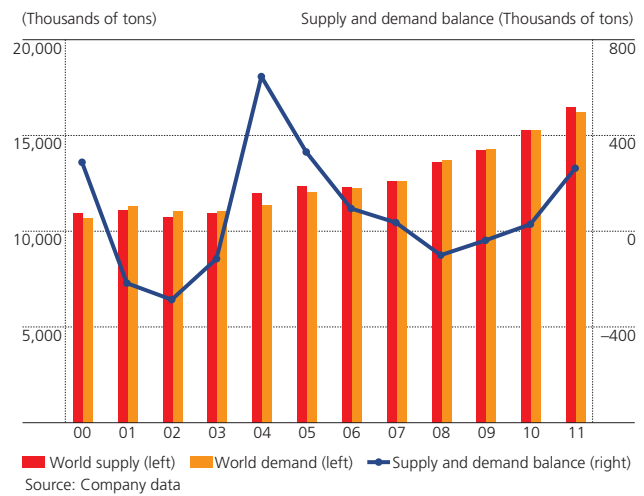
Furthering mine development projects mainly in South America

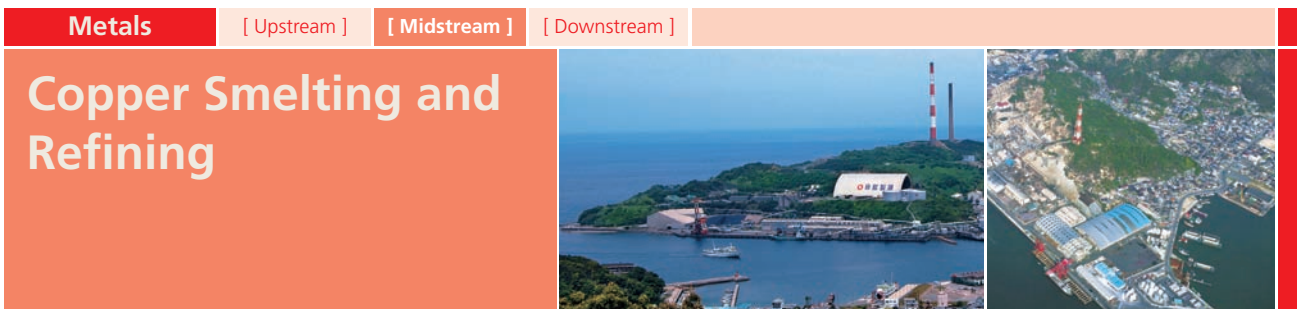
In addition to investing in and financing promising mines to secure stable procurement of copper concentrates with a significant return on investment, we will advance mine development projects, mainly in South America. As part of these initiatives, we will conduct a feasibility study for commercial production in the Caserones Copper Deposit in Chile and the Quechua Copper Deposit in Peru. The commencement of production at these two copper deposit development projects will lift PPC's ratio of equity based entitlement volume from less than 20% at present to approximately 50%.

Nippon Mining & Metals mine investments

Mine	Location	Investment ratio	2007 copper concentrates sales (amount of copper)
Escondida Mine	Chile	2.0%	1,230 thousand tons
Los Pelambres Mine	Chile	15.0%	300 thousand tons
Collahuasi Mine	Chile	3.6%	396 thousand tons

World copper concentrates supply and demand





Saganoseki Smelter & Refinery (Nikko Smelting & Refining Co., Ltd.) [Oita Prefecture]

Tamano Smelter (Hibi Kyodo Smelting Co., Ltd.) [Okayama Prefecture]

Overview

Operations continue steadily at production bases

Copper smelting and refining operations are being steadily conducted at the Saganoseki Smelter & Refinery in Oita Prefecture of Nikko Smelting & Refining Co., Ltd., the Tamano Smelter in Okayama Prefecture of Hibi Kyodo Smelting Co., Ltd., which are under the umbrella of PPC, and LS-Nikko Copper Inc., of South Korea.

The Tamano Smelter has introduced the waxless permanent cathode method, which had been employed by the Saganoseki Smelter & Refinery and the Hitachi Works of Nikko Smelting & Refining Co., Ltd., to supply high quality refined copper. Also, the Tamano Smelter made an investment to its shipment berth to accommodate large size vessels for shipment of sulfuric acid.

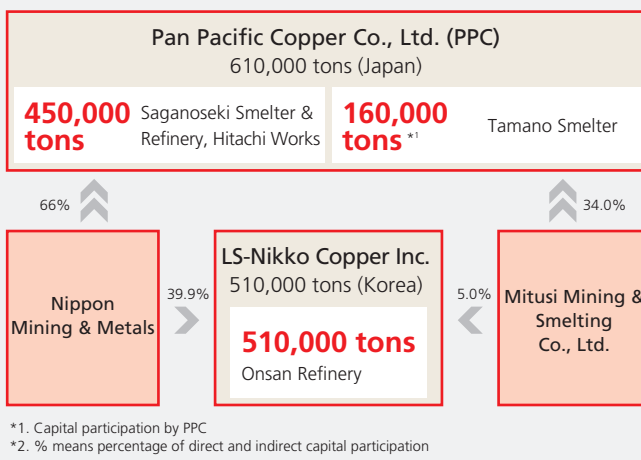
Changzhou Jinyuan Copper Co., Ltd., of China, a copper wire rod manufacturer, continues to operate steadily, supported by surging demand within China.

Basic Strategy

Aiming to create a world-class alliance of copper producers in terms of quality and volume

Although we expect challenging conditions will continue, with reduction in the treatment and refining charges caused by tight supply and high demand for copper concentrates and lowering copper concentrate grades, we will work to improve procurement conditions for copper concentrates through negotiations. We will strengthen the competitiveness of the smelters and refineries under the umbrella of PPC's integrated operating system. Also, we will forge the world leading alliance of copper producers in terms of quality and volume in collaboration with LS-Nikko Copper.

2nd in the world (1st in Asia) copper cathode production capacity



*1. Capital participation by PPC
*2. % means percentage of direct and indirect capital participation

Ranking of world's leading producers of refined copper (Thousands of tons)

Company	Production volume per annum
1. Codelco	1,642
2. PPC / LS-Nikko Copper	1,265 *
3. Freeport	1,109
4. Xstrata	837
5. Norddeutsche Affinerie	572

Source: Brook Hunt Copper Metal Service 1Q 2008 (* Total for PPC and LS-Nikko Copper published data)

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Recycling and Environmental Services



Clean Z furnace (Nikko Environmental Services Co., Ltd.) [Ibaraki Prefecture]



Gasification melting furnace (Nikko Mikkaichi Recycle Co., Ltd.) [Toyama Prefecture]

Overview

Technological expertise accumulated over many years advances recycling and environmental services

Underpinned by technology and practical experience garnered over many years of operating mines, smelters and refineries, recycling and environmental services consist of recycling businesses, which recover copper, precious metals and other valuable metals from recycling raw materials, and environmental services, which detoxify industrial wastes and recover valuable metals.

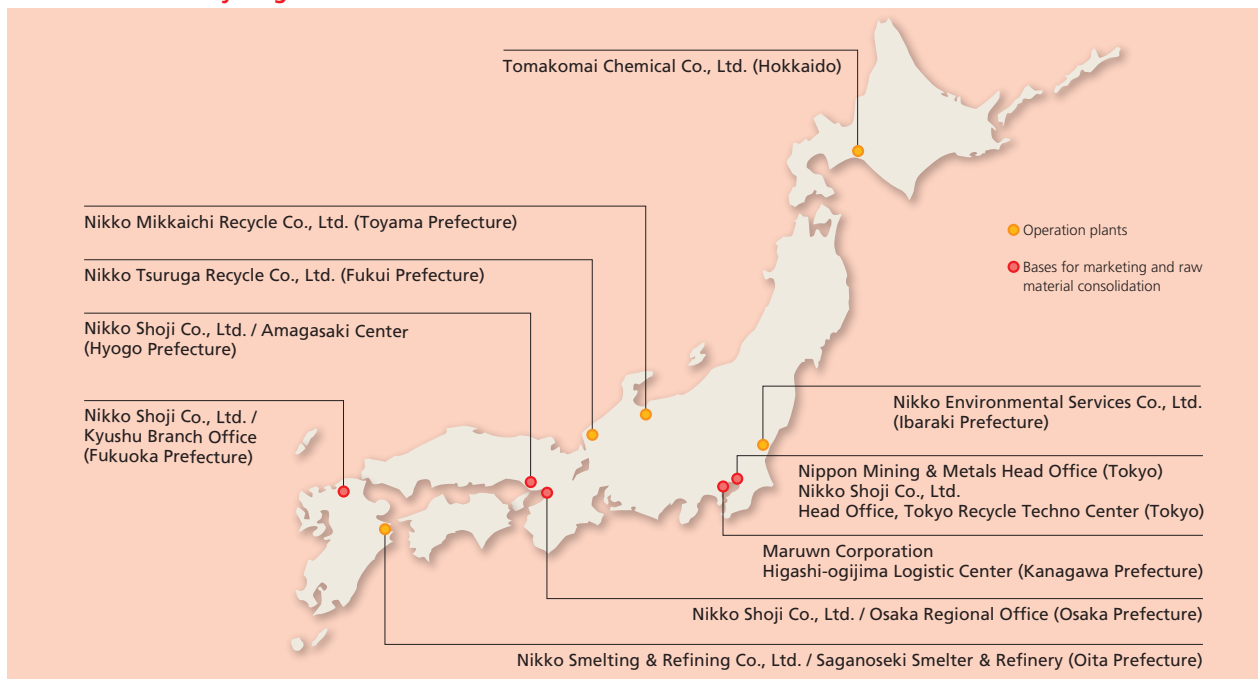
Centered on the recycling and environmental services division of the Nippon Mining & Metals Group, Nikko Environmental Services Co., Ltd., in Ibaraki Prefecture, and other related companies are building a nationwide network, and all related business are operating steadily.

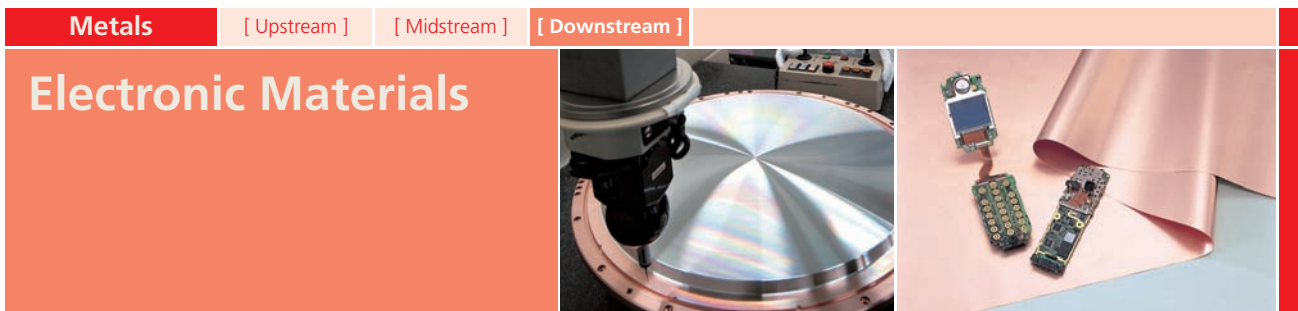
Basic Strategy

Strengthening the foundations of recycling and environmental services

In order to strengthen the foundations of recycling and environmental services, we are moving forward with the Hitachi Metal Recycling Complex (HMC) project in Hitachi City, Ibaraki Prefecture, which efficiently processes recycled raw materials, mainly from the Tokyo metropolitan area, and recovers precious metals, as well as rare metals and platinum-group metals. Furthermore, we have undertaken overseas projects including establishment of Materials Service Complex Malaysia Sdn. Bhd. and reorganization of Nikko Metals Taiwan Co., Ltd., to build a system to collect scraps containing precious metals.

Network of the recycling and environmental services business





Sputtering targets for LSIs

Treated rolled copper foil

Overview

Operational Integration of Electronic Materials and Metal Manufacturing

Electronic Materials operations' lineups command substantial shares of markets worldwide thanks to technological expertise including high purification, high-density sintering, surface treatment, precision rolling and processing and others. Aiming to rigorously pursue synergies, in April 2008 we merged the Electronic Materials and the Metal Manufacturing businesses, which target many of the same markets.

In the thin film forming materials operations, observing demand trends, we are continually increasing production capacity, mainly at the Isohara Works in Ibaraki Prefecture, for sputtering targets for LSIs, FPDs, magnetic recording media used for hard disc drives and others.

In Metal Manufacturing operations, the Kurami Works in Kanagawa Prefecture continues steady production of such precision-rolling products as rolled copper foil. Furthermore, we are increasing surface treatment lines of the Hitachi Works in Ibaraki Prefecture of Nikko Fuji Electronics Co., Ltd.

Overseas, we started up operation at Materials Service Complex Malaysia, in October 2007. Also, in April 2008 we merged and reorganized Group companies in Taiwan to newly establish Nippon Mining & Metals Taiwan, which is undertaking wide-ranging operations that cover marketing of electronic materials through to collection of materials for recycling.

Basic Strategy

Aiming to increase business lines by strengthening operational foundations

In the copper foil and thin film materials businesses, we will further raise the earning power of existing products and increase business lines through early launch of new operations. In operations for electro-deposited copper foil and sputtering targets for LSIs, we will work to increase profitability by increasing the ratio of highly-functional products and reducing costs. In addition, we will expand sales and increase profit on sputtering targets for FPDs, by differentiated quality and improvement of production efficiency. Also, we will undertake full-fledged marketing of MAQUINAS®, a dual-layer CCL material used for film substrates for semiconductors packaging, known as chip-on-film.

In the metal manufacturing business, we will further strengthen our earnings platform by expanding our business field through releasing new alloys designed for the automotive market, in addition to existing high-value-added products. We will expand production capacity of the Kurami Works through investment in accordance with the direction of the market and improvement of production efficiency. At Nippon Mining & Metals (Suzhou) Co., Ltd., of China, we have started surface processing operations and will increase the company's earning power by expanding its operational scope through the construction of an integrated operating system that incorporates rolling, surface treatment and press processing. In the precision fabricated products business field, we will install more equipment at the plants of Nikko Fuji Electronics Co., Ltd., mainly for automotive products.

Portfolio of products with high global market shares

Main products	Global market share
Treated rolled copper foil	No.1 75%
Electro-deposited copper foil	No.3 12%
Sputtering targets for LSIs	No.1 60%
Sputtering targets for FPDs	No.1 45%
Sputtering targets for magnetic recording media	No.2 30%
Phosphor bronze	No.1 17%*
Corson alloys (C7025)	No.1 50%
Titanium copper alloys	No.1 60%

* Share in Asia