

THE MINERAL INDUSTRY OF NORTH KOREA

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In late 2000, North Korea began to reemerge from its isolation. The estimations for domestic growth were 1.3% in 2000 and 6.2% in 1999. The construction and mining sectors grew by 13.6% and 5.8%, respectively, but the chemical sector declined. The country used to conduct more than 70% of its trade with Communist countries, largely on the basis of barter with China and Russia. In 1992, governmental barter trade between China and North Korea was abolished and was replaced by bilateral trade. In 1999, bilateral trade between China and North Korea was \$370 million, which was a decline of 60% from that of 1993. Major commodities of bilateral trade were coal, crude oil and its products, machinery, steel, and agricultural products (Ministry of Foreign Trade and Economic Cooperation, [undated], Sino-North Korean economic and trade brief, accessed August 31, 2001, at URL http://www.moftec.gov.cn/moftec_en/dsbgx/yazhou/yazhou_en_02.html).

North Korea's main energy resource was coal. The country imported oil from the Communist countries in exchange for supplying machine tools and cement. Since the collapse of the Soviet Union, North Korea has faced shortages of food, electricity, and raw materials. Many of the machines in use were in need of spare parts, and owing to lack of electricity, machines were operated manually. In 1992, North Korea passed a foreign investment law, and since then, 50 laws and

regulations have been passed to protect foreign investors. Investors from the Republic of Korea were building an industrial park at Kaesong in North Korea. Hyundai Group of the Republic of Korea had invested more than \$400 million to upgrade the infrastructure of the industrial park (Far Eastern Economic Review, 2000; Chemical & Engineering News, 2001).

Molopo Australia NL has been active for the past 3 years in North Korea; it announced that it commissioned a gravity separation gold plant at Changjin. The plant comprised an inline pressure jig manufactured in Australia that was designed to treat 50 metric tons per hour of material. The company had successfully processed 625 grams (23 troy ounces) of gold from the plant and had received the rights to export gold to Australia in 2000. Molopo had four gold projects in North Korea—Big Boy, Changjin, Danchon, and Hambung (Asian Journal of Mining, 2001).

References Cited

- Asian Journal of Mining, 2001, North Korea alluvial gold test work: Asian Journal of Mining, February-April, p. 6.
Chemical & Engineering News, 2001, Meanwhile, *in* Pyongyang: Chemical & Engineering News, v. 79, no. 32, August 6, p. 20.
Far Eastern Economic Review, 2000, North Korea—Open for business: Far Eastern Economic Review, October 5, p. 22.

TABLE 1
NORTH KOREA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1996	1997	1998	1999	2000
METALS					
Cadmium metal, smelter	100	100	100	100	100
Copper:					
Mine output, Cu content	16,000	15,000	14,000	14,000	14,000
Metal:					
Smelter:					
Primary	24,000	24,000	23,000	20,000	20,000
Secondary	5,000	5,000	4,500	5,000	5,000
Total	29,000	29,000	27,500	25,000	25,000
Refined:					
Primary	23,000	23,000	23,000	20,000	20,000
Secondary	5,000	5,000	5,000	5,000	5,000
Total	28,000	28,000	28,000	25,000	25,000
Gold, mine output, Au content kilograms	5,000	5,000	4,500	4,500	5,000
Iron and steel:					
Iron ore and concentrate, marketable:					
Gross weight thousand tons	1,100	1,000	700	700	700
Fe content do.	510	490	300	300	300
Metal:					
Pig iron do.	500	450	250	250	250
Ferroalloys, unspecified do.	10	10	10	10	10
Steel, crude do.	1,000	1,000	1,000	1,000	1,000
Lead:					
Mine output, Pb content	80,000	75,000	70,000	70,000	70,000
Metal:					
Smelter, primary	65,000	65,000	60,000	60,000	60,000
Refined:					
Primary	75,000	75,000	75,000	70,000	70,000
Secondary	5,000	5,000	5,000	5,000	5,000
Total	80,000	80,000	80,000	75,000	75,000
Silver, mine output, Ag content	50	50	45	40	40
Tungsten, mine output, W content	900	900	800	700	700
Zinc:					
Mine output, Zn content	210,000	210,000	200,000	190,000	190,000
Metal, primary	200,000	200,000	180,000	180,000	200,000
INDUSTRIAL MINERALS					
Barite	110,000	120,000	100,000	70,000	70,000
Cement, hydraulic thousand tons	17,000	17,000	17,000	16,000	15,000
Fluorspar	39,000	39,000	30,000	25,000	25,000
Graphite	40,000	40,000	35,000	33,000	30,000
Magnesite, crude thousand tons	1,600	1,600	1,500	1,000	1,000
Nitrogen, N content of ammonia do.	600	600	550	500	450
Phosphate rock	520,000	520,000	450,000	350,000	350,000
Salt, all types	590,000	590,000	550,000	500,000	500,000
Sulfur thousand tons	250	260	250	240	240
Talc, soapstone, pyrophyllite	180,000	180,000	150,000	120,000	120,000
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Anthracite thousand tons	70,000	70,000	55,000	50,000	50,000
Lignite do.	20,000	20,000	30,000	30,000	30,000
Total do.	90,000	90,000	85,000	80,000	80,000
Coke do.	2,900	2,900	2,000	2,000	2,000

1/ Table includes data available through September 15, 2001.

2/ In addition to the commodities listed, crude construction materials, such as sand and gravel and other varieties of stone, and petroleum products presumably are produced, but available information is inadequate to make reliable estimates of output levels.