

## REPUBLIC OF KOREA

*By Korea Resources Corp.*

According to the Bank of Korea, the Republic of Korea (South Korea) posted an annual growth of 6.3% in real gross domestic product (GDP) in 2002, despite a marked slowdown. Year-on-year GDP growth increased by 3.0%, mainly because of an active real estate market. *Per capita* real gross national income (GNI) also increased, from US\$9,000 in 2001 to US\$10,013. Nominal GDP increased by 11.5% to US\$476.6 billion, ranking the country thirteenth in the world in terms of nominal GDP in 2002.

Since South Korea lacks a significant mineral resource endowment, it must rely on outside sources to meet its increasing demand for minerals. Not only is Korea likely to increase its mineral imports rapidly, but it is also expected to invest increasingly in overseas minerals industries.

The mining industrial production index (IPI), unadjusted for seasonal variation (and based on 1995=100), recorded 74.1 in 2001 as compared with 77.4 in 2000. The IPI for coal recorded 53.6 in 2001, down from 62.4 in 2000; for metal ore, the index dropped to 33.8 (45.7) and for non-metal ore to 78 (79.7).

At the end of 2002, a total of 516 mines operated in South Korea, comprising ten coal mines, 18 metal mines and 488 non-metallic operations. Metal ore mines included 12 gold mines and one iron-ore mine. Non-metallic mines included 153 kaolin mines, 136 limestone and 48 quartzite operations. In 2002, the country's mineral was worth US\$1,418 million, comprising US\$419 million for metal ore (30%), US\$826 million for non-metal ore (58%) and US\$173 million for coal (12%).

Mineral trade in 2002 consisted of total ore imports costing US\$6,945 million, an increase of 0.5%, and exports worth US\$1,104 million, a drop of 7% compared with the previous year. The major mineral imports in 2002 were: gold (US\$1,738 million); bituminous coal (US\$2,254 million); iron ore (US\$998 million); copper ore (US\$652 million); enriched uranium (US\$298 million); zinc ore (US\$252 million); and lead ore (US\$115 million).

### **Coal**

South Korea's output of anthracite coal amounted to only 3.3 Mt in 2002 compared with 3.8 Mt in 2001. About 36% of the nation's anthracite coal is produced by Korea Coal Corp., which produced 1.2 Mt from three mines, Changsung, Hwasoon and Dogae. Kyungdong Coal Mining Co., the largest coal producer, contributed 1.0 Mt. Of the total imports of bituminous coal, up by 4.5% during 2002 to US\$2,254 million, Australia's shipments to Korea were worth US\$1,008 million, China's US\$796 million, Canada's US\$204 million and Indonesia's US\$152 million.

Korea Electric Power Corp. (Kepco) is South Korea's principal buyer of steam coal and is the government's power monopoly. As of April 2001, Kepco

diversified into six separate power generation companies. One company will be handling nuclear power generation. The other five non-nuclear electricity generation companies will be established for eventual sale to the private sector from 2003.

The Ministry of Commerce, Industry and Energy has laid out a five-year plan for the coal industry, calling for the closure by 2005 of three to four coal mines through gradual production cuts. Current production costs are two and a half times higher than international coal prices.

### **Iron and Steel**

Iron-ore production increased to 156,774 t in 2002 following the re-opening of the Shinyemi mine. Production of titanium ore totalled 142,726 t.

Crude steel production increased to 45.4 Mt in 2002 as compared with 43.8 Mt in 2001. Pohang Iron and Steel Co. (Posco) reported sales of W11.7 trillion, an operating profit of W1.8 trillion and a net profit of W1.1 trillion. Posco's crude steel production in 2002 totalled 28.1 Mt, a new annual record for the company, which put the company back in top position as the world's biggest crude-steel producer. (The average exchange rate in 2002 was one US dollar = 1,251.24 won.)

### **Non-Ferrous Metals**

The world's biggest zinc refiners, Korea Zinc Co. Ltd and Young Poong Corp. produced 608,000 t in 2002, as compared with 501,141 t in 2001. Korea Zinc Co. produced 411,500 t of refined zinc, and annual capacity at its Onsan plant is now 450,000 t. The capacity of Young Poong's Sukpo plant is 200,000 t/y.

LG Nikko Copper is South Korea's only copper producer. Last year it produced 494,500 t of copper cathode. Annual refining capacity at its Onsan plant is 450,000 t and capacity at the Janghang plant is 60,000 t/y.

South Korea's only lead refiner, Korea Zinc Co. Ltd, sold 178,722 t in 2002, as compared with 161,010 t in 2001. Annual capacity at Korea Zinc Co. for refined lead is 180,000 t.

South Korea has no aluminum smelting capacity and imports of primary aluminium totalled 785,044 t against 722,447 t in 2001.

### **Non-metallic minerals**

Limestone is the major industrial mineral in South Korea. In 2002, 86 Mt were produced of which 67.2 Mt were for the cement industry, 9.7 Mt for metallurgical purposes, 6.6 Mt for chemicals and 2.5 Mt for other uses.

Other industrial minerals included 2.8 Mt of kaolin and 3.0 Mt of quartz. Non-metallic minerals contributed an 81.8% share by value to South Korea's mining industry. According to the country's cement industrial association, clinker and cement production in 2002 amounted 50 Mt and 55.5 Mt respectively. Exports amounted 900,000 t of clinker and 2.5 Mt of cement.

Mineral Production								
	Minerals	Grade	2001			2002		
			Output ('000 t)	Output (W100 million)	Self-supply* (%)	Output ('000 t)	Output (W100 million)	Self-supply* (%)
Metals	Gold	Au 99.9%	0.0	1.2	0.01	0.1	24.0	0.15
	Lead	Pb 50%	2.0	2.0	0.88	0.0	0.0	0.03
	Zinc	Zn 50%	10.3	25.9	0.94	0.2	0.4	0.02
	Iron	Fe 56-65%	22.7	7.8	0.05	156.8	42.0	0.36
	Titanium	various	162.0	54.7	66.51	142.7	51.6	64.5
	Others		0.6	0.6	-	1	12.8	-
	<b>sub-total</b>		<b>197.6</b>	<b>92.2</b>	<b>0.21</b>	<b>300.8</b>	<b>130.8</b>	<b>0.65</b>
Non-metals	Limestone	various	81,949	6,758	99.37	86,008	8,295	99.36
	Pyrophyllite		1,102	267.1	100.0	890	215.3	100.0
	Kaolin		2,384	387.5	92.87	2,831	426.9	92.14
	Talc		48	59.6	41.56	38	47.3	33.72
	silica stone		2,377	433.2	97.15	3,041	588.4	100.0
	silica sand		900	170.9	43.15	891	153.9	41.46
	feldspar		389	183.6	100.0	416	198.9	100.0
	diatomite		28	3.6	52.11	21	2.8	44.55
	zeolite		145	18.0	100.0	149	19.9	98.52
	serpentine		310	55.7	84.57	283	54.3	83.42
	others	-	798	364.8	-	764	317.3	-
	<b>sub-total</b>	<b>-</b>	<b>90,430</b>	<b>8,702</b>	<b>67.87</b>	<b>95,332</b>	<b>10,330</b>	<b>95.44</b>
Anthracite		-	3,817	2,374	-	3,318	2,167	-

\*: (Domestic production/domestic demand) x 100, based on tonnage

Average exchange rate in 2002 : US\$1 = W1,251.24

Source : MOCIE, 2001 Demand and Supply of Minerals.