

FINLAND

By Heikki Vartiainen

The worldwide slowdown in 2001 proved short lived in Finland, with an early decline in industrial output that recovered later to produce a year-end annual growth in GDP of 0.7% to €135 billion. Output in the manufacturing industry was however lower, down by 1.1%. There were, on average 238,000 unemployed and the average unemployment rate was 9.1%, 0.7% lower than in 2000. The change in the consumer price index was 2.6%, down from 3.4% in 2000.

In Finland, the decline in total industrial output in the early part of the year, proved short-lived and the worse case scenario in the international economy in its first quarter was not realised in Finland. GDP in Finland was €135 billion which was 0.7% more than in 2000. Output in the manufacturing industry was 1.1% lower. There were, on average 238,000 unemployed and the average unemployment rate was 9.1%, 0.7% lower than in 2000. The change in the consumer price index was 2.6%; 3.4% in 2000.

The Fennoscandian Shield offers favourable possibilities for new gold discoveries and because Finland is one of the few areas in the world where good potential exists for platinum group metals (PGM), international companies continued to increase their prospecting and exploration efforts. Expenditure increased by 27% compared with 2000 which is remarkable compared to a worldwide drop of about 15%. Drilling activity was 20% higher than in 2000, and the number of claim applications increased from 471 to 1,160.

The country's leading mining and metals company Outokumpu, announced late in 2001 that it was withdrawing from base metals mining and exploration except for precious metals. Nevertheless, there are still around 30 domestic and international companies prospecting and exploring in Finland.

Five notable exploration and feasibility projects were in progress. The most advanced was the Suurikuusikko gold project, operated since 1998 by Riddarhyttan Resources AB of Sweden. Current indicated and inferred resources exceed 8 Mt averaging about 6 g/t which will equate to about 1.6 Moz gold.

The Arctic Platinum Partnership between Outokumpu Oyj and Gold Fields Ltd has intensively evaluated the PGM deposits in layered intrusions at Konttijärvi and Ahmavaara. Already 11 Moz of PGM + gold reserves have been reported. At one stage twelve drilling rigs were in operation.

As part of the feasibility study of the Kälviä ilmenite deposit, Kalvinit Oy and Kemira

Explore Finland's Potential PGE, Gold & Diamonds

Finland offers a very favorable investment and operating environment with significant potential for new discoveries. Hot topics include PGE deposits with world-class reserves and potential, and the >1 Moz Suurikuusikko gold deposit. Present activity is concentrated in PGEs, gold, base metals and diamonds. Finland has excellent geological databases, good infrastructure, a progressive mining law and readily available exploration services. These factors make operating in Finland attractive and cost effective. For further information please contact the Geological Survey of Finland (explor@gsf.fi) or visit our exploration website:

www.gsf.fi/explor/



Pigments successfully undertook full-scale TiO₂ processing tests using a total of 2,300 t of ilmenite concentrates.

In eastern Finland, at Pampalo, Outokumpu continues to upgrade the gold reserves and resources and the exploration drift now extends to a depth of 280 m. In Lapland, Scandinavian Gold Prospecting AB has continued to evaluate the feasibility of developing the Kevitsa PGM bearing nickel-copper deposit.

The Geological Survey of Finland reported three limestone deposits, two gold deposits, one ilmenite and copper-zinc-gold deposit to the Ministry of Trade and Industry for international tender. The Ministry sold the following mineral rights: Oijärvi gold zone to Troy Inc of Australia and Riddarhyttan Resources Ab; the Järvenkylä limestone to Nordkalk Oy; the Iso-Kuotko gold deposit to Riddarhyttan Resources AB; and the Kiannanniemi gold deposit to Outokumpu Mining Oy.

In 2001, Finland had 37 operating mines and quarries, five less than in 2000, but the total mining rate of 17.6 Mt was about same as in 2000

Outokumpu Mining Oy and Inmet Mining Co. of Canada, established an alliance which includes the sale of the Pyhäsalmi zinc-copper mine to Inmet. In mid-year the deep mine at (1,000-1,450 m depth) Pyhäsalmi reached full production and reserves are sufficient to last until 2015. The reserves average 1.2% Cu, 2.8% Zn, 0.4 g/t Au and 39% S. A total of 1.1 Mt of ore was processed.

At the Kemi chromium mine, construction of the underground mine continued and ore output fell slightly, from 1.3 Mt in 2000 to 1.18 Mt. Only two other metallic mines were in operation: the Hitura nickel mine with 0.7 Mt, and the Orivesi gold mine with 0.19 Mt.

The output from 14 industrial minerals and stone mines and quarries was 10.72 Mt. Of this, the share of Kemira Agro's Siilinjärvi

apatite mine was 9.16 Mt. The three talc mines owned by Mondo Minerals Oy of Switzerland produced about 1.02 Mt, similar to the previous year. The remaining 540,000 Mt of production was contributed by soapstone, quartz and rock wool operations.

Mineral Production (‘000 t except where stated)

	1997	1998	1999	2000	2001
Pyrite conc.	1,152	770	840	823	583
Chromite conc.	611	498	597	628	575
Iron ore pyrite residues	235	246	276	256	261
Nickel conc.	38	22	8	24	24
Zinc conc.	61	58	38	31	37
Copper conc.	32	36	38	42	40
Steel	3,734	3,951	3,956	4,096	3,938
Pig iron	2,786	2,919	2,954	2,983	2,851
Stainless steel	543	575	598	636	561
Ferrochrome	236	231	256	260	236
Zinc	175	199	225	223	249
Copper	116	123	115	114	116
Nickel (cathode)	14	16	19	22	18
Cadmium (t)	490	520	700	680	600
Mercury (t)	63	54	55	77	71
Silver (t)	32	30	31	24	23
Selenium (t)	43	43	37	37	42
Gold (t)	4.8	5	7	5	6
Limestone	3,376	3,974	3,935	3,759	4,060
Apatite	689	716	734	751	767
Talc	437	498	508	501	477
Quartz	155	174	203	174	163
Feldspar	40	42	44	39	36
Soapstone	56	40	37	38	42
(fireplaces)					
Cement	1,152	1,232	1,299	1,423	1,324

Production by Finland's 14 limestone mines and quarries increased to 4.06 Mt, 8% more than in 2000. Because of the decrease in cement production, from 1.423 Mt to 1.324 Mt, it is obvious that the increase in limestone mining was due to its demand as a soil conditioner.

Compared with 2000, the total production of concentrates, metals and mineral products decreased from 16.82 Mt to 16.36 Mt and the minor products from 823 t to 742 t (table). Output of all the major metallic products fell, with the exception of zinc metal which increased by 11.7% and zinc concentrate

which climbed by 19.4%. Copper also showed a slight increase. Amongst the non-metallic products, apatite and soapstone output increased by 2.1% and 10.5% respectively. In the group of minor products, only selenium increased by about 13.6%. Gold production showed little change.