

Resistance to corrosion, high strength over a wide temperature range, pleasing appearance and suitability as an alloying agent are characteristics of nickel which make it useful in a wide range of applications. The major use is in stainless steels, which account for close to 50% of consumption, followed by nickel-based alloys, electroplating, alloy steels, foundry products and copper-based alloys. Nickel is extensively used as an alloying agent and is a component in approximately 3,000 different alloys.

Gold. Canadian gold production increased for the seventh consecutive year in 1987 totalling 117 834 kg valued at \$2.2 billion, compared with 102 899 kg valued at \$1.7 billion in 1986.

While the recent price of gold has remained well below the record high of 1980, exploration for the metal has been maintained at record levels which has resulted in additional mines being developed. Canada is one of a number of countries which are expanding their gold production. Although Canada has traditionally ranked third in world gold production, in 1986, Canada was surpassed by the United States as the third largest gold producer in the world; Australia may also pass Canada in the near future.

Since the 1981 discovery and subsequent development of Hemlo gold mining in northern Ontario, every province except Alberta and Prince Edward Island has established significant new gold mines. Ontario remains the leading producer with 46% of output, followed by Quebec with 25% and British Columbia and the Northwest Territories, each with 10%. Manitoba and Saskatchewan, while only accounting for 4% of the total production in 1987, increased their combined output by 83% from the previous year.

Canadian production comes mainly from primary gold mines; Canada's 51 operating gold mines accounted for 80% of annual production at the end of 1987. Byproduct gold from base metal operations accounted for nearly 15%, while placer mining operations in the Yukon, British Columbia and Alberta accounted for the remaining 5%.

The highly successful Gold Maple Leaf bullion coin program operated by the Royal Canadian Mint is the major consumer of Canadian mined gold accounting for over 65% of production. Since its introduction in 1979, the maple leaf coin program has consumed over 300 000 kg (10 million ounces) of Canadian gold. The 99.99% pure coin has felt competition from other gold producing countries, including Australia and the United States which have both introduced their own bullion coins.

Most Canadian mined gold in Canada is also refined in Canada. The larger refineries are: the Royal Canadian Mint in Ottawa, Noranda in Montreal, Que., Degussa Canada Ltd. at Burlington, Ont., and Johnson Matthey Ltd. at Brampton, Ont.

Zinc. Canada is the world's largest producer and trader of zinc providing about 25% of all zinc consumed in the western world. Western world zinc production and consumption in recent years have reflected the state of the world economy. Canadian mine output in 1987 was 1.3 million tonnes compared with 0.9 million tonnes in 1981. Canadian production of refined zinc in 1987 and 1986 reached 610 000 t and 571 000 t, respectively, well below the 692 000 t produced in 1985. For a second year in a row, metal production was affected by strikes. Consumption of refined zinc was 167 000 t in 1987, up from 156 000 t in 1986. Zinc is used mainly for galvanizing (43%), in brass (24%), diecasting alloys (14%), with semi-manufactures and chemicals accounting for the balance.

Four electrolytic zinc refineries in Canada have a total annual capacity of 705 000 t. Cominco Ltd. at Trail, BC is Canada's largest, followed by Canadian Electrolytic Zinc Limited at Valleyfield, Que.; Falconbridge Limited at Timmins, Ont.; and Hudson Bay Mining and Smelting Co. Limited, at Flin Flon, Man. All smelters, except that at Flin Flon, have completed modernization and expansion programs in recent years, the most recent being Falconbridge.

Zinc is produced in approximately 30 mines in Canada, all of which also produce as co-products, or byproducts, lead, copper or both, as well as gold and silver. The Yukon and Northwest Territories are the largest zinc mining regions, accounting for just over 36.3% of Canadian production. Other important producers are Ontario (24.3%), New Brunswick (17.4%), British Columbia (8.9%) and Quebec (7.0%).

Silver. Canadian silver production increased in 1987 to 1 250 t up from 1 088 t in 1986. The increase was mainly the result of increased production by base metal producers.

Canada is the world's fourth largest producer of silver. Mexico, Peru and the USSR, respectively, are the largest silver producers — the United States is another major producer.

British Columbia is the largest silver producer in Canada, accounting for 32% of total production, followed by Ontario and New Brunswick with 27% and 17%, respectively.

Silver prices reversed a four-year trend of weak prices and increased by 28% in 1987 to average US\$7.02/oz. compared with US\$5.47/oz. the