

tonnes. Since 1979 stocks have been reduced to 15 million tonnes as shipments have exceeded production.

Reduction of stockpiles is expected to continue because the production of sulphur from sour gas is declining while the demand for sulphur is increasing.

Nepheline syenite. Canada is the world's largest producer of nepheline syenite, from two operations on Blue Mountain, 40 km northeast of Peterborough, Ont. Shipments totalled 518 000 t in 1982 and 588 000 t in 1981. In spite of the drop in shipments the value increased to \$17.3 million from \$16.8 million in 1981 due to sales of higher priced finely ground product. In 1982, 80% was exported of which 90% went to the United States. Nepheline syenite is preferred to feldspar as a source of essential alumina and alkalis in glass manufacture. Other uses include the manufacture of ceramics, enamels, paints, papers, plastics and foam rubber.

10.5 Structural materials

Total value of construction in Canada showed a steady increase in current dollars for many years until 1982 when a 2% decrease was recorded. Construction has represented, on average, 17% of Gross National Product. In 1982 this share was down to 16%. Housing starts, traditionally a more visible sign of construction, in 1982 were the lowest since 1962 at only 125,860 units. This is down from a high of 273,203 in 1976.

Production of the mineral materials used by the construction industry reflects demand from both domestic and foreign construction activity.

Gypsum. The Canadian gypsum industry has not only supported the Canadian demand for wallboard but has supplied over 25% of US requirements for crude gypsum. Canadian production is principally from quarries operated by subsidiaries of US gypsum products manufacturers in Nova Scotia and Newfoundland. A steady decline from over 8 million tonnes in 1979 to about 6 million tonnes in 1982 reflects the slump in the building sector. A strong recovery late in 1982 was expected to carry through 1983.

The Canadian cement industry developed US markets for clinker and cement through the 1970s. Peak demand to date came in 1979 when production was 13.3 million tonnes of clinker and cement combined for a total value over \$720 million. The Canadian industry has the capacity to produce 15.9 million tonnes a year from a total of 23 plants. Thus production in 1982 at 8.1 million tonnes was only slightly more than 50% of capacity. Energy conservation programs in the Canadian industry reduced the energy consumption of output in 1981 to about 84% of what it was in 1974. Plants utilizing a dry process now constitute over 70% of Canadian capacity.

Production of the mineral aggregates, sand, gravel and crushed stone, generally reflects fluctuating demand from the construction industry. Since 1979 a steady decrease from 390 million tonnes to 270 million tonnes reflected the reduced activity in engineering construction in particular. Pits and quarries, in order to be competitive, must be as close to the consumer as possible because of the high costs associated with transporting high bulk material of low value. Producers are vulnerable to the demands of expanding urban communities for environments free of dust and noise and must also adhere to strict rehabilitation regulations.

Although dimension stone for use in building and ornamental work constitutes only 1% of total Canadian stone production, it is anticipated that a revival in demand for building construction stone, along with new cutting technology, could result in a revitalized industry.

10.6 Manufactured metals

Aluminum. Canadian aluminum smelters operated at an average of 90% of their rated capacities in 1982. Production increased from 1979 to 1982, peaking in 1981. World production peaked in 1980 and then decreased with world economic slowdown. Canada, due to relatively less expensive electric power supplies, operated at higher than average rates as aluminum prices fell from 1980 to 1982. Canadian consumption decreased steadily from 1979 to 1982.

Two companies operate primary aluminum smelters. One of them has five smelters in Quebec at Jonquière, Isle-Maligne, Grande Baie, Beauharnois and Shawinigan, and one at Kitimat, BC with a combined annual capacity of 1 018 000 t of aluminum in 1982. The same company also operates an alumina refinery at Jonquière to supply some of its Quebec smelters. The other company has a smelter at Baie-Comeau, Que., with an annual capacity of 158 760 t.

The first 57 000 tpy potline of a new smelter at Grande Baie, Que. was completed in July 1981. A second 57 000 tpy potline was completed in 1982 but would remain on standby until market conditions improve, as would the third potline which was expected to be completed in early 1983. The Baie-Comeau smelter was increasing its aluminum capacity to 272 000 tpy by modernization and expansion at a cost of about \$500 million. Studies were under way on possible new smelters in Newfoundland, Quebec, Manitoba and British Columbia.

Iron and steel. The Canadian steel industry had extreme shifts in demand for its products during the 1979-82 period. Although 1979 was a year of peak demand and customers were placed on allocation, 1982 ended in a post-depression low. Operating rates approached capacity limits during both 1979 and the