

COAL

In a continuing struggle to maintain markets, the Canadian coal industry lost further ground to oil and natural gas during the review period. Nevertheless, the industry made every effort to secure or improve its position through the increased use of strip mining and of mechanization and by means of research and investigations into more economical mining of better-quality coals. In this effort it was assisted by the Mines Branch, Department of Mines and Technical Surveys, Ottawa, and by other research organizations.

Coal output in 1953 amounted to 15,900,000 tons valued at \$102,720,000, a decrease of 10 p.c. in volume and 8 p.c. in value from 1952. The decline was greatest in Alberta, the largest producer, where it amounted to 18 p.c., followed by British Columbia with a 12-p.c. decrease.

Because of the substitution of fuel, diesel oil and natural gas for coal for domestic and building heating, for railway use and for power production, Canadian consumption of coal declined 7.8 p.c. in 1953 to 38,141,000 tons. The decrease was almost evenly divided between domestic and imported coal. An idea of the rapid growth in the changeover from coal to oil in domestic and building heating during the past decade may be gained from the fact that, during the 1941-45 period, the oil consumed, estimated as the heat equivalent in terms of coal, amounted to almost 6 p.c. of the total fuel used. By 1953, this had spiralled to 45 p.c. of the total fuel used.

One of the heaviest losses encountered by the coal industry has been that of the shrinking railway market because of the railway conversion from coal to oil-burning and to diesel locomotives. During 1953, the Canadian National Railways, as part of its five-year conversion program to be completed in 1956, converted 99 coal-burning steam locomotives to oil, mainly in Western Canada, which alone means a loss of approximately 297,000 tons of coal yearly. Moreover, Canadian railways added a further 206 diesel units to their rolling-stock during 1953, bringing the total number of diesels in use at the end of the year to 969. In the production of thermal power, coal vies strongly with oil and natural gas. This type of power is coming into increasing use particularly in the Prairie Provinces where the economical supply of hydro-generated power has about reached its peak. The construction of one and possibly two large thermal plants is planned for the near future in Alberta, both near large reserves of coal.

Coal production by strip mining, a lower-cost method carried out in all provinces except Nova Scotia, increased 7.3 p.c. to 6,195,059 tons in 1953. In Saskatchewan, 99.7 p.c. of the output was strip mined, in Alberta almost 43 p.c., in New Brunswick about 73 p.c., and in British Columbia, 19 p.c. The average output per man-day in strip mining was estimated at 11.4 tons compared with 2.6 tons for underground.

The most outstanding development in mechanization in recent years is the 'Dosco Miner' developed in the mines of Dominion Steel and Coal Corporation Limited in Nova Scotia. The machine, which is rapidly coming into general use in eastern collieries, is capable of cutting coal from the longwall face without the aid of explosives and of loading it onto conveyors at the rate of 500 tons of coal per eight-hour shift.

During the review period, considerable research into the complex phenomena relating to rock pressures in mines, with special reference to the violent occurrence of "bumps" and "outbursts", continued to be carried out in Western Canada and in the Maritimes by the Department of Mines and Technical Surveys.