12.2 Government aid to the mineral industry

12.2.1 Federal government aid

Federal assistance to the mining industry takes the form of provision of detailed geological, geophysical, topographical, geodetic, geographical and marine data; the provision of technical information concerning the processing of ores, industrial minerals and fuels on a commercial scale; certain tax incentives; and financial and technical assistance to the gold-mining industry under the Emergency Gold Mining Assistance Act.

The Department of Energy, Mines and Resources. The federal Department of Energy, Mines and Resources was created by the Government Organization Act on October 1, 1966 (RSC 1970, c.E-6). In addition to its administrative establishment, the department is made up of three sectors — Science and Technology, Mineral Development and Energy Policy.

The Science and Technology Sector contains the Canada Centre for Mineral and Energy Technology (the former Mines Branch), the Geological Survey of Canada, the Surveys and Mapping Branch, the Earth Physics Branch, the Polar Continental Shelf Project, the Canada Centre for Remote Sensing, and the Explosives Branch.

The Canada Centre for Mineral and Energy Technology, a large laboratory and pilot-plant complex, conducts research into methods of extracting and processing minerals and fuels. Emphasis is placed on recovery techniques for ores and minerals with low-grade impurities or complex mineral composition. Fuels research includes evaluation of Canada's fossil fuels and the development of refining methods for the low-grade, high-sulphur petroleum of the Athabasca oil sands. A five-year project will greatly lower waste rock production and costs by improving the wall design of open-pit mines. Research is also being conducted on coal beneficiation and carbonization. In the related area of pyrometallurgy, the extraction of metal by heat, applied research is concentrated on the development of a shaft electric furnace for smelting iron ore. In the mineral sciences, the centre carries out physical, chemical, crystallographic and magnetic studies to determine the characteristics important to extraction and processing methods. The centre also produces standard reference ores and metals needed by mining and metallurgical companies. In metals research, in addition to improving techniques for metal forming, attention is focused on ensuring the structural soundness of metal pipelines for the Arctic. Other programs are directed toward the reduction of pollution and the conversion of mineral waste into useful materials such as fillers and ceramics.

The Canada Centre for Mineral and Energy Technology is assisted by the National Advisory Committee on Mining and Metallurgical Research, comprising representatives from industry, government and universities.

The Geological Survey of Canada (GSC) maps and studies the geology of Canada. As the major organization engaged in this work, its activities support two programs of the Department of Energy, Mines and Resources: the Mineral and Energy Resources Program and the Earth Sciences Program. A principal aim of the former is to ascertain available mineral and energy resource potential and thus the survey is active in estimating the abundance and distribution of mineral and fuel resources. This is done by providing a systematic geological framework, by defining the settings favourable to mineral and fuel occurrences and by appraising foreign resources. The Earth Sciences Program is concerned with use and conservation of resources and the preservation of the environment. To this end, the Geological Survey provides geologically based information on land resources and terrain performance derived from geological, geomorphic, geophysical, geotechnical and related studies of earth and rock materials, land forms and associated dynamic processes.