Science and Technology

Canada's minerals and metals policy recognizes the important role of science and technology in the achievement of sustainable development.

The Government of Canada is committed to fostering science and technology, both through its own activities and by encouraging the exchange of information and best practices, as well as by establishing partnerships and international collaboration and cooperation. It promotes partnerships and networking among stakeholders and builds knowledge bases, especially in the earth sciences. (The contribution of earth sciences to sustainable land management is described in *The Contribution of Earth Sciences to Sustainable Land and Resource Management*, monograph no. 12 in this series.)

Canada's minerals and metals policy promotes technological innovation in mining, processing, recycling, and all other aspects of mineral and metal use, from extraction to disposal. It also commits the government to enhancing the health and safety of Canadians, the quality of Canada's environment, and the competitiveness of its minerals and metals sector. Development of innovative materials and processes that respond to evolving environmental and societal concerns adds value to the natural resources and enhances industry competitiveness and productivity.

These commitments are addressed through the Canada Centre for Mineral and Energy Technology (CANMET) in partnership with industry, governments, universities, and other stakeholders. CANMET provides a wide range of science and technology programs, a key source of expertise, and unique facilities to house research.

Some examples of work undertaken by CANMET on mining-related environment, health, and safety issues include research on the following:

- lightweight materials for vehicles, which help reduce fuel consumption and carbon dioxide production
- enhanced mine air quality to develop automated, energy-efficient, mine-wide underground ventilation systems
- new and critically low threshold diesel emission levels to reduce underground exposure to diesel exhaust pollutants and oil mists
- rock behaviour processes at great depth to develop tools to optimize the safety and viability of deep mining operations.