

MINERALS AND METALS

Towards a Sustainable Future

INTRODUCTION

It is almost impossible to imagine life without minerals and metals and metal compounds. Of the 92 naturally occurring elements, 70 are metals; many are essential to plant, animal, and human life. These substances have been part of human activity since bits of copper were first hammered into simple tools about 6000 B.C.

Today, society needs minerals and metals for ever-widening purposes. Industrial minerals such as mica are essential components of advanced industrial materials. Agriculture needs mineral-based fertilizers. Industries depend on metals for machinery and concrete for the manufacturing plants necessary for industrialization. No aircraft, automobile, computer, or electrical appliance can function without metals. Electrical power supply depends on copper and aluminum. Titanium is critical for aircraft engines. A world without the silicon chip is now unimaginable. Metals will continue to contribute to the needs of future generations through new applications in the electronics, telecommunications and aerospace industries.

THE CANADIAN CONTEXT

In Canada, the concept of sustainable development is being integrated into federal government policies, programs, and legislation. *The Minerals and Metals Policy of the Government of Canada: Partnerships for Sustainable Development* recognizes that the continued use of Canada's mineral resource endowment must proceed within a sustainable development framework.

Canada's federal, provincial, and territorial governments play complementary roles in the mining sector. The federal government is responsible for nuclear energy, including uranium mining, and the regulation of all mining activities in the Northwest Territories, Yukon, and Nunavut. The provincial governments own the natural resources within their jurisdiction and are responsible for policies and regulations covering all aspects of exploration, development, and extraction of