

# Sustainable Development and the Future of Mineral Investment

*Edited by: James M. Otto and John Cordes*

A Collaborative Effort :

Institute for Global Resources Policy  
and Management, Colorado School of Mines

Metal Mining Agency of Japan

United Nations Environment Programme



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## **FOREWORD**

While sustainable development is a term that is frequently used, its juxtaposition with minerals and metals is frequently viewed as a contradiction. This means that, to date, very little has been written on the sustainable development of minerals and metals. This book is an attempt to foster a discussion on this important topic. Through the eyes of several authors, this book explores and analyzes how sustainable development can be related to mineral enterprises.

As UNEP's mission is to provide leadership and encourage partnerships in caring for the environment by inspiring, informing and enabling nations and peoples to improve their quality of life without compromising that of future generations, we are pleased to collaborate with the Institute for Global Resources Policy and Management, Colorado School of Mines and the Metal Mining Agency of Japan in the production of this book. UNEP's Division of Technology, Industry and Economics (DTIE) is helping decision-makers in government, local authorities, and industry develop and adopt policies and practices that: are cleaner and safer; make efficient use of natural resources; ensure adequate management of chemicals; incorporate environmental costs; and reduce pollution and risks for humans and the environment. As minerals and metals products are significant contributors to society, we need to understand better the components of sustainable development so as to understand the future of mineral investment. Many countries need environmentally sensitive, socially responsible mineral development to provide the economic base for their other aspirations including poverty alleviation.

UNEP is pleased to collaborate in producing this publication. I trust that all readers will find it thought provoking and valuable in understanding sustainable mineral development.

Jacqueline Aloisi de Larderel  
Director, DTIE

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## **Preface**

The concept for this book originated during a meeting in Tokyo between senior officers of the Metal Mining Agency of Japan and Professor James Otto of the Colorado School of Mines. It was perceived that although there exist many books exploring the concept of sustainable development, none were available that considered the unique nature of minerals and other non-renewable natural resources. It was decided that such a volume would serve a useful purpose in exploring and analyzing how the concept of sustainable development can be related to mineral enterprises.

To assist in planning the volume a panel composed of multi-disciplinary experts in the fields of sustainable development, environment and mining met and outlined the types of topics that might be included in the study. This very knowledgeable group, composed of geologists, planners, mining engineers, social activists, lawyers and economists debated the preferred content for two days before arriving at the framework reflected in the table of contents.

The editors then recruited authors to write on each subject heading. Most of the authors teach and undertake research at the Colorado School of Mines, others were drawn internationally. Research for the volume took approximately six months to complete.

This volume is intended to reach a wide audience, and thus the content has been purposefully been maintained at mainly a non-technical level understandable by readers who are not expert in the specific subject matter. The subject matter addressed is diverse and is intended to act as an introduction, not as a comprehensive and complete treatment. We hope that the reader will find it enlightening, thought provoking, and most importantly, useful in understanding how the principles of sustainable development can be extended to mineral enterprises.

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