



# Environmental management – guidelines for mining

World-wide long-term economic development can best be achieved through the pursuit of sustainable development policies comprising a balance of economic, social-cultural and environmental protection measures.

While taking into account global environmental concerns, each country should apply this concept to meet the needs of their environmental and economic circumstances.

Sustainable mining activities require good environmental stewardship in all activities from exploration and processing to decommissioning and reclamation. It acknowledges the importance of integrating environmental and economic considerations in the decision-making process, even though mineral deposits are unique in their occurrence.

It recognises the importance of mining to the social, economic and material needs of society, in particular for developing countries, and that minerals, notably metals, offer great potential for the use of future generations through increased recycling programs.

Sustainable mining under appropriate environmental guidelines is based on interaction between industry, governments, non-governmental organisations and the public directed towards optimising economic development while minimising environmental degradation.

The need for such guidelines is recognised by industry, governments and international agencies.

It is also recognised that the political will of governments, together with the commitment of senior industry management and of the community, are the necessary conditions needed to enforce environmental legislation and more importantly, to ensure compliance with all applicable laws for the protection of the environment, employees and the public.

## Guidelines for the mineral sector

Governments, mining companies and the minerals industries should as a minimum:

1. Recognise environmental management as a high priority, notably during the licensing process and through the development and implementation of environmental management systems. These should include early and comprehensive environmental impact assessments, pollution control and other preventative and mitigative measures, monitoring and auditing activities, and emergency response procedures.

2. Establish environmental accountability in industry and government at the highest management and policy-making levels.

3. Encourage employees at all levels to recognise their responsibility for environmental management; ensure that adequate resources, staff, and requisite training is available to implement environmental plans.

4. Ensure the participation and dialogue with the affected community and other directly interested parties on the environmental aspects of all phases of mining activities.

5. Adopt the best practices to minimise environmental degradation, notably in the absence of specific environmental regulations.

6. Adopt environmentally sound technologies in all phases of mining activities and increase the emphasis on the transfer of appropriate technologies which mitigate environmental impacts, including those from small-scale mining operations.

7. Seek to provide additional funds and innovative financial arrangements to improve environmental performance of existing mining operations.

8. Adopt risk analysis and risk management in the development of regulation and in the design, operation, and decommissioning of mining activities, including the handling and disposal of hazardous mining and other wastes.



9. Reinforce the infrastructure, information systems, service, training and skills in environmental management in relation to mining activities.

10. Avoid the use of environmental regulations that act as unnecessary barriers to trade and investment.

11. Recognise the linkages between ecology, socio-cultural conditions and human health and safety, both within the workplace and the natural environment.

12. Evaluate and adopt wherever appropriate economic and administrative instruments such as tax incentive policies, and emission rights trading to encourage the reduction of pollutant emissions and the introduction of innovative technology.

13. Explore the feasibility of reciprocal agreements to reduce transboundary pollution.

14. Encourage long term mining investment by having clear, stable and predictable criteria and procedures.

### Guidelines for the development assistance agencies

Multi-lateral and bi-lateral assistance agencies have an essential role to play in furthering environmental management, particularly in developing nations, and in assisting these nations in programs to protect their environment both nationally and as part of the global environmental system. Accordingly they should:

1. Accord high priority to the mitigation of environmental degradation associated with mining in developing countries to achieve high environmental performance.

2. Initiate, as an integral part of exploration and mining projects, environmental institution building programs. Special support should be given to countries actively working to improve their environmental capabilities.

3. Require that all mining projects supported shall contain a training component that will include specific training on environmental awareness and its application to the mining sector.

4. Support increased research regarding the development of new processes with fewer environmental impacts, including recycling.

5. Support the development of activities that would mitigate adverse effects on the socio-cultural fabric and the ecosystem. To achieve this objective, international agencies should give priority to education and training which increase awareness of these issues and allows the affected communities to participate in decision-making.

6. In supporting mining projects, agencies also take into account the following:

- Rehabilitation of displaced population as a result of proposed project activity.
- environmental history of the country.
- large scale impact on socio-cultural patterns of the affected population;
- the overall economic balance of the project vis-a-vis its total environmental impact.
- the impact on other natural resources, e.g. protected forest lands, mangroves, wildlife parks, neighbouring waterbodies including sea, fragile nature of ecologically sensitive areas.

7. Promote conferences and policy research on environmental management practices and technologies, and ensure the dissemination of this information.

8. Support and promote regional cooperative programs to achieve sustainable development of mineral resources.

9. Adopt proactive approach to existing projects in order to demonstrate environmentally safe methods of mining and processing.

10. Co-ordinate their assistance policies particularly to developing nations, in the field of environmental protection in the mining industry. ■

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