

WFEO Task Force: Environmentally Sound Engineering Technologies and Practices in Mining

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- Environmental technologies and practices in the mining industry
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Introduction

- WFEO Task Group of Mining and Sustainable Development goals:
 - Advocating for the use of best engineering practices to increase worker and affected community health and safety
 - Minimize environmental impacts
 - Increase eco-efficiency
 - Share information on culturally appropriate technologies in developing nations and among Small and Medium Enterprises (SMEs) and artisanal miners
- Thematic area: Environmentally Sound Engineering Technologies and Practices (ESETP)

Introduction

(2)

- Mining and sustainable development integrates activities in arenas of:
 - Environment
 - Community
 - Economics
 - Governance
- ESETP must be integrated with economics, society and governance
- Focus is on the contributions of mining to sustainable development
- “Environmental sustainability” used in this thematic area does not indicate that it is the only target but that it is part of the overall approach to sustainable development

Thematic Area Focus

- The mining industry consists of large, medium and smaller operating companies plus the community of exploration juniors
- Large and medium-sized companies may have well developed environmental and integrated SD activities
- Not the case for Small and Medium Enterprises (SMEs)
- Thematic area focus: providing resources for SMEs to help them implement sound environmental practices as part of their overall quest in contributing to sustainable development

Environmental Dimensions of Mining and Sustainable Development

- Mining, Minerals and Sustainable Development (MMSD) dimensions of environmental sustainability
 - Promote responsible stewardship of natural resources and the environment, including remediation of past damage
 - Minimize waste and environmental damage along the whole of the supply chain
 - Exercise prudence where impacts are unknown or uncertain
 - Operate within ecological limits and protect critical natural capital

Environmental Dimensions of Mining and Sustainable Development (2)

- ICMIM Sustainable Development Framework Principles 6 and 7:
 - Seek continual improvement of our environmental performance
 - Contribute to conservation of biodiversity and integrated approaches to land use planning
- Polluter pays principle:
 - Mining companies and other entities are financially responsible for all environmental impacts as a result of their activities

Environmental Technologies and Practices in the Mining Industry

- Mine life cycle consideration
- Mining and water
- Acid drainage
- Cyanide management
- Reduce, reuse and recycle
- Awareness and Preparedness for Emergencies at the Local Level (APELL)

Regulatory and Leading Environmental Practices

- IFC Environmental and Social Performance Standards:
 - 1: Assessment and Management of Environmental and Social Risks and Impacts
 - 2: Labor and Working Conditions
 - 3: Resource Efficiency and Pollution Prevention
 - 4: Community Health, Safety, and Security
 - 5: Land Acquisition and Involuntary Resettlement
 - 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
 - 7: Indigenous Peoples
 - 8: Cultural Heritage

Regulatory and Leading Environmental Practices (2)

- Australian Government (Department of Resources, Energy and Tourism (RET)) “Leading Practice Sustainable Development Program for the Mining Industry” (LPSD)
 - Promotes sustainable development and industry self-regulation through proactive adoption of leading practice principles
 - 15 Handbooks
 - http://www.ret.gov.au/resources/resources_programs/lpsdpmining/pages/default.aspx

ESETP will review the IFC Performance Standards as well as the Australian LPSD Manuals and develop guidance for the implementation of these for environmental management of mines by SMEs

Consideration of training materials development to support the capacity building of SMEs

Engagement and Capacity Building in SMEs

- WFEO Guidebook for Capacity Building in the Engineering Environment
- Emphasis of guidebook is the built environment and not mining; same principles can be used:
 - Identify stakeholders
 - Assess requirements and identify priorities
 - Identify the groups that will build capacity
 - Assess outcomes
 - Iterative process of introduction to more advanced

Closing Comments

- An introductory perspective on the scope and activities of ESETP
- Draw on available resources
- Identifying the SMEs and stakeholders is an important task
- Web-based resources could form an important component of the capacity building activities