Sustainable Development and the Mineral Industries
Achievements and Challenges

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Background

- On-going discussions in society and increased public perception
- World wide several initiatives dealing with sustainable development

  - Indicators
  - Product stewardship and product life cycle
  - Reporting and financial aspects

Initiatives

- Industry
- Associations of the respective sector

Global Mining Initiative (GMI)

- Anglo American, BHP Billiton, Codelco, Newmont, Noranda, Phelps Dodge, Placer Dome, RioTinto, WMC…

Sustainable Development Indicators in the Minerals Industry (SDIMI)

- 2001: Idea of Conference
  - platform for the mineral industries to discuss issues related to sustainable development
  - Virginia Tech, Technical University of Crete and the Institute of Mining Engineering I
- 2003: SDIMI took place on the Island of Milos, Greece
- Signing of the Milos Declaration
  - Society of Mining Engineers, the Canadian Institute of Mining, Metallurgy and Petroleum, the Australasian Institute of Mining and Metallurgy, the Society of Mining Professors, the South African Institute of Mining and Metallurgy…

SDIMI Milos Declaration, 2003:

- expresses the commitment of the minerals professional community to sustainable development
- belief in the essentialness of minerals to meet the needs of the present while contributing to a sustainable future
  - applying scientific, technical, educational and research skills

Several questions left unanswered:

- Harmonisation of indicators
- Data acquisition, evaluation and reporting
- Life cycle assessment and product stewardship

Development of Sustainability Indicators: Initiatives

- European Aluminium Association (EAA)
- ICMM/GRI
- SDI Working Group of DG Enterprise and Industry
- US SMR
- French BRGM
- Institute of Mining Engineering I of the RWTH Aachen University
- WBCSD working group “cement”
- German Initiative “Nachhaltigkeit und Zement” (Sustainability and Cement)

Development of Sustainability Indicators: Indicator Sets

- All groups have their own set of indicators
- Different level of application
  - US SMR → *Focus on the U.S.*
  - EU WG SDI → *Focus on Europe*

  - ICMM/GRI
  - Institute of Mining Engineering I

  } *Global approach*

- Different number of indicators
  - From 30 to 100 depending on Initiative

→ Harmonisation of Indicators necessary

Development of Sustainability Indicators: Institute of Mining Engineering I, RWTH Aachen University

- number of indicators → maximum of 40
  - small number of indicators encourages companies to collect the relevant data because costs associated with data collection are low
- differences between open pit and underground mining have to be considered
- use of technical specific figures is not sufficient because it will not provide substantial information to the user not familiar with the particular situation
- Indicators have to provide substantial information on equally balanced, negative and positive effects of the mineral extraction
- Indicators have to be globally applicable and take into account the different mining methods in an appropriate way

Data acquisition, data evaluation and reporting

- sustainability reports
  - document and communicate the contribution to sustainable development

→ Nevertheless
  - there is no common agreement on the content of a sustainability report, in contrast to audited annual accounts
  - SME's obviously are reluctant to write sustainability reports for manifold reasons

- stakeholders ask for reliable and verifiable data

Consequence

- Precise definition for “Sustainability” needed
  - in the relevant context
  - regarding “standard value” or “threshold value”

→ Important prerequisite in the discussion of the concept of sustainability evaluation

Life cycle assessment and product stewardship

- Mining Certification Evaluation Project (MCEP)

  determine the feasibility of establishing a program through which independent, third-party certifiers would evaluate the environmental and social performance of mine sites

- Green Lead™

  use of best practice to all aspects of
  mining, transport, manufacture, use and reuse of lead

Obstacles to implementation of product stewardship

- Most people are not “conscious” of raw materials
  - Minerals “disappear” due to transformation into…
    - metals
    - products
    - power
- fragmentation of the product chain
  - Highly fragmented product chain complicates product certification

CONCLUSION AND OUTLOOK

Foster process of implementing indicators by

- setting up an international forum
- providing incentives and benefits for industry (in particular SMEs)
- installing databases to feed indicators
- documenting progress made towards sustainable development in the minerals industry

Monitor progress of efforts for

the benefit of all stakeholders!

SME

Bundesministerium
für Wirtschaft und Arbeit

WVB
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Virginia Tech
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Looking forward to…