



EU knowledge platform on responsible mineral supply chains

A knowledge platform on EU mineral supply and related socio-economic and environmental issues

Presentation on “European and global extractive industries”

Brussels, 19-20 June 2017

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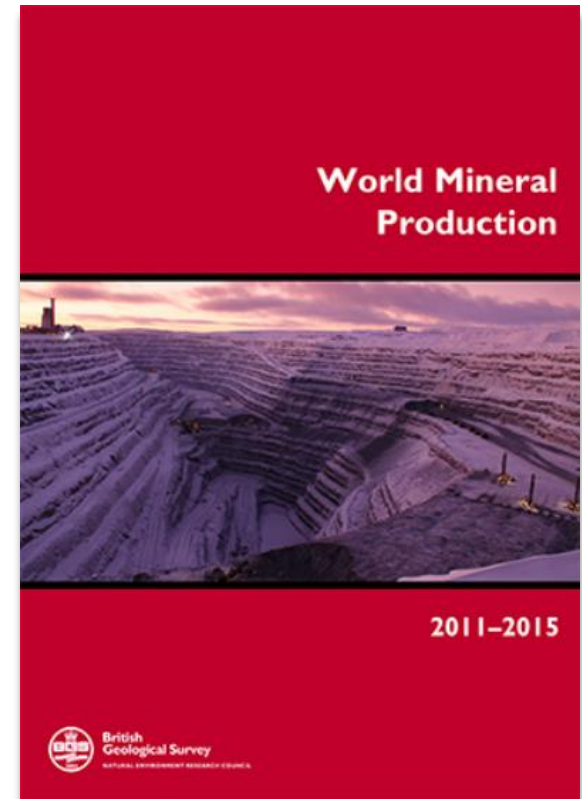
Background

Traditional types mineral related information:

- Mining sites
- Geological parameters
- Production volumes
- Reserves
- Concessions

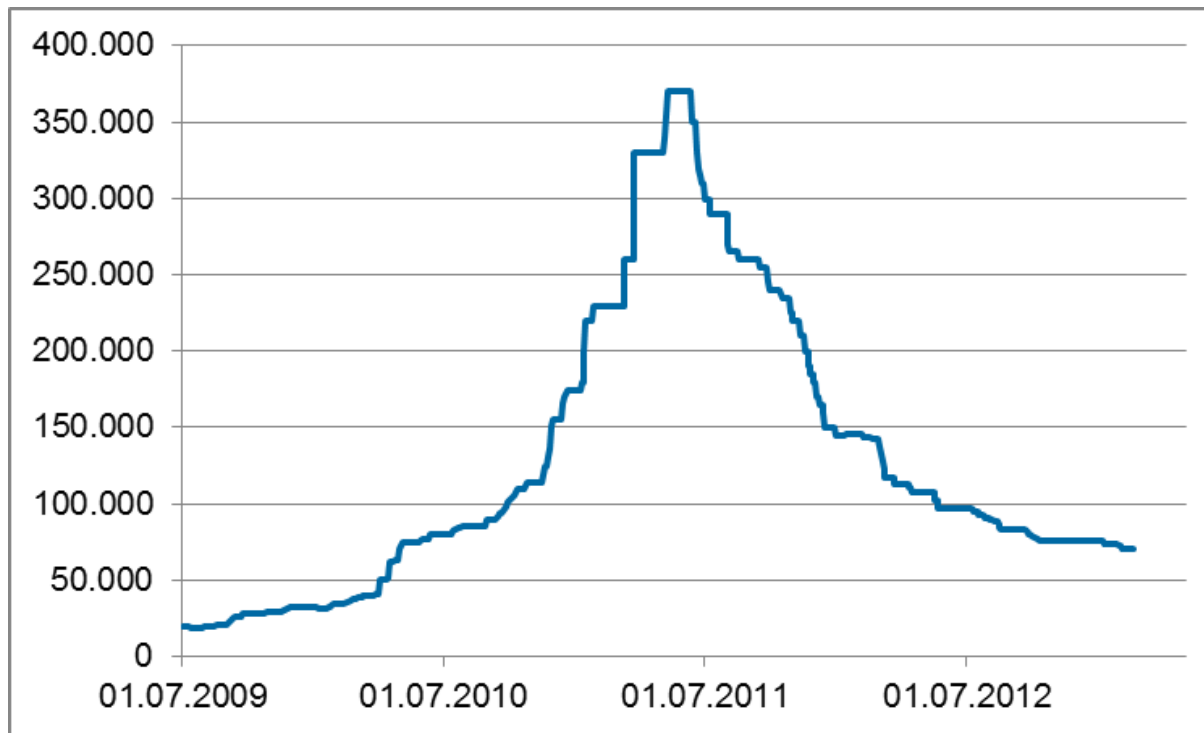
This type of information is
traditionally compiled by geological surveys:

- BGS
- BGR
- BRGM
- USGS
- ...



New information needs (1): Supply risks & criticality assessments

Price hikes & fear of scarcity, unreliable supplies and unpredictable prices



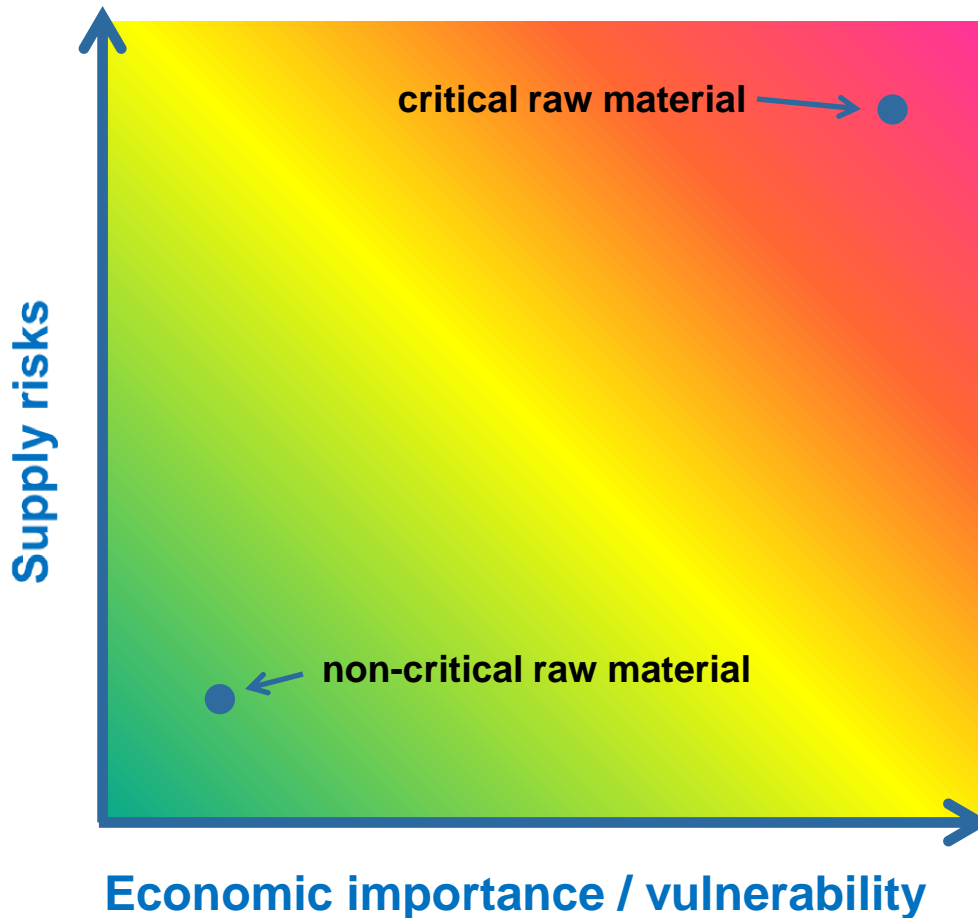
**Neodymium
oxide**
(99% min FOB China
USD/mt)
[Source: Asian Metal]

New information needs (1): Supply risks & criticality assessments

Reactions:



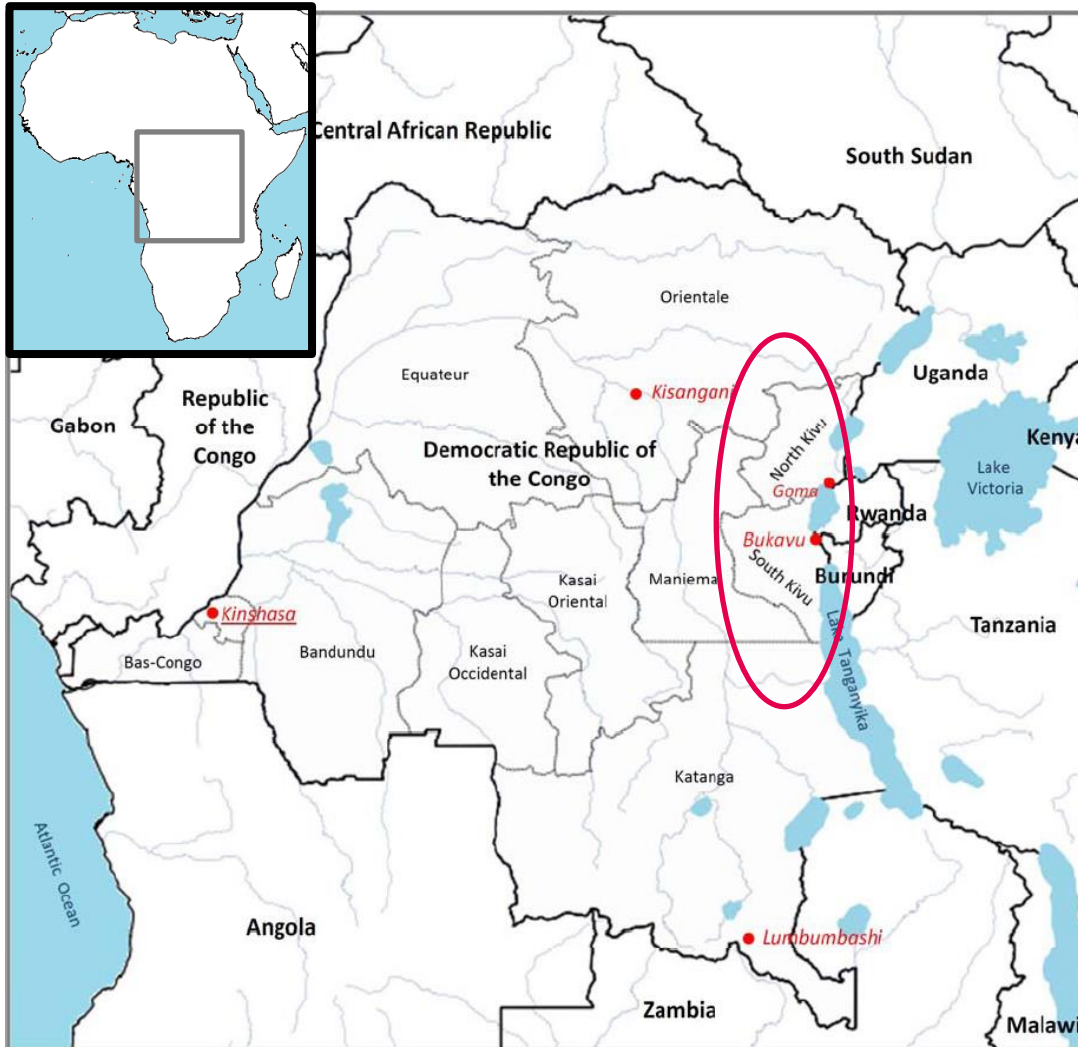
New information needs (1): Supply risks & criticality assessments



EU critical raw materials:

- Antimony
- Beryllium
- Borates
- Chromium
- Cobalt
- Coking coal
- Fluorspar
- Gallium
- Germanium
- Indium
- Magnesite
- Magnesium
- Natural Graphite
- Niobium
- PGMs
- Phosphate Rock
- REEs (Heavy & light)
- Silicon Metal
- Tungsten

New information needs (2): Conflict minerals & human rights



- Even after the end of the 2. Congo War in 2002/03, violence & insecurity continues in the eastern parts of the DR Congo
- Armed groups financing their activity with lootable resources
- Mostly by controlling mines & trade routes for tin, tantalum, tungsten and gold (3TGs)

New information needs (2): Conflict minerals & human rights



The Dodd-Frank Act:

One Hundred Eleventh Congress
of the
United States of America
AT THE SECOND SESSION
Begun and held at the City of Washington on Tuesday,
the fifth day of January, two thousand and ten

An Act

To promote the financial stability of the United States by improving accounting and transparency in the financial system, to end "too big to fail", to protect consumers from abusive financial services practices, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the "Wall Street Reform and Consumer Protection Act".
(b) TABLE OF CONTENTS.—The table of contents is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Definitions.
- Sec. 3. Severability.
- Sec. 4. Effective date.
- Sec. 5. Budgetary effects.
- Sec. 6. Antitrust savings clause.

TITLE I—FINANCIAL STABILITY

- Sec. 101. Short title.
- Sec. 102. Definitions.
- Subtitle A—Financial Stability Oversight Council
- Sec. 111. Financial Stability Oversight Council established.
- Sec. 112. Council authority.
- Sec. 113. Authority to require supervision and regulation of certain companies.
- Sec. 114. Registration of nonbank financial companies supervised by the Council.
- Sec. 115. Enhanced supervision and prudential standards for companies supervised by the Board of Governors.
- Sec. 116. Reports.
- Sec. 117. Treatment of certain companies that cease to be supervised by the Council.
- Sec. 118. Council funding.
- Sec. 119. Resolution of supervisory jurisdictional disputes.
- Sec. 120. Additional standards applicable to activities or purposes.
- Sec. 121. Mitigation of risks to financial stability.
- Sec. 122. GAO Audit of Council.
- Sec. 123. Study of the effects of size and complexity of financial market efficiency and economic growth.
- SubTitle B—Office of Financial Research
- Sec. 151. Definitions.
- Sec. 152. Office of Financial Research established.
- Sec. 153. Purpose and duties of the Office.
- Sec. 154. Organizational structure; responsibilities of the Office.
- Sec. 155. Funding.
- Sec. 156. Transition oversight.

The EU Conflict Mineral Regulation:

19.9.2017 EN Official Journal of the European Union

I
(Legislative act)

REGULATIONS

REGULATION (EU) 2017/821 OF THE EUROPEAN PARLIAM
of 17 May 2017

laying down supply chain due diligence obligations for Un
tungsten, their ores, and gold originating from conflict
THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION

Having regard to the Treaty on the Functioning of the European Union

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national Parliam

Acting in accordance with the ordinary legislative procedure (1),

Whereas:

- (1) Although they hold great potential for development, conflict areas are a cause of dispute where their mining undermines endeavours towards development, good governance, human rights and social inclusion, and exploitation of development and stability;
- (2) The challenge posed by the desire to prevent the conflict areas has been taken up by governments and civil society organisations, including women's organisations, to improve conditions imposed by these groups;
- (3) Human rights abuses are common in mineral-rich areas, including violence, the disappearance of culturally significant sites;
- (4) The Union has been actively engaged in a Development (OECD) to address the supply chain of minerals from conflict areas, including the annexes and supplements to the same provision of the observance of the

(1) Position of the European Parliament of 16 March 2017

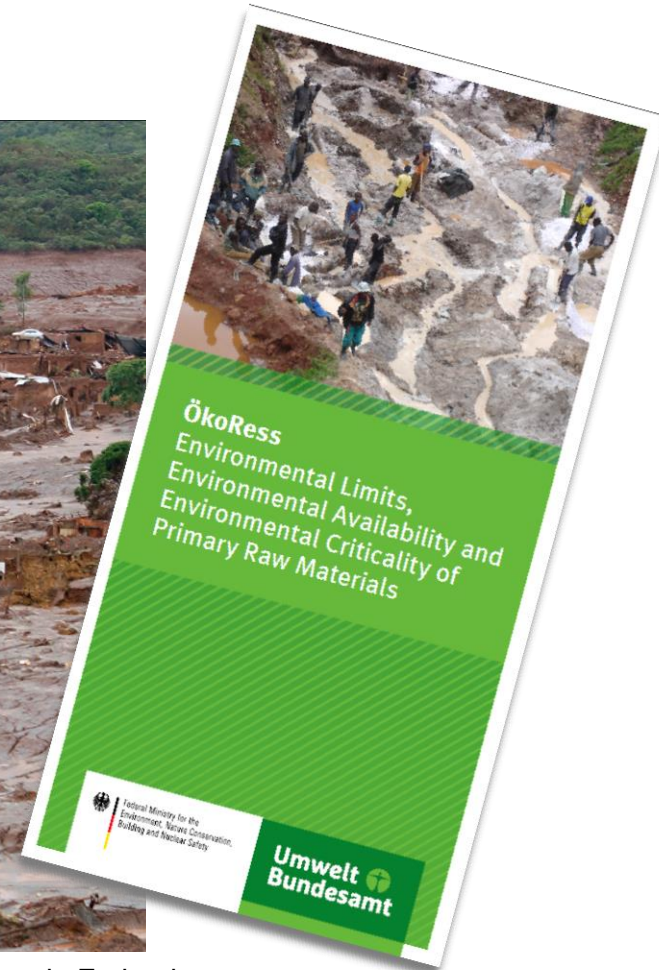
"THIS IS WHAT WE DIE FOR"
HUMAN RIGHTS ABUSES IN THE DEMOCRATIC REPUBLIC
OF THE CONGO POWER THE GLOBAL TRADE IN COBALT



AMNESTY
INTERNATIONAL

New information needs (3): Environmental hazards & impacts

Bento Rodrigues dam disaster in Brazil (Nov. 2015)



Source: https://en.wikipedia.org/wiki/Bento_Rodrigues_dam_disaster, CC BY 2.0 Senado Federal

New information needs (4): Data for life-cycle assessments



New information needs (5): Mining & development



Interim conclusion

Raw material related decision- and policy-making is becoming increasingly complex

While information on geology, production volumes and price were long regarded as the most important (and often as the only necessary) types of information for decision-making, other issues and information types are today regarded as equally important.

In reaction, there is now an increasing wealth of data

This includes high quality data-sets, studies and evaluations on various aspects of raw material production, supply and related social and environmental sustainability.



Interim conclusion

Selected institutions' activities related to data on global and EU raw material flows and responsible mining issues

Institution	Type of activity	Name
Eurostat	International trade and production statistics	COMEXT, PRODCOM [9] [10]
Eurostat	Raw material indicators related to EU raw material consumption and material flows along the supply chain based on environmental-economic accounting	Indicators DMC and DMI (domestic material consumption and input) Indicators RMC and RME (raw material consumption and equivalents [11])
European Innovation Partnership on Raw Materials (EIP)	24 indicators on EU raw materials (5 related to imports)	Raw materials score board [12]
European Innovation Partnership on Raw Materials (EIP)	Provision of EU-level data and information on raw materials from different sources in a harmonised and standardised way	European Union Raw Materials Knowledge Base (EURMKB) [13]
European Commission	Criticality analysis of raw materials	Critical material list and background reports [2, 14, 15]
Joint Research Centre	Raw material information systems (advanced RMIS 2.0 under development);	RMIS [16]
UN	Database on global trade	COMTRADE [17]
OECD	Information on human rights issues for companies' due diligence activities (under development)	Minerals Risk Handbook
UNEP	Platform and information for stakeholders in the extractives sector (under development)	MAP-X [18]
Responsible Mining Foundation	Independent ranking of large mining companies in responsible mining practice (under development)	Responsible Mining Index (RMI) [19]

Institution	Type of activity	Name
Mining companies	Sustainability reporting	Sustainability reports
World Bank	Evaluation of countries' governance (cross-sectoral) and provision of economic data	World Governance Indicators (WGI) [20]
Natural Resource Governance Institute	Evaluation of countries' resource governance	Resource Governance Index (RGI) [21] [22]
Civil Society and Research (e.g. Environmental Justice Atlas)	Mapping of mining conflicts	Web based information on environmental and social conflicts, e.g. [23]
International Council on Mining & Metals (ICMM)	Evaluation of mining countries' contribution to national economies	Mining Contribution Index (MCI) [24]
Ilostat (ILO labour statistics)	Country-specific data on labour issues	Data on mining employment and working conditions



Interim conclusion

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As reaction, there is now an increasing wealth of data

This includes high quality data-sets, studies and evaluations on various aspects of raw material production, supply and related social and environmental sustainability.

But it is increasingly difficult to maintain a comprehensive overview

Information is published in a confusing number of media, platforms, databases and papers.

A look into the sphere of biotic resources...



Public available data on :

- Production
- Inputs
- Trade
- Investment
- Prices
- Macro-Statistics
- Population
- Food balance
- Food security
- Emergency response
- Forestry
- Emissions
- Agri-Environmental Indicators

Visit:

<http://www.fao.org/faostat/>

Concept for a mineral and raw material related knowledge platform

We propose an integrated knowledge platform

❖ Where is the focus in our current draft concept?

- **Economic, social and environmental issues** in the mining sector in developing and emerging countries
- Commodity focus: internationally-traded minerals
- Compiling existing data and information

❖ Who will benefit?

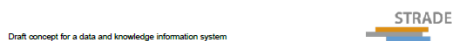
- We believe that decision makers in **policy** and on the **corporate** level will benefit from comprehensive data availability
- Currently, an increasing number of upstream and downstream companies make great efforts to collect the data individually.

❖ What is the setup?

- Establishing this knowledge platform requires **long-term commitment** and a **sound organisational setup** (JRC currently develops the RMIS; on international level players like International Resource Panel is also an interesting option)

Concept for a mineral and raw material related knowledge platform

Part I Introduction



Part I

1. Introduction

This paper contributes towards the development of a holistic raw material information system that combines global and EU mining and trade data with information on environmental and socio-economic aspects. The proposed concept used as a foundation companies' and policy makers' need for better knowledge on the relationship between issues addressing raw materials and responsible mining that will support their measures to mitigate negative impacts and to support socio-economic development in non-EU mining areas. Available data in this sector is fragmented and scattered, although some European and international institutions globally generate data and provide information. The current major challenge is consolidating the available data and filling in only selected missing information in this data set. With this objective, the authors suggest generating a raw material information system that broadly structures the data into:

- Raw-material-specific information and
- Country-specific information.

The proposed raw material information system has a global scope reflecting Europe's import dependency for many commodities and the global interrelationship of resource production and consumption. In the first stage, the proposed concept has a strong focus on non-EU raw material flows and non-EU mining countries in view of the fact that currently many parallel research projects, e.g. within the Horizon 2020 programme, already work on EU data collection and EU data harmonization. Their results are expected to importantly contribute to the suggested information system. In order not to duplicate other's work, the STRADE project, with its work packages on cooperation with resource-rich non-EU countries, focuses this draft concept on the global material flows, EU import flows and the related challenges in non-EU mining countries.

The analysis for developing this concept starts here in Part I with chapter 2, which summarises drivers for raw-material-related data demand. Chapters 3 and 4 present initiatives and data sources that already create and publish data and information relevant for raw-material-related policy development. This analysis is completed in chapter 5, which summarises country-specific data that can be used to complete raw-material-related information on a country level. Based on this summary, chapter 6 provides general considerations for a data and knowledge platform on mineral mining and trade.

A proposal for compiling the identified raw material and country-specific information is presented in more detail in Part II (raw material profiles) and Part III (country profiles). This data architecture allows coupling general and global raw-material specific information with mining-country-specific data and indices.

2. Background

Raw-material-related policy development has always relied on sound data about geological reserves, mining and the uses of mineral commodities. While this information has traditionally been provided by national geological surveys such as BRGM, BGS, BGR and USGS, the focus of raw-material-related policies has widened over the last decade and increased the need for additional types of material-related information and analysis. This additional demand is mostly linked to the following developments:

- Sudden changes in demand and supply caused quite pronounced and unexpected price hikes for some commodities such as tantalum in 2000 and rare earth elements in 2010/11. This led to a widespread fear of comparable development for other commodities and stimulated political and scientific debates on critical raw materials. Subsequently, various research groups developed and

Part II Raw material profiles

Draft concept for a data and knowledge information system on mineral mining and trade and related environmental and socio-economic issues:

Part II Draft concept of raw material profiles

Draft for workshop participants
(Brussels, 20 June)



 **Öko-Institut e.V.**

STRADE



Part III Country profiles

Draft concept for a data and knowledge information system on mineral mining and trade and related environmental and socio-economic issues:

Part III Draft concept of country profiles

Draft for workshop participants
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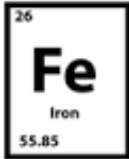
STRADE



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Raw material profiles: Major focus in the workshop



Part II Raw material profiles



Focus in the
workshop

Raw material profiles: Environmental issues



Information on “Environmental issues”

Association with radioactive substances

Association with heavy metals

Mining type (open pit, underground)

Acid Mine Drainage

Dam bursts / flooding

Mining waste (submarine, riverine tailings disposal)

Life Cycle Assessment data

Use of chemical additives in extraction and beneficiation

Sites-specific environmental risks → see country profiles

Part II Raw material profiles

Global production and
reserves

Global demand

EU trade

Recycling, substitution,
material efficiency

Mining & development

Human rights

Environmental issues

Initiatives for responsible
mining

Country profiles: Major focus in the workshop



Part III Country profiles

**Economic contribution from
mining**

Production

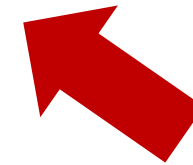
Trade

Governance

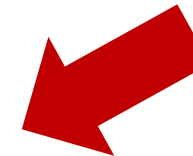
**Human rights and social
issues**

Environmental issues

**Initiatives for responsible
mining and development**



Focus in the workshop



Country profiles: Human rights and social issues

Selected information on “Human rights and social issues”

Recognition of the Core Labour Standards of the ILO

General human rights situation (Country reports by Amnesty International, Human Rights Watch, etc.; not mining-specific)

Prevalence of child labour (in all sectors, not mining-specific)

Prevalence of forced labour (in all sectors, not mining-specific)

Recent violent conflicts with the involvement of the mining sector

Responsible Mining Index indicators on socio-economic mine site performance

Part III Country profiles

Economic contribution from mining

Production

Trade

Governance

Human rights and social issues

Environmental issues

Initiatives for responsible mining and development

Country profiles: Initiatives for responsible mining and development

Information on “Initiatives for responsible mining and development”

Country-specific initiatives in the extractive sector (e.g. for Brazil Tailing Dams Safety Program, Management of Water Resources, etc.)

Official Development Assistance and World Bank programmes (not mining-specific, for all sectors)

Development assistance in the mining sector (e.g. projects from the World Bank)

EU and member states engagement (not limited to mining; e.g. Strategic Partner Dialogue EU-Brazil strategic partnership since 2007)

Cross-country raw-material specific initiatives (e.g. Responsible steel scheme)

Part III Country profiles

Economic contribution from mining

Production

Trade

Governance

Human rights and social issues

Environmental issues

Initiatives for responsible mining and development

Core questions for the workshop

- ❖ What information needs to be included so that you will **use** such an integrated knowledge platform?
- ❖ How do you assess the **added value of this tool**? How can it be enhanced?
- ❖ What has to be done in order to avoid this tool becoming “**paper waste**”?
- ❖ What information has to be included in this tool to **improve the conditions in all three pillars** of sustainability (reduce environmental risks; reduce social risks; contribute to the development in primary producing countries)



Thank you for your attention!

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