Emerging European initiatives in security of minerals supply

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Meeting the mineral commodity challenge minerals - information from the British Geological Survey,
October 13-14, 2008, London
Contents

- Introduction (Eurogeosurveys, why Communication, TAIEX workshops ...)
- The EU non-energy raw materials policy draft
  - Knowledge base pillar in detail
- Public consultation outcomes
- Eurogeosurvey’s position paper
- Potential future actions
INTRODUCTION
+ Provides science-based advice
+ Provides access to data, information and expertise
+ Participates to working groups
+ Formulates proposals

(PROACTIVITY)

+ Informs on policy development and implementation
+ Transmit requests and enquiries

(REACTIVITY)

33 National Geological Surveys

European Institutions

BRUSSELS OFFICE

EuroGeoSurveys
The EU non-energy raw materials policy draft
Competitiveness Council of May 2007

- “to develop a coherent political approach with regard to raw materials supplies for industry, including all relevant areas of policy (foreign affairs, trade, environment, research and development and innovation policy) and

- to identify appropriate measures for cost-effective, reliable and environmentally friendly access to and exploitation of natural resources, secondary raw materials and recyclable waste, especially concerning third-country markets”.
EuroGeoSurveys preparatory actions

- TAIEX Workshop on “RAW MATERIALS INITIATIVE - THEMATIC STRATEGY ON SUSTAINABLE USE OF NATURAL RESOURCES AND SUSTAINABLE DEVELOPMENT INDICATORS AND BEST PRACTICES ON MINERALS INTELLIGENCE”, Ljubljana, Slovenia, December 10 - 11, 2007

- TAIEX Workshop on “CAPACITY ISSUES IN THE NON-ENERGY EXTRACTIVE SECTOR IN SUPPORT OF THE EU THEMATIC STRATEGY ON SUSTAINABLE USE OF NATURAL RESOURCES AND THE EU STRATEGY ON NON-ENERGY RAW MATERIALS” Brussels, Belgium, February 14-15, 2008
- Steady, reliable non-energy primary and secondary raw material inputs, including minerals, are vital issues for the competitiveness of the EU and they cannot be taken for granted

- Well informed and designed raw materials policy are necessary to foster the extractive industry’s contribution to the goals of the EU Lisbon strategy on economic growth and competitiveness and to the EU Sustainable Development Strategy goals.
Key challenges

- Increase the sustainable supply of raw materials from European sources
- Ensure sustainable and more transparent supply from third countries
- Encourage capacity building in developing countries
- Encourage greater efficiency in the use of resources
- Establish an adequate EU knowledge base on raw materials
Public consultation January to March 2008
(http://ec.europa.eu/enterprise/steel/index_en.htm)

- **Online questionnaire**
  - 240 replies: 68 individuals & 172 organisations (including EuroGeoSurveys who submitted a 37 pages contribution)

- **Position papers**
  - 36 replies: 25 papers & 16 printed questionnnaire
  - Significant number of other industries (wood, rubber, chemicals, etc.)
Support for key challenges

- Increase the supply of raw materials from European sources on a sustainable basis: 90% strongly agree, 10% don't know
- Ensure a sustainable and more transparent supply from third countries: 80% strongly agree, 20% don't know
- Encourage capacity building in developing countries: 70% strongly agree, 30% don't know
- Encourage greater efficiency in the use of resources: 60% strongly agree, 40% don't know
- Establish an adequate EU knowledge base on raw materials: 50% strongly agree, 50% don't know
What are our current **expectations** concerning its content?

- To raise the **political awareness** which so far has been very much focused on the energy side with less attention being paid to the **non-energy aspects** which may also prove to be critical.

- To provide a **coherent** reply, as requested by the Council, because the issue has **multiple interlinked facets**.

- To provide possible **recommendations or lines of action** that the Member States would then support.
Types of actions that may be introduced

- **1st general principle**

   Rather than a regulatory approach that might create new burden for companies, we expect a more favourable environment for access to raw materials, where both public authorities and the industry would play a well-coordinated role.
Types of actions that may be introduced

- **2nd general principle**

  The Commission will set out an integrated policy response that takes fully into account the different areas of competence at various level (international, EU, Member States, regions).
Types of actions that may be introduced

- Develop guidelines
  - Natura 2000: clarify how extraction can take place in Natura 2000 areas

- Exchange best practices
  - actions taken by Member States to speed up permitting process and streamline administrative framework

- Emphasise the use of R & D on raw materials
  - the officially recognised European Technology Platform on Sustainable Mineral Resources, and its Strategic Research Agenda would be drivers (www.etp-smr.org)

- Better cooperation and networking
  - promote more cooperation between geological surveys
  - promote partnerships between universities and industry (e.g. European Mineral Courses)
  - raise awareness about the importance of raw materials and mining through initiatives like European Minerals Day 2009
Types of actions that may be introduced

- Intensify dialogue with 3rd countries:
  - Bilateral
  - International fora (e.g. UNCTAD, UN regional Economic Commission, UNEP OECD, WB, African Union ...)

- Consider WTO rules and the appropriate use of trade instruments in relation to measures that unlawfully distort the global markets for raw materials

- Promote projects that aim at improved resource efficiency and recycling
Types of actions that may be introduced

- 3rd general principle

In order that the different lines of action can deliver, we need the full cooperation between:
- Member States
- Industry
- Other stakeholders (Geological Surveys, research institutes, universities, organised civil society ... etc)
- Commission DGs
Types of actions that may be introduced

- **4th general principle**
  
  The approach should not be on a one-off basis, but rather a dynamic process for the coming years. This is particularly important as in the mineral resources sector it takes 10 years and more for a policy to generate sizeable economic and social returns.

Hence there is a need for a **follow-up mechanism**:

- What format?
- Annual event?
- Level of participation for a political debate?
News on Communication - October 10, 2008

- Pillars
  - Framework of conditions in EU
  - External pillar – access to resources
  - Resource efficiency – reduction of consumption

- Action plan (public awareness, high level forum, website, ...)
- November 5, 2008 – Adoption by Commission
<table>
<thead>
<tr>
<th>RTD &amp; INNOVATION ISSUES</th>
<th>SUPPLY ISSUES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mineral Knowledge Base</strong></td>
<td><strong>Domestic Supply</strong></td>
</tr>
<tr>
<td>Harmonization of data (STAT, EEA, JRC), national level</td>
<td></td>
</tr>
<tr>
<td><strong>Resource Efficiency</strong></td>
<td><strong>Common Ground</strong></td>
</tr>
<tr>
<td>Environment Technology EIA, BAT, Climate change, Carbon footprint</td>
<td></td>
</tr>
<tr>
<td><strong>Capacity Building</strong></td>
<td><strong>International Supply</strong></td>
</tr>
<tr>
<td>Local communities, regions, Land access, Permitting, One stop shop, NATURA 2000,</td>
<td></td>
</tr>
<tr>
<td>Good governance, Policy, Legislation H &amp; S, Workforce, Investment climate for exploration and extraction</td>
<td></td>
</tr>
<tr>
<td>Data Infrastructure on national or regional level</td>
<td></td>
</tr>
</tbody>
</table>

(1) Neighboring countries (2) ACP countries (3) other countries; bilateral agreements
Focus on knowledge: why does a knowledge pillar matter?
In a very rapidly changing world, with an expected population of 9 billion humans by 2050, most of them to be born in yet underdeveloped countries ...
Apparent per capita copper consumption 1970-2005 - Selected countries/regions

Data sources: World Mining and Metals Yearbook, UN Population Division, EUROSTAT population data

Kg copper per capita and per year

Are developed countries really reducing their per capita copper use, or...?
## EU mineral imports dependence


<table>
<thead>
<tr>
<th>Mineral Type</th>
<th>Dependence</th>
<th>EU Import Dependence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony</td>
<td>100%</td>
<td>96%</td>
</tr>
<tr>
<td>Beryllium</td>
<td>100%</td>
<td>94%</td>
</tr>
<tr>
<td>Boron</td>
<td>100%</td>
<td>82%</td>
</tr>
<tr>
<td>Cobalt</td>
<td>100%</td>
<td>82%</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>100%</td>
<td>86%</td>
</tr>
<tr>
<td>Niobium</td>
<td>100%</td>
<td>82%</td>
</tr>
<tr>
<td>Platinum group met.</td>
<td>100%</td>
<td>74%</td>
</tr>
<tr>
<td>Rare earth</td>
<td>100%</td>
<td>65%</td>
</tr>
<tr>
<td>Rhenium</td>
<td>100%</td>
<td>56%</td>
</tr>
<tr>
<td>Tantalum</td>
<td>100%</td>
<td>48%</td>
</tr>
<tr>
<td>Tin</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Titanium</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Vanadium</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Gold</td>
<td>100%</td>
<td>96%</td>
</tr>
<tr>
<td>Uranium</td>
<td>100%</td>
<td>94%</td>
</tr>
<tr>
<td>Chromium</td>
<td>100%</td>
<td>93%</td>
</tr>
<tr>
<td>Phosphate</td>
<td>100%</td>
<td>93%</td>
</tr>
<tr>
<td>Aluminium</td>
<td>100%</td>
<td>86%</td>
</tr>
<tr>
<td>Iron</td>
<td>100%</td>
<td>82%</td>
</tr>
<tr>
<td>Zinc</td>
<td>100%</td>
<td>82%</td>
</tr>
<tr>
<td>Nickel</td>
<td>100%</td>
<td>74%</td>
</tr>
<tr>
<td>Copper</td>
<td>100%</td>
<td>65%</td>
</tr>
<tr>
<td>Lead ore</td>
<td>100%</td>
<td>56%</td>
</tr>
<tr>
<td>Tungsten ore</td>
<td>100%</td>
<td>48%</td>
</tr>
</tbody>
</table>
Yearly investment in mineral resources exploration, in constant US $ per km²
US $ value on 31/12/07 corrected by the CPI index value
Average yearly investments in mineral exploration in Africa in constant US$/km² ($ value on 31/12/07, corrected by the change in the CPI index)

MINING STAKEHOLDERS

- Shareholders
- Commercial banks
- Rating agencies
- Development banks
- Insurance Co.
- Others (equipment, engineering …)

Sectoral authorities

- Government
- Local populations

- Suppliers
- Employees

- Mining Companies

- Professional organisations
- Unions

- NGOs
- Media
- Industry
- Consumers

- Development organisations

Academia & research
Science has to be aware that for decision making “the answer” does not exist.

There is never enough information if you don’t want to decide!
EU versus the US: the mineral resources example

The two regions are highly dependant on energy and mineral resources imports, the dependence of the EU for many metallic minerals being even higher

<table>
<thead>
<tr>
<th>USA</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>State geological surveys</td>
<td>National geological surveys</td>
</tr>
<tr>
<td>Federal geological survey (USGS) with 51 M$ 2007 budget for the assessment of mineral resources potential and the provision of minerals information to US government and economy</td>
<td>No EU capacity, no budget</td>
</tr>
<tr>
<td>Decades of federal attention to mineral resources issues</td>
<td>No competence given to EU up to 21/05 Council conclusions calling for the development of a to develop a coherent political approach with regard to raw materials supplies for industry, including all relevant areas of policy</td>
</tr>
</tbody>
</table>
A MINERAL CRITICALITY MATRIX
(importance of minerals in use versus mineral availability or risk to supply minerals)

INFORMATION AND RESEARCH
### SOURCES OF MINERALS INFORMATION

**TABLE 5.1 International and Domestic Sources of Minerals Information**

<table>
<thead>
<tr>
<th>Mineral data source classification</th>
<th>Name</th>
<th>Internet sites or other reference information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>International</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>British Geological Survey</td>
<td></td>
<td><a href="http://www.bgs.ac.uk/enquiries/mins.html">http://www.bgs.ac.uk/enquiries/mins.html</a></td>
</tr>
<tr>
<td>Japanese Oil, Gas and Metals National Corporation (JOGMEC)</td>
<td></td>
<td><a href="http://www.jogmec.go.jp">http://www.jogmec.go.jp</a></td>
</tr>
<tr>
<td><strong>Private and nongovernmental</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metals Economics Group</td>
<td></td>
<td>[<a href="http://www.metal">http://www.metal</a> economics.com/default.htm](<a href="http://www.metal">http://www.metal</a> economics.com/default.htm)</td>
</tr>
<tr>
<td>Copper Development Association</td>
<td></td>
<td><a href="http://www.copper.org/">http://www.copper.org/</a></td>
</tr>
<tr>
<td><strong>U.S. federal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Commerce/Bureau of Economic Analysis (BEA)</td>
<td></td>
<td><a href="http://trade.gov/index.asp">http://trade.gov/index.asp</a></td>
</tr>
<tr>
<td>Department of Labor/Mine Safety and Health Administration</td>
<td></td>
<td><a href="http://www.osmre.gov/">http://www.osmre.gov/</a></td>
</tr>
<tr>
<td>Department of Agriculture/U.S. Forest Service</td>
<td></td>
<td><a href="http://www.fs.fed.us/">http://www.fs.fed.us/</a></td>
</tr>
<tr>
<td>Department of Health and Human Services/Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health</td>
<td></td>
<td><a href="http://cdc.gov/niosh/">http://cdc.gov/niosh/</a></td>
</tr>
</tbody>
</table>
Towards an EU minerals intelligence capacity?
Mineral Information consists of:

- Information on mining / processing /metallurgical operations (technical)
- Economic data (production, reserves & resources, trade, down-stream use/consumption)
- Mineral policy, plans, programs & regulation information (permitting, taxation, standardization, labor, environment),
- Environmental information (environmental impact, resource efficiency),
- Social mining information (H&S, labor issues, education, communication, partnership, local community, certification, SME & small scale mining, NGOs)
- RTD & innovation information (science & applied projects)
What is EU «Mineral Intelligence»?

• An EU vision of the world on minerals built on data, information and expertise:
  • On the known and estimated future geological potential, resources and reserves of mineral resources in the EU (deep-seated concealed orebodies) and worldwide;
  • On the global mineral markets;
  • On the policies and regulatory practices of non-EU mineral producing or mineral-rich countries and minerals importing countries;
  • On the status of sectoral institutions, capacities and of spatial data infrastructures;
  • On sustainable development issues;
  • On research activities with impact on the mineral resources industry (either in relation with the minerals/metals production processes; with the development of substitutes, re-use or recycling or with the development of new products).
Make a detailed **assessment of capacities** at EU country level (data assets, expertise, web services, degree of data harmonisation, integration of interoperability standards);

Allocate proper funding to **safe keep existing data assets and expertise** where these are under threat

Accelerate the **development of interoperability of geological and mineral resources data** and of multilingual web services;

Support geophysical and geological data acquisition on Europe’s geologically prospective regions to **identify deep-seated concealed mineral deposits**.

Develop an **EU mineral resources intelligence capacity** built on existing national capacities, including the development of a single access portal to public data and information.
Minerals Information

Outcomes/Products:

- Network of experts with enhanced coordination, communication and collaboration making better use of existing critical EU capacities
- Policy supporting information, indicators
- Minerals Yearbook,
- Communication documents on minerals issues
Conclusions

- **Mineral resources** are critical to the economic and social development of any country and they are essential for modern living and sustainable future.

- Principles, grouped into general, social and environmental subgroups, would assist different stakeholders in thinking of big picture of minerals supply.
The public data, information and expertise available in geological surveys is crucial to the forthcoming EU non-energy raw materials policy. They can make a significant contributions to a better world based on sustainable development policies.

**Conclusion: policy recommendation**

Stepwise development of a coordinated EU mineral resources intelligence capacity built on existing national capacities, including the development of a single access portal to public data and information.
Thank you for your invitation