

# 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

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- 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

# European Institutions

- + Provides science-based advice
- + Provides access to data, information and expertise
- + Participates to working groups
- + Formulates proposals

**(PROACTIVITY)**

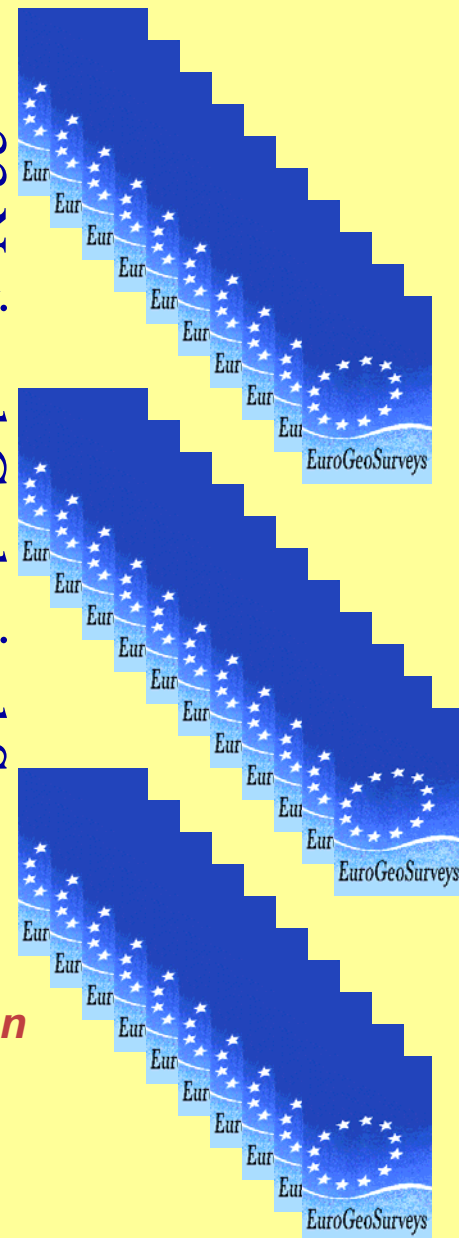
BRUSSELS  
OFFICE



**(REACTIVITY)**

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

33 National Geological Surveys



# 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](http://ec.europa.eu/enterprise/steel/index_en.htm))

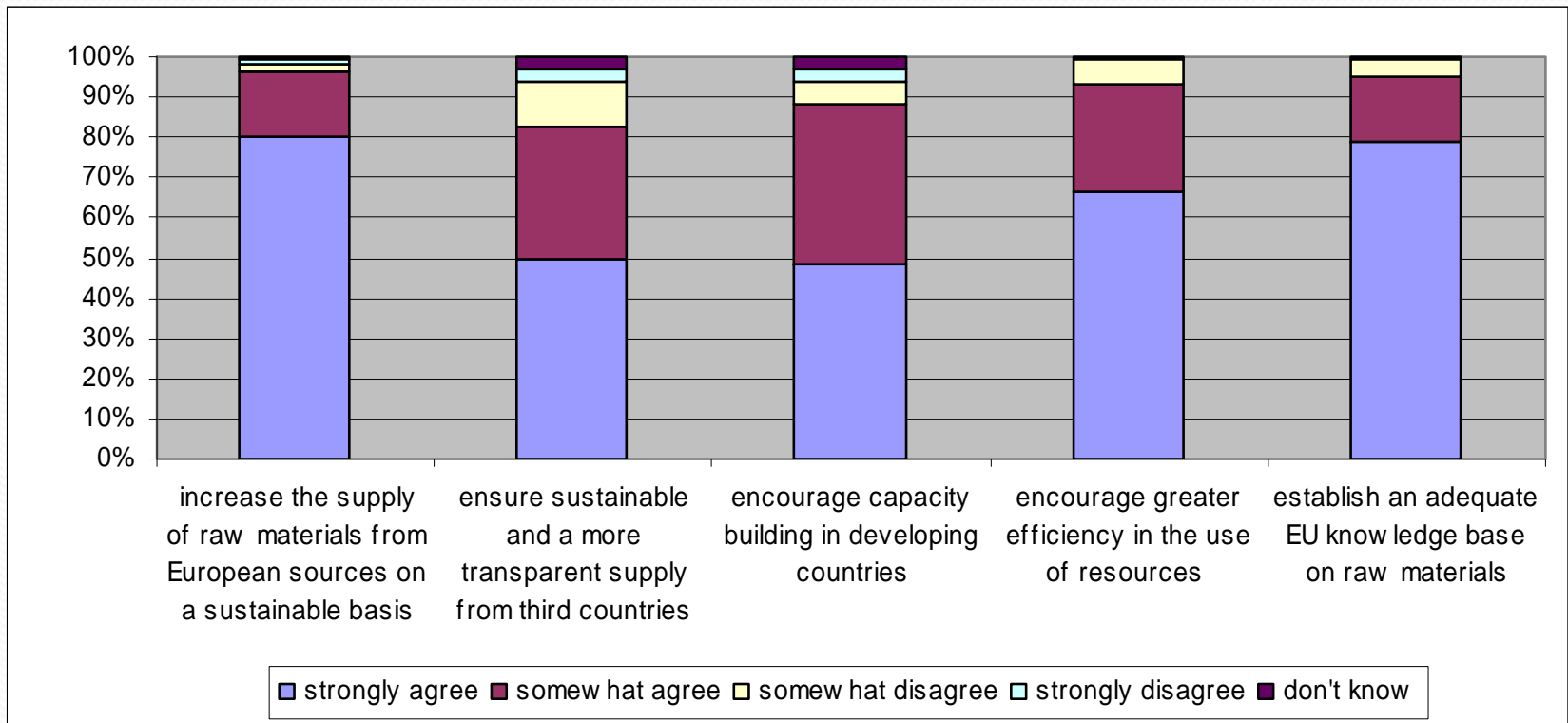
### ➤ Online questionnaire

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

### ➤ Position papers

- 36 replies: 25 papers & 16 printed questionnaire
- Significant number of other industries (wood, rubber, chemicals, etc.)

# Support for key challenges





## 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

- 1<sup>st</sup> 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

- 2<sup>nd</sup> 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](http://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 3<sup>rd</sup> 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

- 3<sup>rd</sup> 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

- 4<sup>th</sup> 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

		SUPPLY ISSUES				
		<i>Domestic Supply</i>	<i>Common Ground</i>	<i>International Supply</i>		
RTD & INNOVATION ISSUES ↓ ↓ ↓	<i>Mineral Knowledge Base</i>	Harmonization of data (STAT, EEA, JRC), national level	Statistics Spatial information	Data Infrastructure on national or regional level	<i>Mineral Intelligence</i> ↓ ↓ ↓	OUTREACH ↓ ↓ ↓
	<i>Resource Efficiency</i>		Environment Technology EIA, BAT Climate change Carbon footprint			
	<i>Capacity Building</i>	Local communities, regions, Land access, Permitting One stop shop, NATURA 2000,	Good governance, Policy, Legislation H & S Workforce, Investment climate for exploration and extraction	Trade restrictions, (1) Neighboring countries (2) ACP countries (3) other countries;  bilateral agreements		



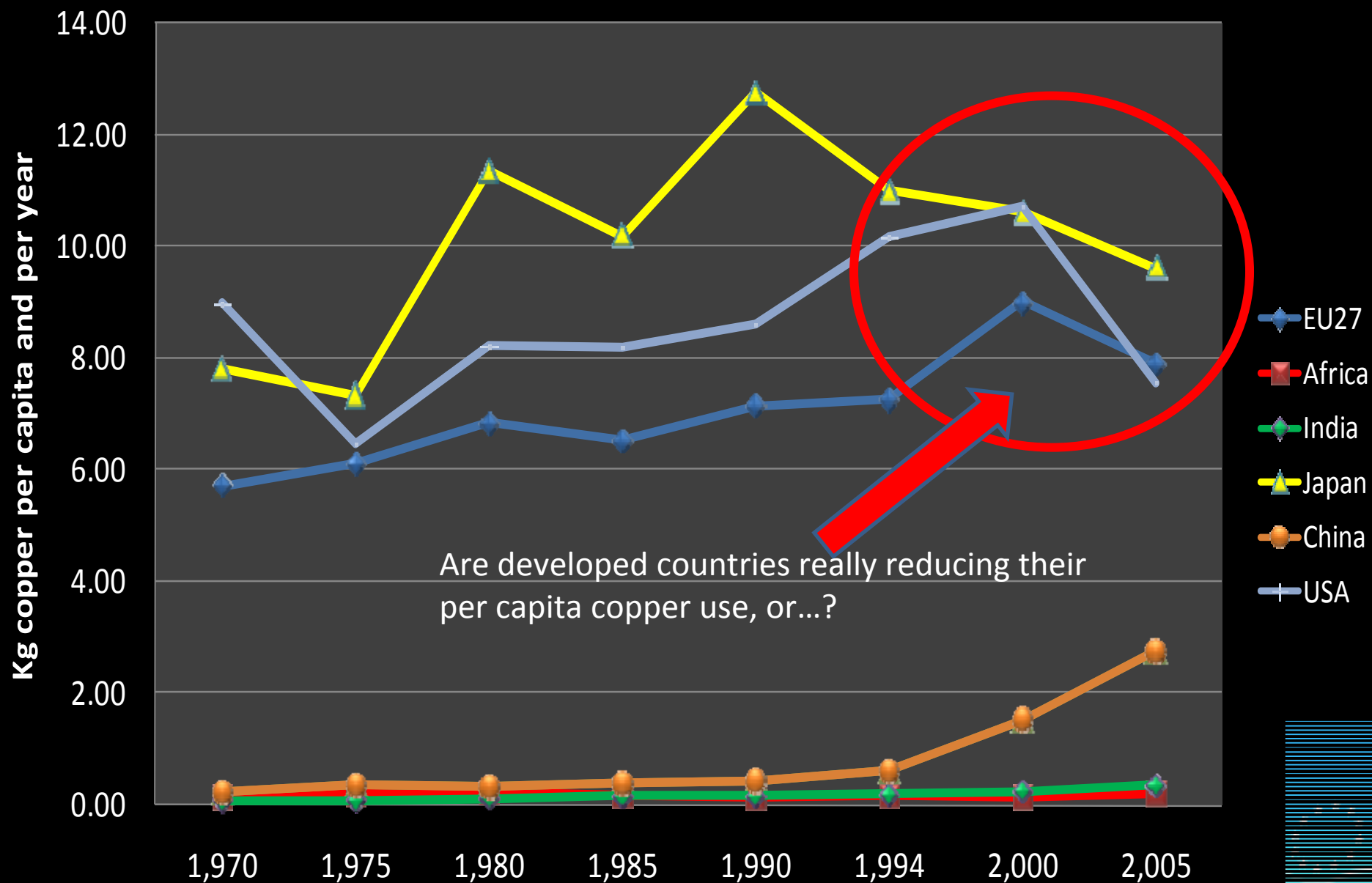
**Focus on knowledge: why  
does a knowledge pillar  
matter ?**



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





# EU mineral imports dependence

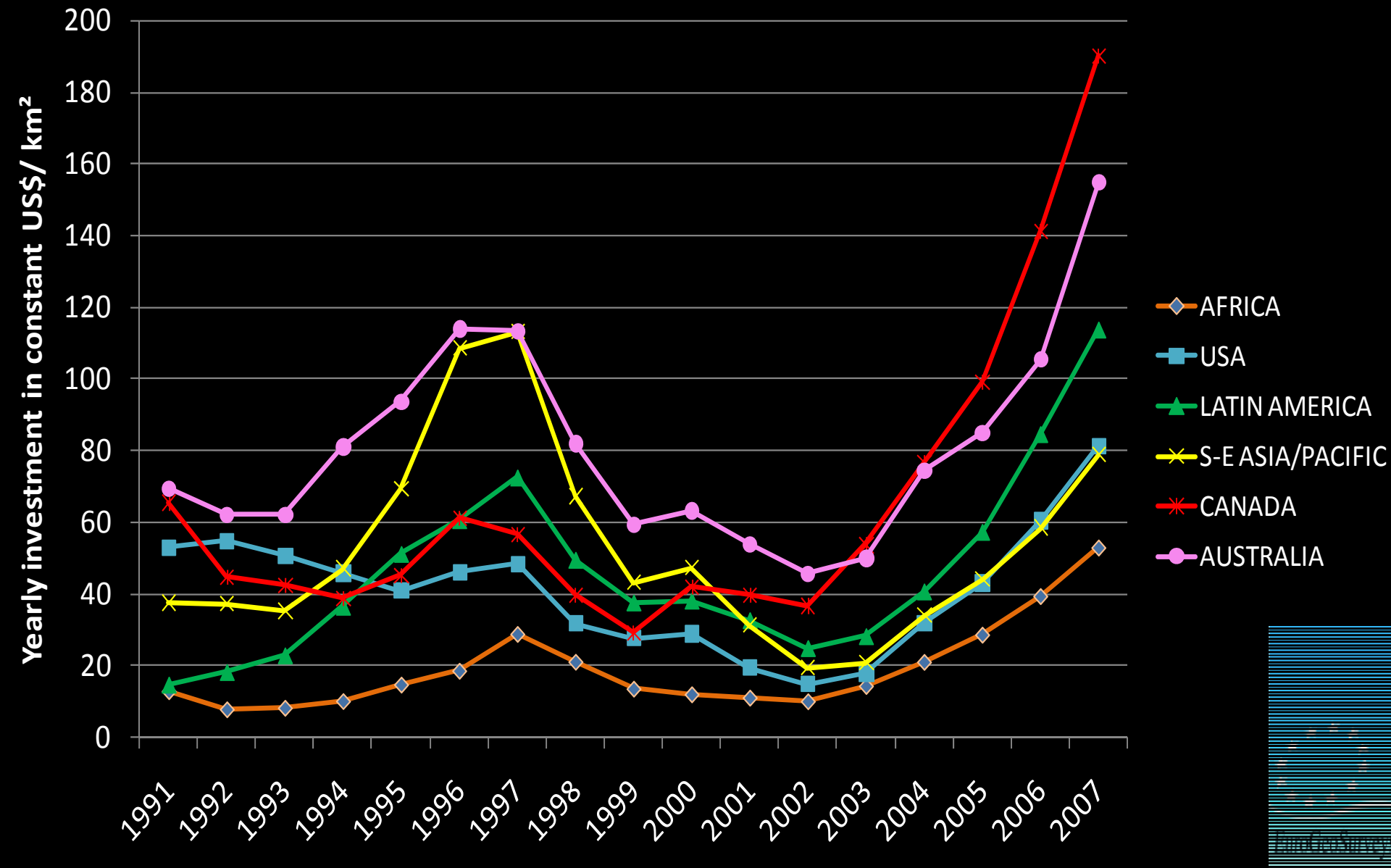
Data: the European Minerals Yearbook (1997) and World Mining and Metals Yearbook (2007)

Antimony	100%	Gold	96%
Beryllium	100%	Uranium	94%
Boron	100%	Chromium	94%
Cobalt	100%	Phosphate	93%
Molybdenum	100%	Aluminium	86%
Niobium	100%	Iron	82%
Platinum group met.	100%	Zinc	82%
Rare earth	100%	Nickel	74%
Rhenium	100%	Copper	65%
Tantalum	100%	Lead ore	56%
Tin	100%	Tungsten ore	48%
Titanium	100%		
Vanadium	100%		

# Yearly investment in mineral resources exploration, in constant US \$ per km<sup>2</sup>

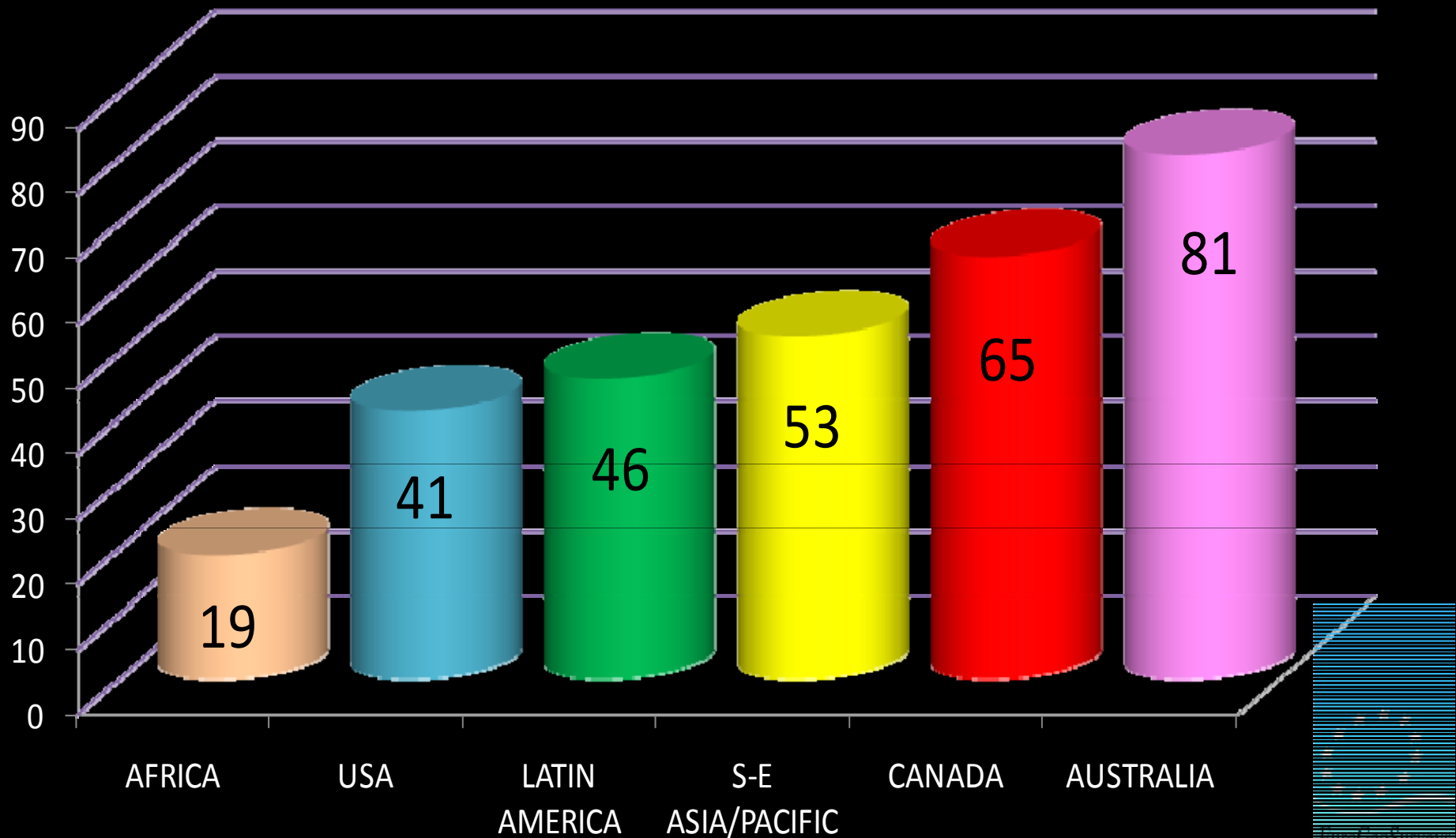
US \$ value on 31/12/07 corrected by the CPI index value

Data sources: Raw Materials Group, Wikipedia, US Department of Labor Statistics



# Average yearly investments in mineral exploration in Africa in constant US\$/km<sup>2</sup> (\$ value on 31/12/07, corrected by the change in the CPI index)

Data sources: Metals Economic Group, Wikipedia, US Department of Labor Statistics





**STATE**

**GEOLOGICAL  
SURVEY**

**PRIVATE SECTOR**

**JUNIOR  
COMPANIES/ SMEs**

**Metallic minerals:  
Transnat. Comp. (TNCs)  
Other minerals:  
TNCs + SMEs**

Country-wide and  
regional  
geoscientific  
data  
acquisition

Detailed  
prospecting/  
Target exploration

Orebody  
reconnaissance/  
Prefeasibility

**Feasibility**

**Mining project phases**

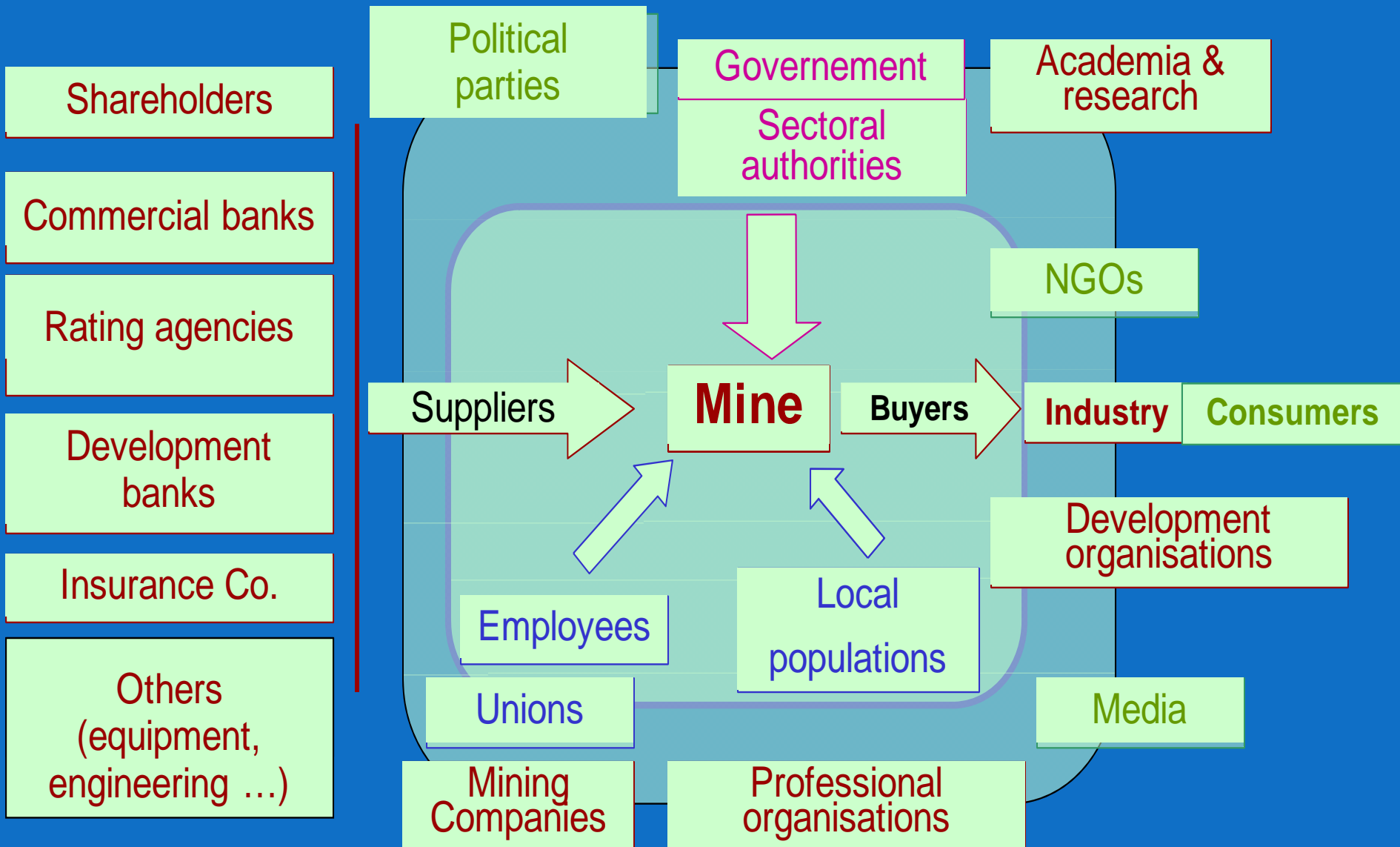
**MINING**


**TIME**

**RISK**

**COST**

# MINING STAKEHOLDERS





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**

USA	EU
State geological surveys	National geological surveys
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	No EU capacity, no budget
Decades of federal attention to mineral resources issues	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

# MINERALS, CRITICAL MINERALS, AND THE U.S. ECONOMY

*Prepublication Version*

THE NATIONAL ACADEMIES PRESS, Washington, D.C. - [www.nap.edu](http://www.nap.edu)

- 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

Mineral data source classification	Name	Internet sites or other reference information
International	British Geological Survey	<a href="http://www.bgs.ac.uk/enquiries/mins.html">http://www.bgs.ac.uk/enquiries/mins.html</a>
	Natural Resources Canada	<a href="http://www.nrcan.gc.ca/com/index-eng.php">http://www.nrcan.gc.ca/com/index-eng.php</a>
	Australia's Commonwealth Scientific and Industrial Research Organization	<a href="http://www.csiro.au/">http://www.csiro.au/</a>
	Bureau de Recherches Géologiques et Minières	<a href="http://www.brgm.fr/">http://www.brgm.fr/</a>
	Japanese Oil, Gas and Metals National Corporation (JOGMEC)	<a href="http://www.jogmec.go.jp">http://www.jogmec.go.jp</a>
	Eurostat	<a href="http://epp.eurostat.ec.europa.eu/">http://epp.eurostat.ec.europa.eu/</a>
	Mineral Resources Forum of the United Nations Conference on Trade and Development	<a href="http://www.natural-resources.org/minerals/">http://www.natural-resources.org/minerals/</a>
Private and nongovernmental	Port Import Export Reporting Service	<a href="http://www.piers.com/">http://www.piers.com/</a>
	Metals Economics Group	<a href="http://www.metalseconomics.com/default.htm">http://www.metalseconomics.com/default.htm</a>
	Johnson Matthey	<a href="http://www.matthey.com/">http://www.matthey.com/</a>
	Portland Cement Association	<a href="http://www.cement.org/">http://www.cement.org/</a>
	Aluminum Association, Inc.	<a href="http://www.aluminum.org/">http://www.aluminum.org/</a>
	Copper Development Association	<a href="http://www.copper.org/">http://www.copper.org/</a>
	Nickel Institute	<a href="http://www.nickelinstitute.org/">http://www.nickelinstitute.org/</a>
	American Iron and Steel Institute	<a href="http://www.steel.org/">http://www.steel.org/</a>
	Great Western Minerals Group, Limited	<a href="http://www.gwmg.ca/about_us/index.php">http://www.gwmg.ca/about_us/index.php</a>
	Minerals Information Institute	<a href="http://www.mii.org/">http://www.mii.org/</a>
	International Copper Study Group	<a href="http://www.icsg.org/">http://www.icsg.org/</a>
U.S. federal	International Nickel Study Group	<a href="http://www.insg.org/">http://www.insg.org/</a>
	International Lead And Zinc Study Group	<a href="http://www.ilzsg.org/">http://www.ilzsg.org/</a>
	Minerals Information Team of the USGS Minerals Program	
	Department of Commerce/U.S. Bureau of the Census	<a href="http://www.census.gov/epcd/www/naics.html">http://www.census.gov/epcd/www/naics.html</a>
	Department of Commerce/Bureau of Economic Analysis (BEA)	<a href="http://www.bea.gov/index.htm">http://www.bea.gov/index.htm</a>
	Department of Labor/International Trade Administration	<a href="http://trade.gov/index.asp">http://trade.gov/index.asp</a>
	Department of Labor/Bureau of Labor Statistics (BLS)	<a href="http://www.bls.gov/">http://www.bls.gov/</a>
	Department of Labor/Mine Safety and Health Administration	<a href="http://www.msha.gov/">http://www.msha.gov/</a>
	Department of the Interior/Bureau of Land Management	<a href="http://www.blm.gov/">http://www.blm.gov/</a>
	Department of the Interior/Office of Surface Mining	<a href="http://www.osmre.gov/">http://www.osmre.gov/</a>
	Department of the Interior/Minerals Management Service	<a href="http://www.mms.gov/">http://www.mms.gov/</a>
	Department of Agriculture/U.S. Forest Service	<a href="http://www.fs.fed.us/">http://www.fs.fed.us/</a>
	Department of Health and Human Services/Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health	<a href="http://cdc.gov/niosh/">http://cdc.gov/niosh/</a>
	Department of Defense/National Defense Stockpile	<a href="https://www.dnsc.dla.mil/default.asp">https://www.dnsc.dla.mil/default.asp</a>

*Prepublication Version - Subject to Further Editorial Revision*



**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).



# How to get there?

- 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

