



Raw Materials Initiative: Criticality Study update

US-EU Workshop on Raw Materials Flows & Data
November 6, 2013, Reston, USA

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F3 - « Raw Materials, Metals, Minerals, and Forest-based industries »

Approach



Relative concept of criticality:

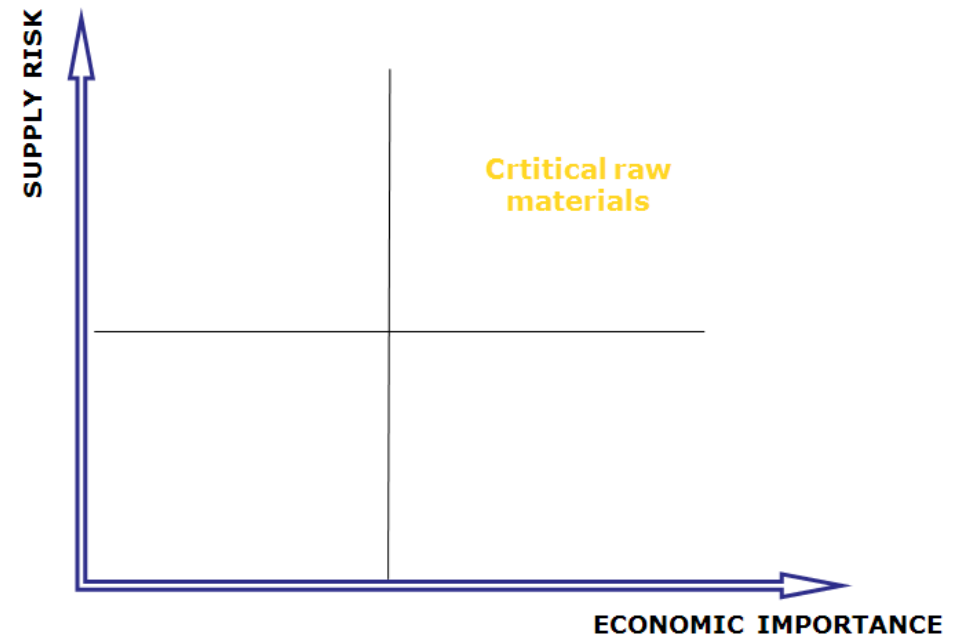
«Critical» when risks of supply shortage and their impacts on the economy are higher compared with most of the other raw materials

Assessment components:

- Economic importance
- Supply risk (and environmental country risk)

Features:

- Pragmatic approach
- Indicators-based
- Dynamic concept
- Primary and secondary RM



2010 list



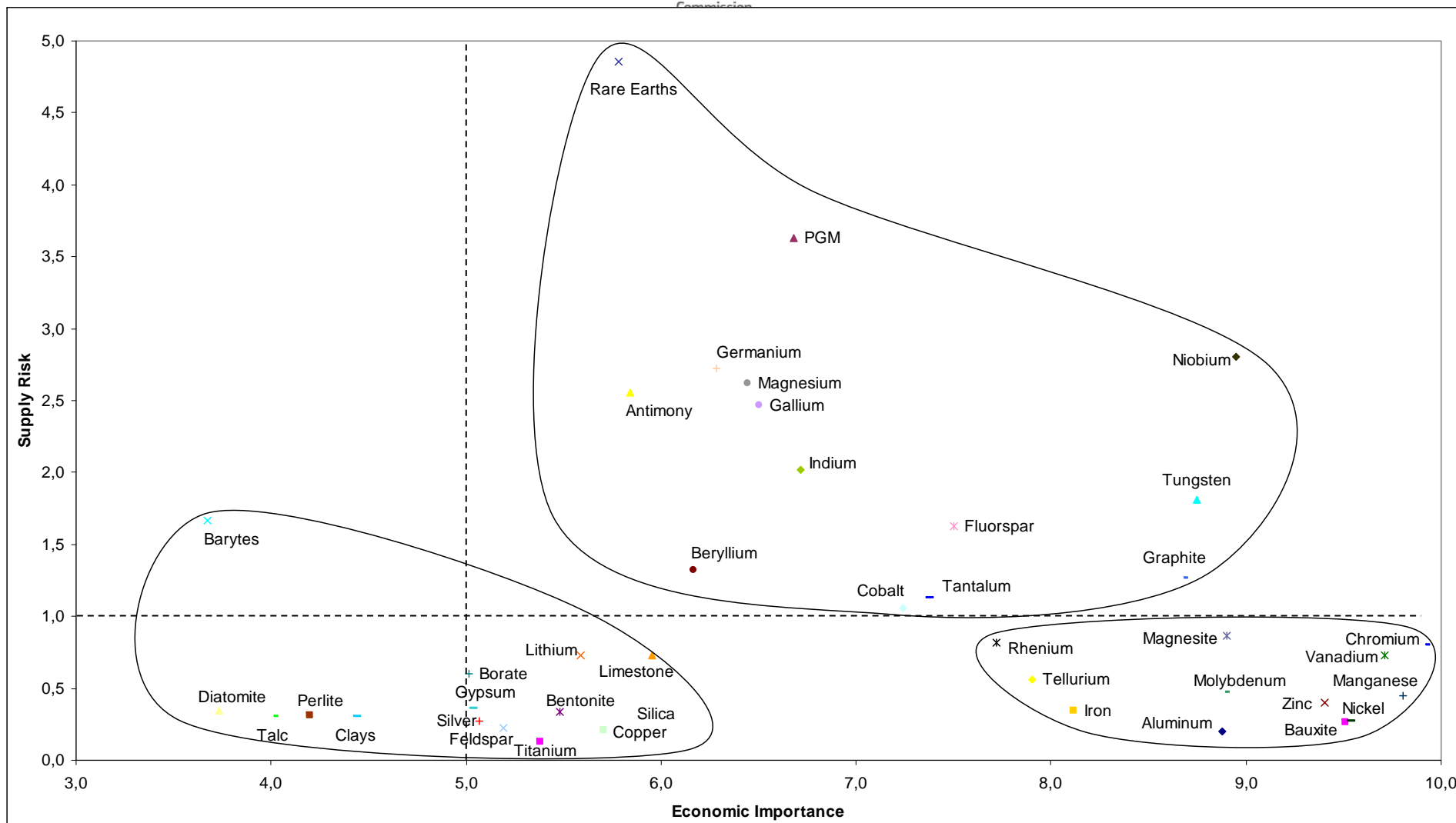
Materials covered: 41 raw materials selected
Time horizon: 10 years window

Aluminium	Lithium
Antimony	Magnesite
Barytes	Magnesium
Bauxite	Manganese
Bentonite	Molybdenum
Beryllium	Nickel
Borates	Niobium
Chromium	Perlite
Clays (and kaolin)	Platinum Group Metals ¹¹
Cobalt	Rare earths ¹²
Copper	Rhenium
Diatomite	Silica sand
Feldspar	Silver
Fluorspar	Talc
Gallium	Tantalum
Germanium	Tellurium
Graphite	Titanium
Gypsum	Tungsten
Indium	Vanadium
Iron ore	Zinc
Limestone (high grade)	

2010



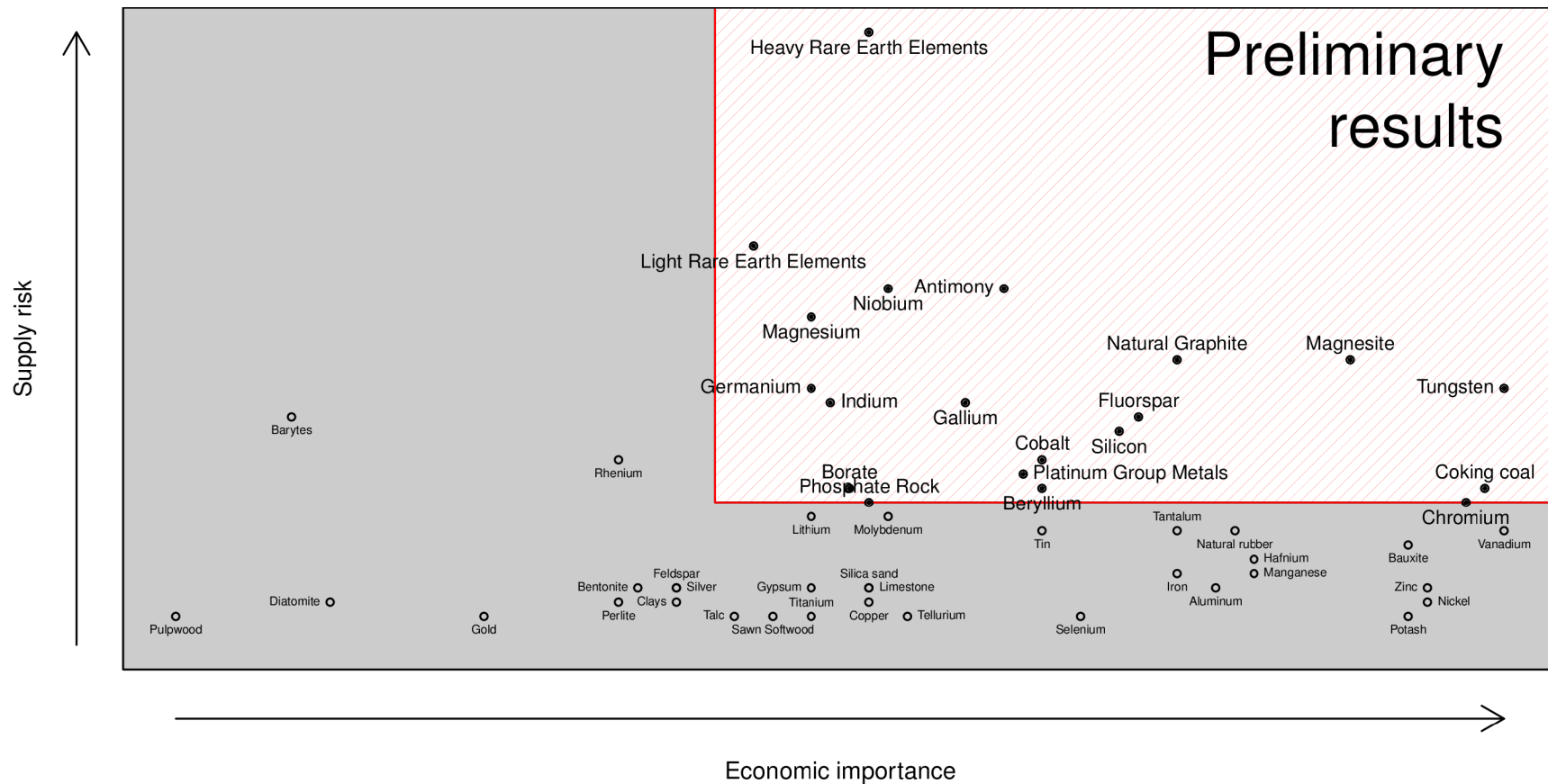
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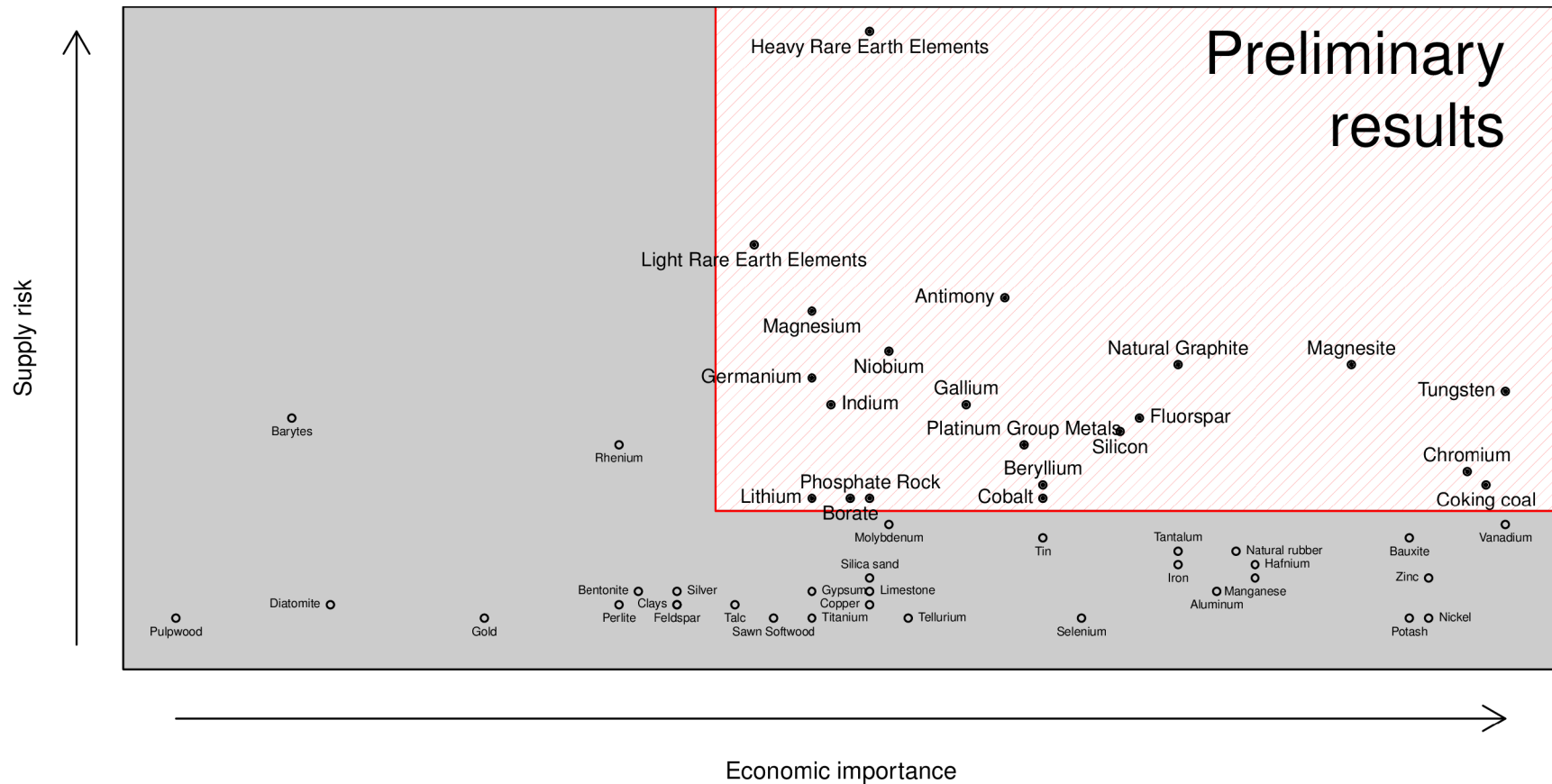
Scope: Rare Earths & PGMs

Group	Sub-Group	Element
Scandium	---	Scandium
REEs	Light Rare Earths (LREE)	Lanthanum
		Cerium
		Praseodymium
		Neodymium
		Samarium
	Heavy Rare Earths (HREE)	Europium
		Gadolinium
		Terbium
		Dysprosium
		Yttrium
PGMs	---	Palladium
		Platinum
		Rhodium

2013 Preliminary results for SR with World Governance Indicators – source Fraunhofer



Preliminary results for 2013 SR with Environmental Performance Index: source Fraunhofer





- Already in the old CRM list
 - Antimony, beryllium, cobalt, fluorspar, gallium, germanium, HREE, indium, LREE, magnesium, natural graphite, niobium, platinum group metals, tungsten
 - All except tantalum,
 - In the old candidate list but new to CRM list
 - Borate, chromium, lithium, magnesite
- New to candidate list (and CRM list)
 - Coking coal, phosphate rock, silicon

- CRM list 2013 is larger than in 2010
- 21 raw materials classified as “critical” → extended fiches
- 40% of the candidates classified as “critical” → higher than 2010 ($\approx 1/3$)



- **Detailed fiche of 15 Rare earths elements (light and heavy)**
- **Per REE an overview is giving of:**
 - Supply and demand statistics
 - Economic importance
 - Resource efficiency and recycling (very limited)
 - Outlook (supply and demand forecast)
 - Specific issues

Novelties final report 2013



- **More European and global data**
- **Potential other influences on the critical character of a RM are discussed in the report such as ore grades, land use, by-products dynamics**
- **Detailed calculation example included in methodology annex**
- **Annex with information on other specific related criticality exercise in the field e.g defence and energy**
- **Include recommendations for possible improvement of the methodology for the next criticality exercise**

Agenda?



15 November
2013

- Deadline submission final report

2 December
2013

- Discussion at Trilateral US-Japan-EU meeting together with the fourth AHWG

2014

- Publication of the study
- Adoption of the criticality list via an annex to the Annual Report (indicative timing March)