



EU efforts on (R)MFA / MSA

US-EU Workshop on Raw Materials Flows & Data

November 6, 2013, Reston, USA

Slavko SOLAR

European Commission, DG Enterprise and Industry

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

Introduction



- **Study on Data Needs for a Full Raw Materials Flow Analysis - (2012)**
- **Study on Data Inventory for a Raw Material System Analysis: Roadmap and Test of the Fully Operational MSA for Raw Materials (2014-2015)**



- Material Flow Analysis (MFA) is an analytical tool that maps physical flows of natural resources and materials into, through and out of the economy.
- Material system analysis (MSA) is based on material specific flow accounts. It focuses on selected raw materials or semi-finished goods at various levels of detail and application (e.g. cement, paper, iron and steel, copper, plastics, timber, water) and considers life-cycle-wide inputs and outputs. It applies to materials that raise particular concerns as to the sustainability of their use, the security of their supply to the economy, and/or the environmental consequences of their production and consumption.



Data Needs for a Full Raw Materials Flow Analysis

- **Final Report - September 2012**
- **Contractor - Risk & Policy Analysts Limited**
- **Aims of the study:**
 - map, review and assess available data to establish a raw materials flow analysis (leading to the identification of current data gaps); and
 - make recommendations for a future data strategy.
- **The focus of this study was been on the 21 materials**

Data Needs



- **Materials:**

Aggregates, Antimony (Sb), Beryllium (Be),
Cobalt (Co), Copper (Cu), Fluorspar (Fl),
Gallium (Ga), Germanium (Ge), Graphite (Gr),
Indium (In), Lithium (Li), Magnesium (Mg),
Niobium (Nb), Palladium (Pd) Platinum (Pt),
Rare Earths collectively (REEs), Dysprosium (Dy),
Neodymium (Nd), Tantalum (Ta),
Tungsten (W), Wood

Data Needs



- **Reliance on One-off and/or Non-EU Sources**
- **Lack of Standardised Data**
- **Streamlining Currently Collected Trade Statistics**

- **Problem areas and recommendations that relate to specific lifecycle stages**

Data Needs



European Commission

Table 2.3: List of Indicators for Each Stage in the Material Life Cycle (LC)		
Lifecycle Stage and Indicator Group	Data category	Description of indicator
Exploration/ Availability	1	Explorative activities New resources and reserves Availability of wood and growth rates of wood
	2	Industry structure Number of companies
	3	Future trends Investment in exploration
Extraction/ harvesting	1	Mining production Mining production as primary material (EU vs. non-EU) Mining production as by-product (EU vs. non-EU)
		Harvested quantity Roundwood production as raw material
	Mining waste Quantities of relevant material in mining waste; if in EU, number of Category A sites (Directive 2006/21/EC)	
	Time required for mining production Time required for initial processing or for materials that are mined as by-products, time required to extract them from the main product	
	Imports/ exports to/ from the EU Amounts of primary material (ores, concentrates, roundwood) imported/exported	
	Intra EU-trade Where mined in the EU, trade between Member States	
	2	Industry structure Number of companies (or mines) and their location (EU vs. non-EU)
		Extractive methods % of production produced by each main extractive method (open cast, underground, artisanal and small-scale mining)
	3	Future supply of ores/ concentrates Published projections of future supply
		Factors affecting future mining output Summary of available information on risks, hurdles to the development of the relevant sectors/ activities (such as sustainable forest management plans for wood)
Processing	1	Processing output Quantities processed and resultant material forms
		Processing waste Quantities of the material going into the waste stream following processing
		Time required for processing Length of time required to process the material
		Imports/ exports to/ from the EU Amounts of processed material imported/exported Amount of basic wood types imported/exported
		Intra EU-trade Where processed in the EU, trade between Member States
	2	Industry structure Number of each type of facility and location (EU/non EU)
	3	Future supply of processed materials Published projections of future supply
Factors affecting future processing output Summary of available information on risks, hurdles to the development of the relevant sectors/ activities		
Manufacture of end-products	1	Main uses Main uses and amounts required for each application in physical units per year (EU level). Also a description of grades required, if available
		Raw material waste from the manufacturing process Quantities of raw materials that enter the manufacturing process that are not used in end products
		Time required for manufacture Length of time required to manufacture the end product
		Exports and imports of manufactured products Exports and imports of products or product categories that contain the relevant raw materials
		Intra EU-trade Where manufactured in the EU, trade between MSs

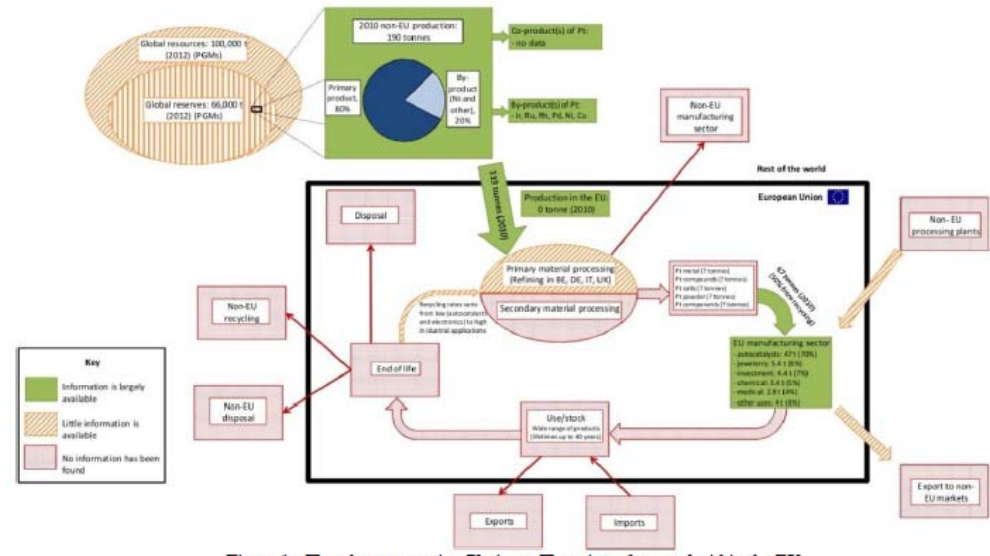


Figure 1: Flowchart presenting Platinum Flows into, from and within the EU



Study on Data Inventory for a Raw Material System Analysis: Roadmap and Test of the Fully Operational MSA for Raw Materials

- **Complete overview of sources and existing data sets necessary for the MSA for raw materials in the EU**
- **Examination of questions related to the Eurostat data base on trade of goods (COMEXT)**
- **Exploration of data sources and existing data sets available to those interested parties.**



Study on Data Inventory for a Raw Material System Analysis: Roadmap and Test of the Fully Operational MSA for Raw Materials

- **Remove the bottlenecks and fill the gaps of missing data sets.**
- **In order to maximize the impact of expert input workshops will be organized.**
- **Execute the complete MSA on 21 selected raw materials.**



Study on Data Inventory for a Raw Material System Analysis: Roadmap and Test of the Fully Operational MSA for Raw Materials

- **Discussions between the competent services of the Commission on one hand and USA and Japan on the other hand on the cooperation regarding MSA are on-going. The contractor will explore possible complementarities with MSA data of these countries.**
- **Provide recommendations how to establish and maintain the full MSA for raw materials on a regular basis.**