



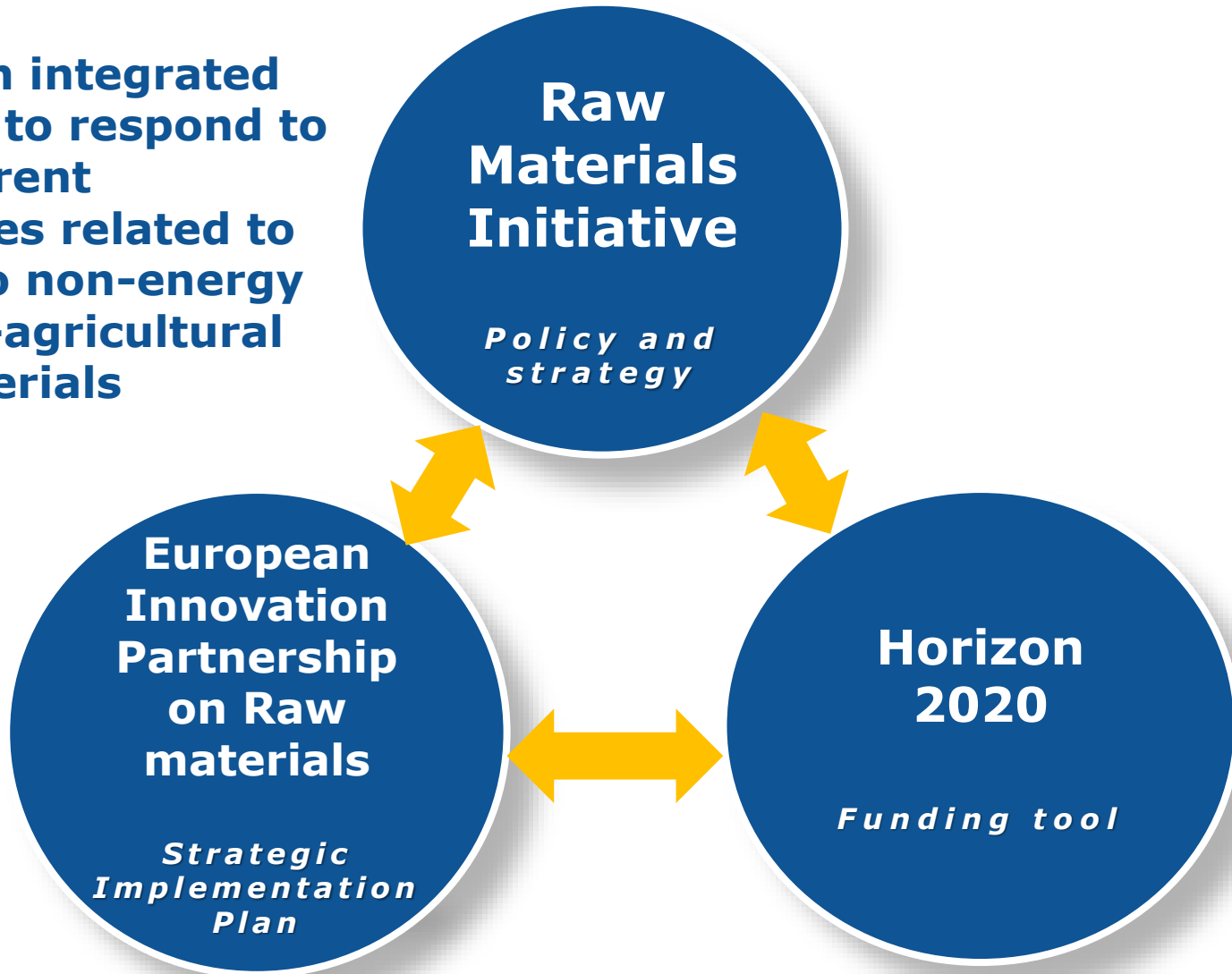
# **Progress on the EU Raw Materials Knowledge Base including Reserve and Resource Classification**

**7<sup>th</sup> Annual Meeting  
of the Expert Group Resource Classification**  
Geneva, 27 – 29 April, 2016

**Slavko SOLAR**  
European Commission,  
DG Growth,  
C 2 - Resource Efficiency and Raw Materials



**RMI is an integrated strategy to respond to the different challenges related to access to non-energy and non-agricultural raw materials**



### Fair and sustainable supply of raw materials from global markets (1<sup>st</sup> Pillar)

- EU trade strategy for raw materials
- Raw materials diplomacy
- Assistance to developing countries

### Fostering sustainable supply within the EU (2<sup>nd</sup> Pillar)

- Exchange of good practice between EU Member States
- **Enhancing EU knowledge base**
- Promoting research and skills

### Boosting resource efficiency and promoting recycling (3<sup>rd</sup> Pillar)

- Better implementation and smarter EU waste legislation promoting resource-efficiency & recycling
- Strengthen the enforcement of the EU Waste Shipment Regulation

### Cross-cutting issues

- Sector-specific criticality analyses
- European Rare Earth Competency Network (ERECON)
- Markets and stockpiling
- European Innovation Partnership on Raw Materials
- Research

*Up to 10 innovative pilot actions e.g. demonstration pilot plants for exploration, mining, processing, collecting and recycling*

*Substitutes for at least 3 applications of critical raw materials*

*Regulatory framework for primary raw materials*

*Regulatory framework for secondary raw materials*

*Raw materials knowledge base with raw materials flows and trends*

*Raw materials network of Research, Education and Training Centres*

*Pro-active international cooperation strategy of EU at bilateral and multilateral level*



## II.A Priority Area:

### Improving Europe's raw materials framework conditions

- **Action area n° II.1: Minerals Policy Framework**
  - MIN-GUIDE – ongoing H2020 project
  - Study on Permitting – DG GROW study
- **Action area II.2. Access to minerals potential in the EU**
  - MINATURA2020 – ongoing H2020 project
  - H2020 2017 call: Linking land use planning policies to national mineral policies
- **Action area II.3. Public awareness, acceptance and trust**
  - H2020 2017 call: EU network of mining and metallurgy regions



## II.C Priority Area: Knowledge, skills and raw materials flows

### Action area n° II.8:

#### European Union Raw Materials Knowledge Base

#### Actions:

#### 1) Appropriate conditions to provide a service

- **KBA study** – DG GROW F3 2014/15 (0,2 mio €)

#### 2) Organize relevant data input (studies, projects)

- **Minerals4EU** – finished FP7 project 2013/15 (2,0 mio €)
- **ProSUM** – H2020 project 2015-2017 (3,7/3,0 mio €)
- **SmartGround** – H2020 2015/2017 (2,5 mio €)
- **MSA study** Materials System Analysis 2014/2015(0,6 mio €)

#### 3) Raw materials intelligence

- **MICA** – H2020 project 2016-2018 (2,0 mio €)



## II.C Priority Area:

### Knowledge, skills and raw materials flows

#### Action area n° II.8:

### European Union Raw Materials Knowledge Base



#### Actions:

#### 4) Reporting (reserves and resources only)

- **Minventory** – DG GROW study 2013-2015 (0,55 mio €)
- COST ACTION **MINEA** – 2016 ongoing

#### 5) Collaboration (projects partly related to EURMKB)

- **INTRAW** – H2020 project 2015/20217 (2,1 mio €)
- **STRADE** - H2020 project 2016/2018 (2,0 mio €)
- H2020 2016 call: Demand-supply forecast and raw materials flows at global level

#### 6) Improvement of data collection

- H2020 call 2017: Optimising collection of raw materials data in Member States

# Internal EC building bricks



## DG Joint Research Centre

### JRC Ispra

- Raw Materials Information System
- Life Cycle Assessment data
- Critical raw materials
- INSPIRE

### JRC Petten

- Materials Information System - SETIS
- CRM for energy sector / technologies

### JRC Sevilla

- C&D Waste

## EUROSTAT

- 11<sup>th</sup> DATA CENTRE on Raw Materials  
(10 existing Data Centres /waste, products, natural resources, land use, soil, forest, chemicals)
- Official EU level statistics

## European Environment Agency

- Resource Efficiency and Material Flows







# Reporting

(reserves and resources only)

**Minventory** – DG GROW study  
COST ACTION **MINEA**



- \*Need for better pan-European mineral resource management

  - # Security of supply (2<sup>nd</sup> pillar of RMI 2008)

    - Extraction

    - Land use

- \*Working towards a harmonisation of resources and reserves information

- \* A platform for future initiatives

- \* Planning horizon

  - # What can be achieved by 2020?

  - # What will take longer?



- \* To characterise and produce a metadata inventory of mineral resources and reserves statistical information in Europe
  - # Key metadata characteristics include data ownership and systems of reporting
- \* To produce a roadmap to obtaining harmonised mineral resource and reserved data across EU
- \* Assess the feasibility of a minerals yearbook for the EU that includes mineral resources and reserves statistical data



- \* Multiple options for action presented with pros and cons
  
- \* All voluntary
  
- \* For reporting and communications at EU level:
  - Recommend System of Reporting aligned to the CRIRSCO-template or the UNFC system
  - Does not imply must be adopted by MS
  - Key task is to define bridging documents
  - Could be facilitated by an EU-level harmonisation body
  - INSPIRE assists in providing a reporting framework

- \* MWD obliges publication of certain basic data for operating mines
- \* Targets discovery of high-risk facilities – many sites not inventoried
- \* Publication of data is incomplete
  
- \* No System of Reporting
- \* Characterised in terms useful to owner/operator
- \* If classified as permanent storage, falls under Landfill Directive
- \* ...But no stock data, and generation data incomplete.
  
- \* Abandoned or closed mining waste facilities should be treated as analogous to primary raw materials
  - Can use UNFC system
  - Level of knowledge is much lower

**Recommendation:** In the short term, reporting of data (according to the List of Waste codes) on mining waste generation for permanent storage facilities that fall under the Landfill Directive should be reported by all Member States to improve current knowledge of resource availability.

Many of the issues are the same as for primary raw materials or mining wastes, but emphasis is distinctly different

- Good aggregate flow data
- Non-existent site-level inventory data
- Public or private owners commonly do not publish
- List of Waste codes (especially EWC-Stat codes) lack detail required to identify secondary materials of prime interest

# Take away ...



## Report in PDF

[http://ec.europa.eu/growth/sectors/raw-materials/specific-interest/knowledge-base/index\\_en.htm](http://ec.europa.eu/growth/sectors/raw-materials/specific-interest/knowledge-base/index_en.htm)

## Website

<https://ec.europa.eu/growth/tools-databases/mininventory/>

## Glossary

<https://ec.europa.eu/growth/tools-databases/mininventory/glossary>

The screenshot shows the MINVENTORY website interface. At the top, there is a navigation bar with the European Commission logo and the text "GROWTH Internal Market, Industry, Entrepreneurship and SMEs". Below this, there are several tabs: "Single Market and Standards", "Industry", "Entrepreneurship and SMEs", "Access to finance for SMEs", and "Sectors". The "Sectors" tab is selected, and a search bar is visible. The main content area is titled "MINVENTORY" and includes a "Login" button. A "Disclaimer" section is highlighted with a red border, stating that the portal contains a directory of information provided by relevant organizations in each State or Nation, and that the interpretation of terms such as 'resources' and 'reserves' is not harmonised. Below the disclaimer, there are several sections: "Raw materials links", "News", "Events", "Contracts and grants", "Public consultations", and "Publications". A large flow diagram is displayed, showing the relationship between different material stocks and flows. The diagram is divided into three main spheres: Geosphere, Technosphere, and Ecosphere. The Geosphere includes "Primary reserves and resources" and "Abandoned mines". The Technosphere includes "Mining waste", "Industrial Landfill", "Household Landfill", "Liquid and gaseous emissions", "Strategic Stockpile", "Production Inventory", "Production scrap", "Recycles", and "In Use - Infrastructure - Moveable assets". The Ecosphere includes "Liquid and gaseous emissions". Arrows indicate the flow of materials between these spheres, with some flows marked with a red 'X' indicating a specific status or condition.

# Mining the European Anthroposphere







## **EU raw materials webpage:**

[http://ec.europa.eu/growth/sectors/raw-materials/index\\_en.htm](http://ec.europa.eu/growth/sectors/raw-materials/index_en.htm)

## **Check the EIP website for fresh news:**

<https://ec.europa.eu/eip/raw-materials/en/meetings-listing>

## **Horizon 2020 - Raw materials webpage:**

<http://ec.europa.eu/programmes/horizon2020/en/area/raw-materials>

# **Thank you for your attention!**