On going actions at EU level
Non-energy raw materials and UNFC

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Raw materials policy framework
Non-energy raw materials
EU Raw Materials Strategy and Juncker priorities

Commission priorities 2015-19

1. Jobs, Growth and Investment
   - circular economy and green growth

3. Energy Union
   - transition to a low-carbon economy
     (renewables, electricity market, transport...)

4. Internal Market
   - unlock the full potential of the single market
     - a renewed EU Industrial Policy Strategy

6. Trade policy to harness globalisation
   - economic diplomacy
   - raw materials chapters in FTAs

9. A stronger global actor
   - international cooperation and development
Raw Materials Initiative = EU raw materials policy

- Aim: securing sustainable supplies of raw materials
- Non-energy, non-agricultural raw materials
- Integrated strategy (3 pillars)
- Introduced a list of Critical Raw Materials in 2011 and updated lists in 2014 and 2017

Ensure level playing field in access to resource in third countries

Foster sustainable supply from European sources

Boost resource efficiency and recycling
Overall objective:
Contribute to the 2020 objectives of the EU Industrial Policy (to increase the share of industry in GDP to 20%), the Innovation Union and the Resource Efficiency 'flagships'

EIP targets:
• Up to 10 innovative pilot actions
• Substitutes for at least 3 applications of CRMs
• Improve framework conditions for primary and secondary RM
• **EU RM Knowledge base with RM flows and trends**
• International cooperation strategy

**Strategic Implementation Plan (SIP)**
Adopted on 25th September 2013
Resource management in the EU raw materials policy framework
Resource management

Raw Materials Initiative

**COM(2008) 699 final**

"The sustainable supply of RM based in the EU requires that the knowledge base of mineral deposits within the EU will be improved"

"Geological availability does not necessarily mean access to these RM"

"To boost the reuse or recycling of products and materials at a significant economy of scale a fair and transparent market is essential"

**COM(2011) 25 final**

"The Commission intends to promote the work of UNECE in the area of standardisation concerning reporting of reserves and resources at EU-level"
II.1. Minerals Policy Framework

Problem definition
“Reporting standards vary...MS... Compatibility between the reporting standards used...to be ensured.”

Actions
4) How to manage mining waste as a resource...
12) Develop national and EU mineral reporting schemes (including reporting on reserves and resources) based on standard terminology

II.8. EU RM Knowledge Base

Problem definition
“...Data and information are not harmonized...therefore difficult to compare and harmonize among MS.”

Actions
2) Organize relevant data input and establish relevant EU/global standards...
4) Reporting public data, based on EU/international reporting guidelines
INSPIRE Directive

(Directive 2007/2/EC)

Overview

• Common standards on spatial data
• 34 spatial data themes
• Geology, energy, mineral resources

Data Specification on Mineral Resources Technical guidelines
(D2.8.III.21)

No particular reporting standard.

Allowed values for 'MineralResources'
JORC, NI43-101, CIMstandards, SAMRE, IMM, SME, IIMCh, peruvianCode, CRIRSCO, UNFC, SEC, PERC, russianCode)
Overview

• Characterize metadata in Europe on primary, secondary and in use materials
• Situation at national and regional level Analysis of barriers to harmonizing data
• Roadmap

Minventory Study is available on the Raw Materials Information System website run by the Joint Research Centre (JRC) of the European Commission http://rmis.jrc.ec.europa.eu/?page=minventory

UNFC-aligned: Bulgaria, Finland, Hungary & Ireland (by dint of being CRIRSCO-aligned), Romania, Sweden; UNFC-like: Czech Republic, Lithuania, Poland, Portugal, Slovenia.
Primary raw materials

Possible harmonization pipeline

- State report according to **State-specified Code of practice**
- Voluntary State-level alignment of data to EU-level system of reporting (UNFC system, or CRIRSCO template)
- EU-level data harmonisation and redaction
- EU level data publication

Minventory Study

Resource management
Some **reporting requirements** in Mining Waste Directive (2006/21/EC) may provide information on resource availability.

- Inventories focused on identifying hazards
- MWD requires facilities to report on the waste being treated or stored in terms of the **EU List of Wastes** (2000/532/EC). **Useful materials inventory knowledge may being lost**
- Closed and abandoned mine sites has interest in respect of mining waste associated
- **Data** available on mining waste are not reported using **international standards**

**Mining waste roadmap**

- Harmonised definitions
- On-line inventory access
- I.2 Waste inventory reporting
- II. 1 Standardised data reporting
- On-line mines directory
- On-line archive data directory
- Priority mines wastes identified
- Bridge 1 (closed mines)
- Bridge 2 (closed mines)
- Bridge 3 (operating mines)
- Bridge 4 (operating mines)

UNFC system could be useful
Landfill waste

Overview

- EU countries are requested to report waste data as stipulated by the Waste Framework Directive (Regulation 2150/2002 on waste statistics)
- No EU requirement to provide information on landfill sites other than number of sites
- European Waste Catalogue does not describe the composition of resources present in landfill
- No international standard currently in use
Resource management

On-going actions at EU level
Scope: Optimising data collection for primary and secondary raw materials in MS
Duration: 2018-2020

ORAMA and UNFC

• This improving and harmonisation require a system allowing classification of data of different quality and origin (such as UNFC)
• ORAMA will evaluate the potential the UNFC holds for improving and harmonising the European raw material statistics
• Incorporation of social and environmental considerations into UNFC classification is also interesting
On-going actions at EU level

Overview

- Initiating the reporting of materials resources/reserves in the anthroposphere
- Assessing the availability of secondary raw materials through investigating, evaluation and classifying anthropogenic resources

Outputs relevant for EGRC

- Draft Specification for the application of UNFC for Resources to Anthropogenic resources (ECE/ENERGY/GE.3/2018/5)
- Reports on recovery technologies for construction and demolition waste, landfills and waste incineration residues

Members: COST Countries, 46 (28 countries); COST Near Neighbour Countries, 3 (Russia, Georgia)
COST International Partner Countries:3 (ROC, ROC-Taiwan)
Specific organisations: ISWA, CEWEP, UNECE-EGRC, Eurogypsum

MINEA
Mining the European Anthroposphere

MINEA is supported by the EU Framework Programme Horizon 2020
On-going actions at EU level

**GeoERA**

**Scope:** Integrate Geological Survey Organizations information and knowledge on subsurface energy, water, and raw material resources

**Duration:** 2017-2022

**GeoERA and UNFC**

On the 1\textsuperscript{st} July 2018, start 15 transnational projects with a duration of 3 years. 33 countries

**Mineral Intelligence for Europe**

The applicability of the UNFC classification system for obtaining more accurate Pan-European mineral inventories will be tested

**EuroLithos**

Natural stone will be addressed as a case study in the UNFC. It will provide an assessment of codes and propose a G-axis coding for UNFC

**Hotlime**

Will address fractured carbonate reservoirs for geothermal energy and will report using UNFC (update/use of UNFC-2009 for Geothermal Energy Resources)
Knowledge sources

Studies and projects

- **ORAMA** (H2020, 2017-2019)
- **SCRREEN expert network** (H2020, 2016-2019)
- **CRM study** (DG GROW, 2017)
- **Materials Systems Analysis** (DG GROW study, 2014-2015) + **JRC**
- **Minfuture** (H2020, 2016-2018)
- **MICA** (H2020, 2015-2018)
- **ProSUM** (H2020, 2015-2017)
- **SmartGround** (H2020, 2015-2018)
- **Minventory** (DG GROW study, 2013-2015)
- **MINEA** (COST action, ongoing)

Collaboration with key data providers

- Eurostat
- EuroGeoSurveys
- National data providers
RMIS

- Scoreboard
- Raw Materials Profiles and flows
- CRM
- Country profiles
- Trade flows
What UNFC can provide?

at EU level
What UNFC can provide?

- There is a need for having harmonized data at EU level for primary and secondary raw materials (mining waste, landfills)
- UNFC has the potential to be applied at regional, national and EU level
- UNFC could be useful for transmission and publication of information to the EU level
- Does not imply that Member States must adopt such a code nationally
- Member States using national reporting codes for primary raw materials not aligned direct or indirectly with UNFC may adopt bridging documents
Next events

3rd Raw Materials Week
(Brussels, 12 - 16 November 2018)

Presentations of RM Week 2017 available on:
Thank you!!

**EU raw materials:**

**EIP on Raw materials:**

**Horizon 2020 - Raw materials webpage:**

**H2020 Participant portal**

**Horizon 2020 – EXPERTS:**

**EIT Raw materials:** www.eitrawmaterials.eu
Back-up slides
**EU Critical Raw Materials assessment 2017**

- **78 raw materials** evaluated with **fact sheets available, revised methodology** published – CRM website

### 2017 CRMs (27)

<table>
<thead>
<tr>
<th>Antimony</th>
<th>Fluorspar</th>
<th>*LREEs</th>
<th>Phosphorus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baryte</td>
<td>Gallium</td>
<td>Magnesium</td>
<td>Scandium</td>
</tr>
<tr>
<td>Beryllium</td>
<td>Germanium</td>
<td>Natural graphite</td>
<td>Silicon metal</td>
</tr>
<tr>
<td><strong>Bismuth</strong></td>
<td>Hafnium</td>
<td>Natural Rubber</td>
<td>Tantalum</td>
</tr>
<tr>
<td>Borate</td>
<td><strong>Helium</strong></td>
<td>Niobium</td>
<td>Tungsten</td>
</tr>
<tr>
<td>Cobalt</td>
<td>*HREEs</td>
<td>*PGMs</td>
<td>Vanadium</td>
</tr>
<tr>
<td>Coking coal</td>
<td>Indium</td>
<td>Phosphate rock</td>
<td></td>
</tr>
</tbody>
</table>

*HREEs=heavy rare earth elements, LREEs=light rare earth elements, PGMs=platinum group metals
Study on the review of the list of critical raw materials 2017
Minerals framework

- **MINLEX** study (2017) - Legal framework and permitting procedures in the NEEI in EU28
- **MIREU** - EU network of mining and metallurgy regions (2017-2020)
- **REMIX** - Smart and Green Mining Regions of EU (2017+)

Access to mineral potential in the EU

  To develop a concept and methodology for the definition and subsequent protection of “mineral deposits of public importance”
- **MINLAND** (2017-2019) Mineral resources in sustainable land-use planning
Minventory Study

Use of a standard reporting code:
- Green: Required use
- Red: No required use
- Unknown: Unknown

Scope