The Raw Materials Strategy of the European Union

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1. Raw Materials Initiative

2. European Innovation Partnership on Raw Materials

3. Raw Materials in Horizon 2020 and the Juncker Plan

4. Today's Event and the Partnership Instrument
1. Raw Materials Initiative
EU Raw materials policy

1. Raw Materials Initiative

EU "Raw Materials Initiative"

- **Aim:** securing sustainable supplies of raw materials
- **Launched in 2008, consolidated in 2011**
- **Non-energy, non-agricultural raw materials**
- **Connecting EU external and internal policies**
- **Integrated strategy (3 pillars)**
- **Introduced list of 14 Critical Raw Materials (CRM) in 2010, updated 20 CRMs in 2014**
Revision of the list of Critical Raw Materials
Assessment components

Economic importance
- Importance of a raw material per economic sector & importance of the sector in the EU economy

Supply risk
- Political and economic stability
- Level of production concentration
- Potential for substitution
- Recycling rate
Outcome 2014

Graph showing the supply risk and economic importance of various natural resources.

- Heavy Rare Earth Elements
- Light Rare Earth Elements
- Magnesium
- Niobium
- Antimony
- Natural Graphite
- Magnesite
- Tungsten
- Coking coal
- Chromium
- Vanadium
- Rare Earth Elements
- Beryllium
- Cobalt
- Silicon metal
- Platinum Group Metals
- Bauxite
- Zinc
- Nickel
- Manganese
- Helium
- Natural rubber
- Aluminum
- Tin
- Tantalum
- Iron
- Limestone
- Sawn Softwood
- Coal
- Perlite
- Feldspar
- Clays
- Diatomite
- Pumice
- Galena
- Gold
- Silver
- Scandium
- Rhenium
- Lithium
- Molybdenum
- Tin
- Titantium
- Selenium
- Tellurium
- Copper
- Silver
- Cobalt
- Silicon metal
- Platinum Group Metals
- Beryllium
- Antimony
- Natural Graphite
- Magnesite
- Tungsten
- Coking coal
- Chromium
- Vanadium
- Rare Earth Elements
Critical Raw Materials*

CRM ↔ Economic importance + Supply risk

* Communication on the review of the list of critical raw materials for the EU and the implementation of the Raw Materials Initiative - COM(2014) 297, 26.5.2014
2. European Innovation Partnership on Raw Materials
EIP – novel concept

- **Speed up breakthrough innovations**
  - by pooling resources through a *challenge-driven* approach
  - and acting across the *whole research and innovation cycle*
  - bringing together *all relevant actors* to connect supply and demand side for a societal challenge, covering much more than R&D
  - *streamline, simplify and better coordinate* existing instruments and initiatives and complement them with new actions where necessary
  - **Flexibility** is important
  - areas where *combining EU, national and regional efforts* in R&D and demand-side measures will achieve the target quicker and more efficiently
- **Innovation required for the entire value chain of raw materials** – industrial approach
  - Exploration, exploitation, processing, using, recycling, substitution, etc.
  - **Sectors**: mining, engineering, pulp and paper, product design, robotics, etc.

Commission adopted the **proposal for an Innovation Partnership on raw materials** on **29 February 2012 COM(2012) 82 final**
Objectives

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'

Specific objectives:
- Reduce import dependency
- Improve supply conditions from European and other sources
- Push Europe to the forefront in raw materials sectors
- Provide alternatives in supply
- Mitigate negative environmental and social impacts

Strategic Implementation Plan (SIP) adopted on 25 September 2013
EIP targets 2020

- 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
I. Technology Pillar
   o I.A Raw materials research and innovation coordination
   o I.B Technologies for primary and secondary raw materials' production
   o I.C Substitution of raw materials

II. Non-Technology Policy Pillar
   o II.A Improving Europe's raw materials framework conditions
   o II.B Improving Europe's waste management framework conditions and excellence
   o II.C Knowledge, skills and raw materials flows

III. International Cooperation Pillar
   o III.1 Technology
   o III.2 Global Raw Materials Governance and Dialogues
   o III.3 Health, Safety and Environment
   o III.4 Skills, Education and Knowledge
   o III.5 Investment activities
Note: The EIP is not a new funding instrument.

High Level Steering Group

+ Sherpa group

Orientation level
Planning / Monitoring

Advice / Implementation

Actions/Projects
Operational groups

WP1  WP2  WP3  WP4  WP5
2. European Innovation Partnership on Raw Materials

**Objectives**

- To reduce dependency on imports
- To promote the production and exports

**EIP Targets**

- Up to 10 innovative pilot actions
- Substitutes for 3 applications of CRMs
- Framework conditions for primary RMs
- Framework for enhanced efficiency in material use
- EU Raw Materials Knowledge base
- KIC Raw Materials (Network of Research, Education and Training Centres)

**Pro-active international co-operation strategy of the EU at bilateral and multilateral level**

**Strategic Implementation Plan (adopted on 25 September 2013)**

**Call for Commitments**

- Horizon 2020
  Societal Challenge 5
  WP2016-2017
- Structural Funds
  Smart Specialisation Strategies
- EU policies
  (Industrial, environmental, …)
- Stakeholders Community
  Industries, Academics, NGOs, Public Administrations, etc.

**Framework for enhanced efficiency in material use**

**Framework conditions for primary RMs**

**To make Europe a leader in the RM capabilities**

**To mitigate environmental, social and health impacts**
First Call for Commitments closed in February 2014

• Guidelines agreed by Sherpas

• 90 submitted proposals → **80** Raw Materials Commitments
• Aprox. 800 partners
• Relative deficit from EU-13 group

• Higher number of **technology** commitments
• Higher number for **primary production** technology
• **Scope** of raw materials covered: metals, industrial minerals, forest-based materials

• **Next calls** in **end-2015**, 2017 and 2019
3. Raw Materials in Horizon 2020
Societal Challenge 5 - Climate action, environment, resource efficiency and raw materials
Horizon 2020
Context and overview

Excellent science
(€ 24 billion)

Industrial leadership
(€ 17 billion)

Societal challenges
(€ 31 billion)

SC5. Climate action, environment, resource efficiency and raw materials
SC5 Call 'Greening the economy'.
Topics in WP 2016 opened 10 November 2015!!

Raw materials
- New solutions for sustainable production of raw materials (2 RIA)
- Raw materials Innovation actions (1 IA)
- Raw materials policy support actions (1 CSA)
- Raw materials international co-operation (2 CSA)
- ERA-NET Cofund on Raw materials (1 ERA-NET)

Budget
- 2016: €64 million

Deadlines:
- 8 Mar 2016 (RIA, CSA, and First stage of IA)
- 6 Sep 2016 (Second stage of IA)

More information tomorrow: session on Horizon 2020!!
Raw materials also in other parts of H2020!

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<th>Topic</th>
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<td>Cross-challenge topics</td>
<td>SME Instrument Fast Track to Innovation Pilot</td>
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<td>Resource Efficiency</td>
<td>Cross cutting: SPIRE</td>
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<td>Recycle, reuse, product life cycle</td>
<td>Cross cutting: Industry 2020 in the Circular Economy</td>
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<td>Recycling and reuse (C&amp;D waste)</td>
<td>LEIT pillar, 5ii - Energy-efficient buildings</td>
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<td>Substitution of CRM</td>
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<td>Geosciences (ERA-NET)</td>
<td>Societal Challenge 3</td>
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<td>Bio-based materials (wood-based and natural rubber)</td>
<td>Societal Challenge 2</td>
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More information tomorrow: session on Horizon 2020!!
EIT KIC
Raw materials

Establishing a pan-European network of excellence

- Well-balanced consortium with 116 partners
- Partners in 22 EU countries with special focus on ESEE
- Full coverage of value chains and commodities (especially CRMs)
- Business partners represent >700,000 jobs >200 billion € turnover
- Partners’ roles in EIP RM commitments: >75% participation 40% coordination
Raw-materials innovation projects that are close to the market can also be financed under the **EU Investment Plan**: 

- **Natural resources** are among the sectors eligible for EFSI financing.
- EFSI can call on €21 Billion, leveraged to €315 Billion.
- Already two RM modernisation projects (on steel and pulp) have been approved.
- Sector-focused Investment Platforms are possible, and a **European Minerals Investment Platform** is being considered.
High Level Conference of the European Innovation Partnership (EIP) on Raw Materials

9-10 December 2015, Brussels

Focus on:

• EIT Raw Materials
• EIP on Raw Materials
• Raw Materials in Horizon 2020
International Conference
"Exchange of good practices on metal by-products recovery – technology and policy challenges"

Brussels (Belgium), 12-13 November 2015
Rationale of the Conference

Major ("base", "carrier", "attractor"...) metals:
Copper, Nickel, Zinc, Lead, Aluminium...

By-product ("accompanying", minor, "companion"...) metals:
Selenium, Tellurium, Molybdenum, Rhenium, Gallium, Indium, Germanium, PGM, REE.....

*Most of them are critical and/or key for high-tech sectors!

Goal: enhance the recovery of metal by-products

Challenges: technological, insufficient knowledge base, opaque markets, regulatory, ... Solutions?
The Conference

- **20 presentations:**
  - From Industry, Academia, Research, Consulting
  - From EU, Australia, Canada, Chile, Japan, Norway, South Africa, USA

- **21 Posters**

- **Approx. 175 registered participants**

- **Funded by the Partnership Instrument**
General objectives

→ PI is a Key **external policy tool**, responding directly to the High Representative for Foreign Policy / Vice President of the EU Commission;

→ **PI translates political commitments into concrete measures.** It promotes cooperation between EU and its partners to **advance on mutual interests and tackle global challenges**

→ The PI is one of the funding instruments that enable the EU to take part in **shaping global change and promote its core values**
Specific Objectives

1. Addressing **major global challenges and policy support**

2. Implementing the **international dimension of the Europe 2020 Strategy** (green growth, research and innovation, sustainability)

3. Improving **market access & developing trade & business opportunities** for companies through economic partnerships and business and regulatory cooperation

4. Enhancing widespread **understanding and visibility of the Union** on the world scenes by means of public diplomacy, education/academic cooperation & outreach activities
Projects funded by PI related to RMI

- Seminar in Brussels: exchange of good practices on **metal by-products recovery** – technology and policy challenges

- EU-Canada **minerals investment facility** – study

More information on the PI:

http://ec.europa.eu/dgs/fpi/what-we-do/partnership_instrument_en.htm
12 November 2015

09:30 – 10:00 Opening session

10:00 – 11:10 Enhanced recovery of metal by-products: Current challenges and future trends
11:30 – 12:40 Metal by-products: A focus on market and applications

13:50 – 15:40 Technology challenges and solutions for the enhanced recovery of metal by-products in various non-ferrous metals
16:00 – 17:30 Enhanced recovery of metal by-products: A focus on copper value chain

17:30 - 19:00 Poster session and cocktail reception
13 November 2015

09:30 – 11:20 Enhanced recovery of metal by-products from secondary raw materials

11:40 – 13:00 Session on Horizon 2020 Programme

14:00 – 15:20 Round Table: Technology and Policy Challenges

15:20 – 15:30 Event Closure
Thanks!
We hope you enjoy the conference!