#EmbracingCircularity: A pathway for strengthening the Critical Raw Materials Act

European Parliament and GoToWebinar,
Brussels, Monday 17 July 2023,
9:30-11:30 CEST

Materials & Products Taskforce

UNIVERSITY OF CAMBRIDGE
INSTITUTE FOR SUSTAINABILITY LEADERSHIP

CLG Europe

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Welcome & Introduction to Speakers

Martin Porter

Executive Chair, CISL Brussels

#EmbracingCircularity

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Agenda

09:30-09:35	**Opening Remarks and Scene Setting**	***Martin Porter**, Executive Chair, CISL Brussels*
09:35-09:45	**Introduction**	***Sara Matthieu MEP**, Shadow Rapporteur for CRMA, Greens/EFA*
09:45-10:10	**Outline of the Report & Q&A**	***Michael Ritthoff**, Senior Researcher, Wuppertal Institut*
10:10-10:35	**Policymaker panel - Views from the European Parliament, Member States and the European Commission**	***Sirpa Pietikäinen MEP**, EPP (via GTW)* ***George Morsdorf**, DG GROW European Commission* ***Rafael Jaimes Contreras**, Industry & Society 5.0 Business Developer International Affairs at Walloon Agency for Export.* ***Sara Matthieu MEP**, Shadow Rapporteur for CRMA, Greens/EFA*
10:35-10:50	**Questions following policymaker panel**	*Questions to be taken from the audience and online attendees*
10:50-11:05	**Business panel – views from businesses**	***Céline Domecq**, Director Public Affairs EU, Volvo Cars* ***Helge Haakon Refsum**, Director, Business Development at Hydro Batteries and Board Member of Vianode*
11:05-11:10	**Voice from an external perspective**	***Olivia Lazard**, Fellow, Carnegie Europe*
11:10-11:25	**Questions following business panel**	*Questions to be taken from the audience and online attendees*
11:25-11:30	**Closing Remarks**	***Martin Porter***
11:30	**Event closes**	

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CLG Europe's Materials and Products Taskforce

The Taskforce for Climate Neutral and Circular Materials and Products was launched by CLG Europe in November 2021 at COP26, with the aim of driving forward policy action on sustainable materials by bringing together a group of progressive businesses across sectors and value chains.

The group brings together companies that are **actively committed to producing and using climate neutral and sustainable materials**, and who want to work together **to promote and support EU-wide measures to decarbonise material production and use**.

amazon

Ball

CEMEX

Hydro

Interface

Microsoft

ROCKWOOL

signify

SAINT-GOBAIN

Unilever

Introduction

Sara Matthieu MEP

Shadow Rapporteur for CRMA,
Greens/EFA

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Outline of the Report & Q&A

Michael Ritthoff

Senior Researcher, Wuppertal Institut

Overview

The report aims to:

- **Improve understanding about current and future demand** for critical raw materials (CRMs) and strategic raw materials in Europe.
- **Improve understanding about key barriers** to greater circularity concerning CRMs.
- **Demonstrate what policies and investments are required** to make a more circular approach work in practice.

Therefore, the report:

- **Addresses opportunities and challenges** in regard to CRMs and the goals of the Critical Raw Materials Act (CRMA).
- **Points out solutions and recommendations** to reach the set benchmarks.
- **Uses three examples of CRMs**:
  - Bauxite/aluminium and magnesium
  - Rare earth elements
  - Lithium

Reasons for activities on CRMs

- **Raw materials are essential for the EU economy** as a whole and especially for the **green transition.**
- Their availability is **increasingly under pressure.**
- Commodity markets have been **very volatile**.
- **Global supply and demand patterns have changed**, due to emerging markets and new technologies.
- The challenges related to commodities are interlinked and affect policies in the areas of **financial markets, development, trade, industry and foreign affairs.**
- **Various political instruments are needed** in order to address these challenges.
- **Within the framework of the EU Raw Materials Initiative**, it was decided to identify a list of critical raw materials at EU level as one relevant instrument.

5th EU list of CRMs from 2023

Antimony	Cobalt	Hafnium	Natural graphite	Silicon metal
Arsenic	Coking coal	Heavy rare earth elements	Nickel	Strontium
Baryte	Copper	Helium	Niobium	Tantalum
Bauxite	Feldspar	Light rare earth elements	Phosphate rock	Titanium metal
Beryllium	Fluorspar	Lithium	Phosphorus	Tungsten
Bismuth	Gallium	Magnesium & magnesium metal	Platinum group metals	Vanadium
Boron	Germanium	Manganese	Scandium	

EU policies and regulation

- The EU has **specific CRM relevant strategies and legislation**:
  - EU CRM action plan (2020),
  - Conflicts Minerals Regulation (2021),
  - EU CRMA (2023) and EU CRM assessment lists (2011 - 2023)
- Furthermore, **a large number of other EU strategies have an impact on the green transformation**.
- Many of these strategies, especially for the circular economy, also have implications on the **demand for critical raw materials**.

Strategies outside the EU

- The security of supply of CRM is also an important issue **outside the EU.**
- **Similar strategies have been developed**:
  - US strategy on CRM,
  - UK's Critical Minerals Strategy,
  - Japanese strategy on CRM.
- **The strategies differ in detail** due to the different main industries, the countries' own raw materials and trade relations.

Key objectives of the Critical Raw Materials Act (CRMA)

The regulation sets clear benchmarks for domestic capacities along the strategic raw material supply chain and aims to diversify EU supply by 2030

At least 10% of the EU's annual consumption to be covered by domestic **extraction** capacity

At least 40% of the EU's annual consumption to be covered by domestic **processing** capacity

At least 15% of the EU's annual consumption to be covered by domestic **recycling** capacity

Not more than 65% of the EU's annual consumption of each strategic raw material at any relevant stage of processing to originate from a single third country

Build-up of raw material extraction capacities

- **Possibilities vary greatly for the different raw materials**:
  - **Lithium** → Possible to a limited extent, the best deposits are outside the EU.
  - **REE** → Possible, REE are widespread and also available in the EU, but extraction is more expensive than from other sources and HREE are only contained to a small extent in EU deposits.
  - **Aluminium/Bauxite** → There are no relevant deposits in the EU.

Build-up of raw material processing capacities

- Challenges due to **high electricity prices**:
  - **Aluminium** → Processing exists, but currently cost problems.
- **More cost-intensive, environmental and labour standards in EU** than in other regions.
- **Higher transport costs** of usually larger quantities of raw materials compared with the smaller quantities of products.
- Nevertheless, **higher costs can lead to innovation of processes such as energy savings**.

Recycling

- CRMA sets a circular target of **15% recycled content by 2030**.
- For some raw materials this target has already been achieved:
  - **Bauxite/aluminium**,
  - Copper,
  - …
- For others it is unclear of how to achieve the goal:
  - **REE**,
  - **Lithium**,
  - …

Diversification of supply

- **Often possible and sometimes practiced**:
  - Possible for **REE** and **lithium.**
  - Practiced in the case of **aluminium**.
- Depends on **existing deposits**.
- Risks of **higher costs** and the **displacement of environmental and social impacts**.

Interim conclusions

- For the different strategies, there are **different ways of implementation depending on the raw material.**
- **Some targets** have already been achieved, some are **achievable** and some targets are **difficult to achieve**.
- Circular economy (CE) practices provide **an important and alternative opportunity** for more independence and to secure supply.
- **The CRMA** is a positive step towards more circularity but lacks a roadmap on how to achieve the target.

Business perspectives and views

- In a workshop and several interviews we discussed of opportunities and challenges when implementing circular economy practices with **company representatives** from:
  - **CLG Europe's Taskforce** for climate neutral and circular materials and products and
  - other identified **business stakeholders** along the value chains of aluminium, REE and lithium.
- The report features **several case studies from industries concerning CE practices in CRM use**.

Benefits and opportunities of CE practices

Benefits:

Opportunities:

- ✓ **Aluminium** → avoid alloy mixes to enable higher recycling quality
- ✓ **REE** → reduction of the quantities used, lifetime expansion, usage of waste streams
- ✓ **Lithium** → substitution, lifetime expansion, recycling

Regulatory barriers for implementing CE practices

- **Waste leakage to outside the EU.**
- **Lack of policy signals** to shift preference from virgin to recycled materials.
- **Policy misalignment**.

Technical challenges and limits of recycling

- **Dynamically changing material composition**.
- **Strongly increasing use of substances**.
- **Need for** an effective collection of separate, clean waste streams and a more local recycling infrastructure.
  - **Aluminium** → Material uniformity.
  - **Lithium** → Wide range of inputs.
  - **REE** → Very demanding and costly separation process.

Challenges for business adoption

- Change in **business models**.
- Having a clear **business case**.
- **Economic viability**.
- **Volume requirements** to be competitive.
- Lack of **value chain collaboration** and lack of **information**.
- Protection of **business knowledge**.
- **Logistical** challenges.

Conclusions and recommendations 1/2

Implement a more comprehensive circular approach within the CRMA, rather than focusing only on recycling.

Set a flexible approach towards circularity within the CRMA that recognises the need for a case-by-case approach.

Deploy forward-looking infrastructure to enable a systems-wide circular economy.

Conclusions and recommendations 2/2

Set a clear overall vision on a European Industrial Strategy that combines circularity, carbon neutrality and further sustainability aspects.

Create more environmentally and socially sustainable supply chains by diversifying supply chains and promoting responsible mining practices.

Implement financial incentives and support schemes to ensure faster the commercial viability of a shift towards green technologies.

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Policymaker panel

Sirpa Pietikäinen MEP

George Morsdorf, European Commission

Rafaël Jaimes Contreras, Walloon Govt

Sara Matthieu MEP

Materials & Products Taskforce

Sirpa Pietikäinen MEP

EPP

via GTW

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Rafaël Jaimes Contreras

Industry & Society 5.0 Business Developer
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Shadow Rapporteur for CRMA,
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Business panel

Céline Domecq, Volvo Cars

Helge Haakon Refsum, Hydro Batteries & Board Member of Vianode

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Voice from an external perspective

Olivia Lazard,
Fellow,
Carnegie Europe

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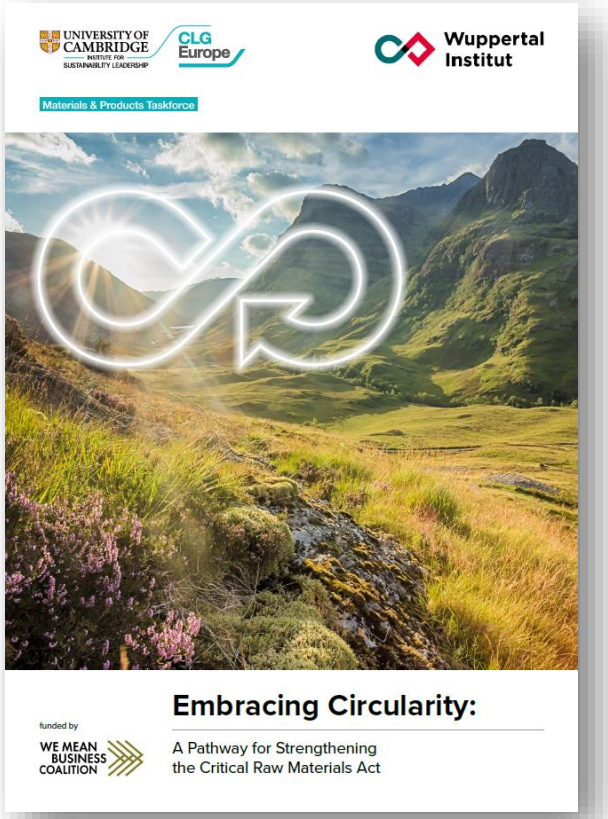
Closing Remarks

Martin Porter

Executive Chair, CISL Brussels

Thank you for joining, scan the QR code to read the report!



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