



Critical Raw Materials Resilience: Charting a path towards greater security and sustainability- Increased circularity and efficient use of resources



*Mineral Recycling Forum 2021
9 February 2021*

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TODAY: Presentation of the CRM Action Plan with special regard to circular use of raw materials

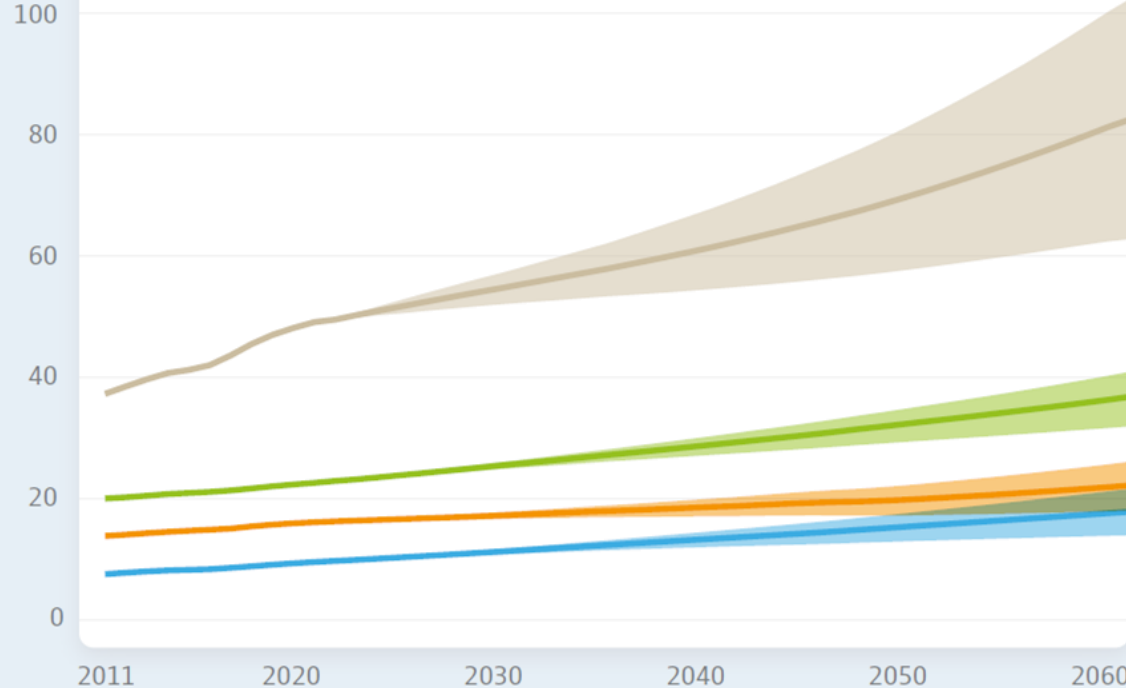
The policy landscape



- Biomass
- Fossil fuels
- Metals
- Non-metallic minerals

Gigatonnes

Source: OECD, Global Material Resources Outlook to 2060, 2019.



Paris Agreement

EU Green Deal (December 2019)
and Circular Economy Action Plan (March 2020)

EU new Industrial Strategy for Europe (March 2020)

European recovery plan (May 2020)

Critical Raw Materials communication (September 2020):

- Action Plan on Critical Raw Materials
- 2020 List of Critical Raw Materials
- European Raw Materials Alliance (ERMA)

COM (2020) 474

The 2020 list of critical raw materials identifies 30 raw materials as critical



Brussels, 3.9.2020
COM(2020) 474 final

2020 Critical Raw Materials (new as compared to 2017 in bold)

Antimony	Hafnium	Phosphorus
Baryte	Heavy Rare Earth Elements	Scandium
Beryllium	Light Rare Earth Elements	Silicon metal
Bismuth	Indium	Tantalum
Borate	Magnesium	Tungsten
Cobalt	Natural Graphite	Vanadium
Coking Coal	Natural Rubber	Bauxite
Fluorspar	Niobium	Lithium
Gallium	Platinum Group Metals	Titanium
Germanium	Phosphate rock	Strontium

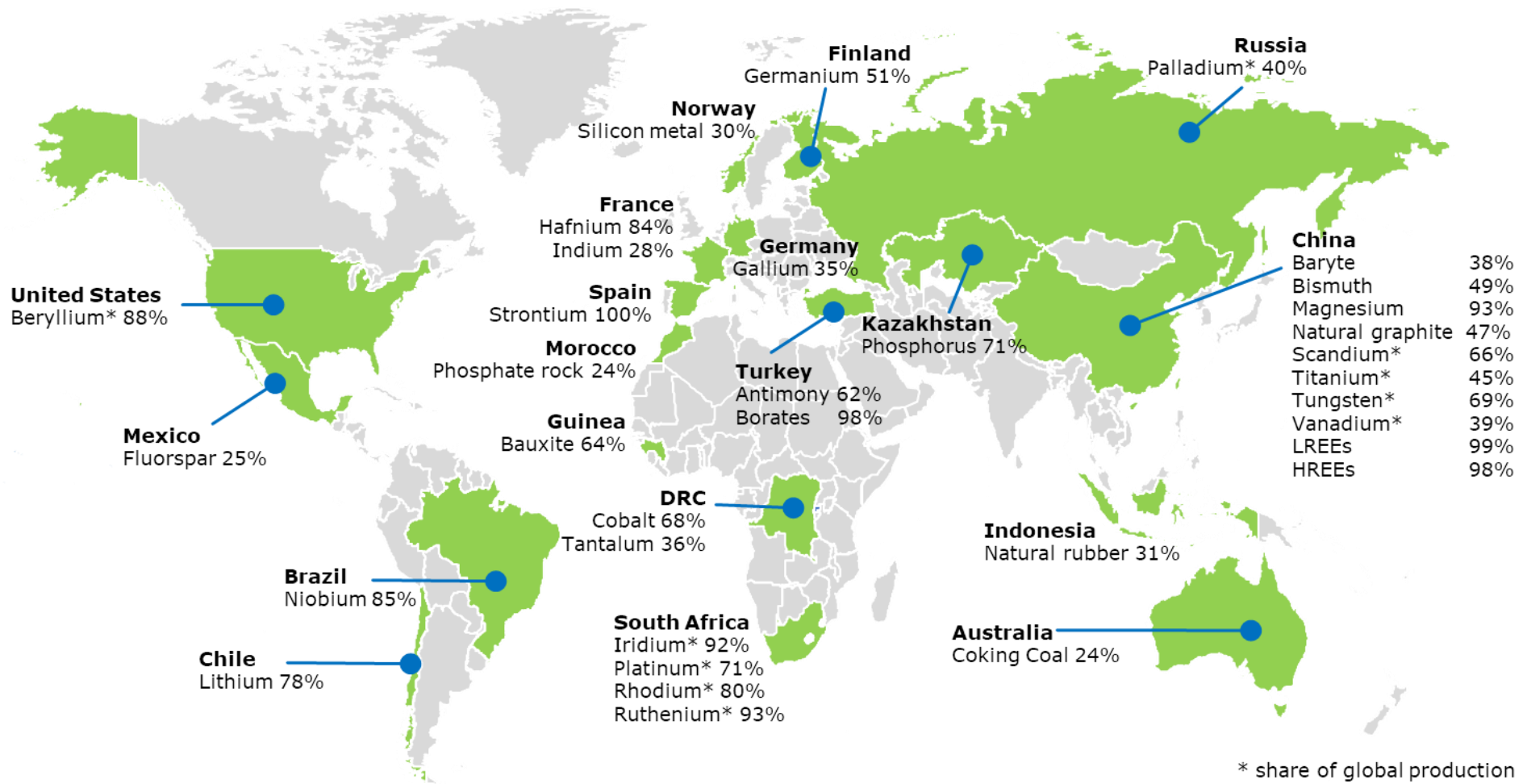
COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS



Critical raw materials are used throughout Europe's ecosystems ...

	Aerospace/ defence	Textiles	Electronics	Mobility/ Automotive	Energy- intensive industries	Renewable energy	Agri- food	Health	Digital	Construction
Antimony	✓	✓		✓						✓
Baryte				✓				✓		✓
Bauxite	✓	✓	✓	✓		✓	✓	✓	✓	✓
Beryllium	✓		✓	✓		✓			✓	
Bismuth	✓		✓		✓			✓	✓	✓
Borate	✓		✓	✓	✓	✓	✓		✓	✓
Cobalt	✓	✓	✓	✓	✓	✓			✓	
Coking coal				✓	✓	✓				
Fluorspar							✓			
Gallium	✓		✓	✓		✓			✓	✓
Germanium	✓		✓		✓	✓				
Hafnium	✓		✓		✓	✓			✓	
Indium	✓		✓		✓	✓			✓	
Lithium			✓	✓	✓	✓		✓	✓	
Magnesium	✓		✓	✓					✓	✓
Natural graphite	✓		✓	✓	✓	✓			✓	✓
Natural Rubber	✓	✓		✓				✓		
Niobium	✓		✓	✓	✓			✓		✓
Phosphate rock					✓		✓			
Phosphorus	✓				✓		✓			
Scandium	✓					✓				
Silicon metal	✓	✓	✓	✓	✓	✓		✓		✓
Strontium	✓		✓		✓			✓		✓
Tantalum	✓		✓		✓	✓			✓	
Titanium	✓		✓	✓	✓			✓		✓
Tungsten	✓		✓	✓	✓			✓		
Vanadium	✓			✓	✓	✓		✓		✓
PGM	✓		✓	✓	✓	✓		✓		
HREE	✓		✓	✓	✓	✓		✓		✓
LREE	✓		✓	✓	✓	✓		✓		✓

Where EU sources from?



* share of global production

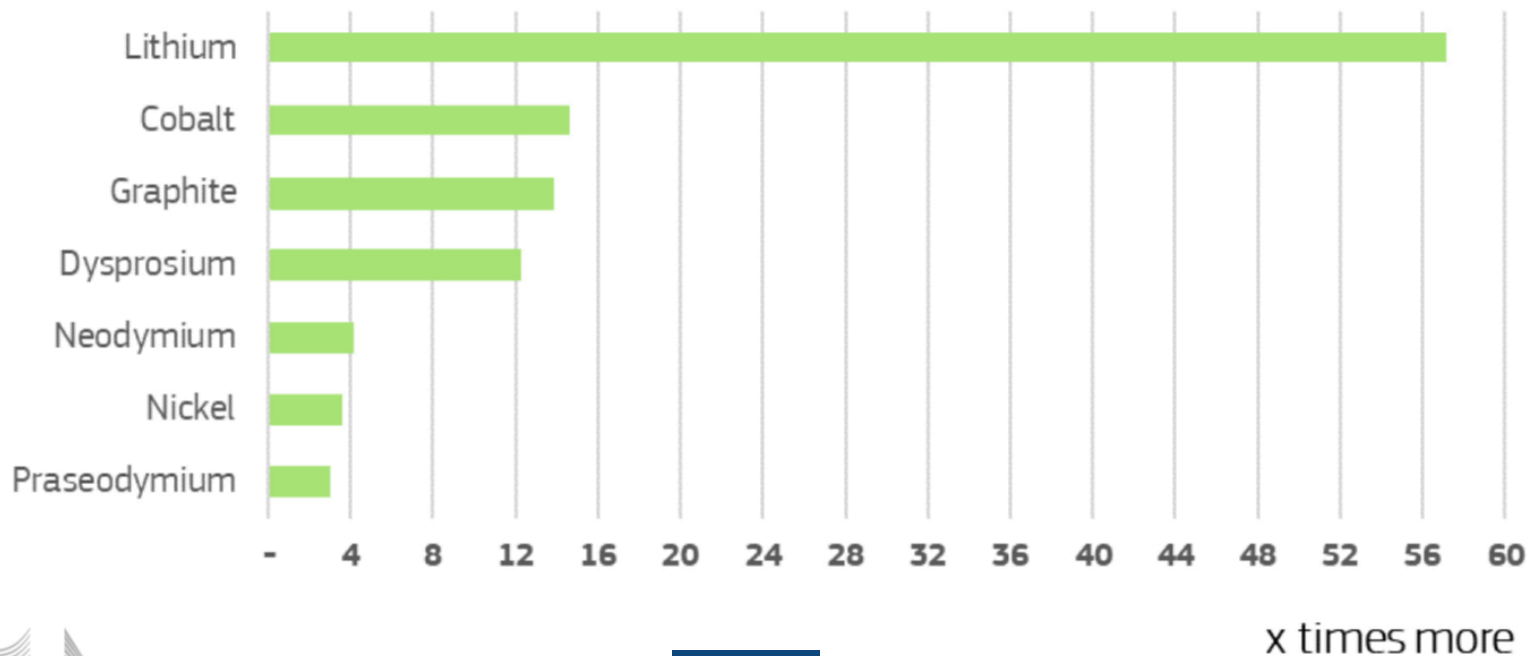
Shown here is the share of supply to the EU
 Source: JRC (2020): Study on the EU's list of critical raw materials

How much will we need for green transition?



The green and digital transitions will lead to a drastic increase in European demand for certain critical raw materials by 2050

Additional material consumption for batteries, fuel cells, wind turbines and photovoltaics in **2050** compared to current EU consumption of the material in **all** applications



Action Plan on Critical Raw Materials



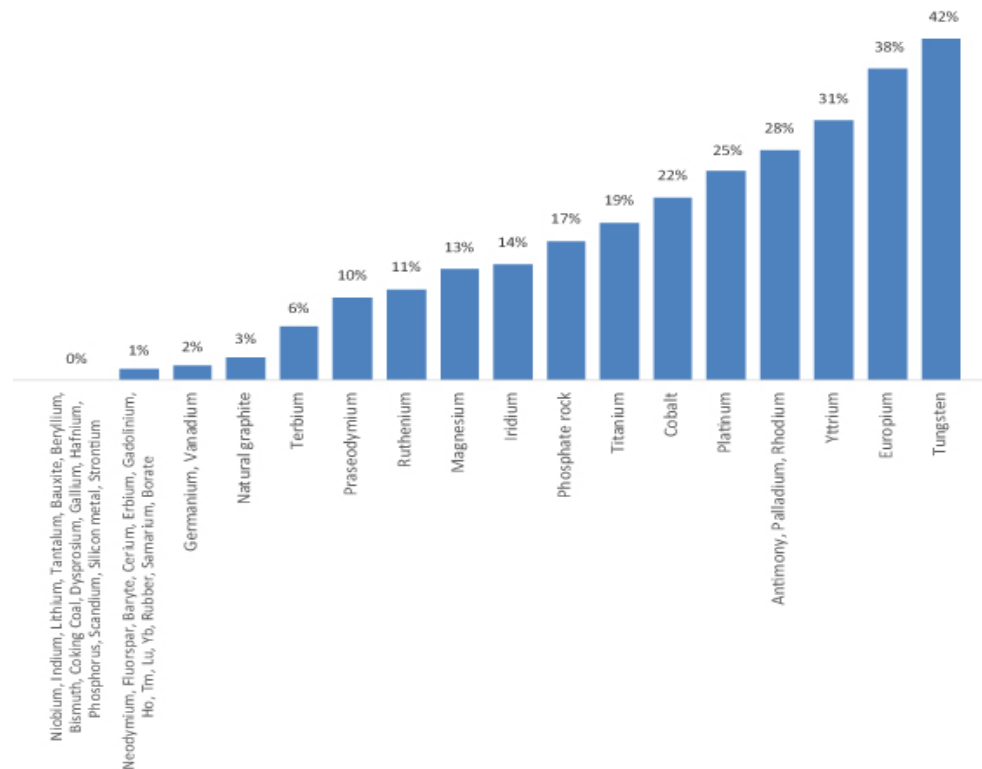


- 1. European Raw Materials Alliance**
2. Develop sustainable financing criteria for mining
- 3. Research and innovation on waste processing, advanced materials and substitution**
- 4. Map the potential supply of secondary CRM from EU stocks and wastes**
5. Investment needs for mining projects that can be operational in 2025
6. Develop expertise and skills in mining
7. Deploy Earth observation programmes for exploration, operation and post-closure environmental management
8. Develop research and innovation projects on exploitation and processing of CRMs
9. Develop strategic international partnerships to secure CRMs supply
10. Promote responsible mining practices for CRMs

Circular use of resources, sustainable products and innovation

3. Map the potential supply of **secondary critical raw materials** from **EU stocks and waste** and identify **viable recovery projects**

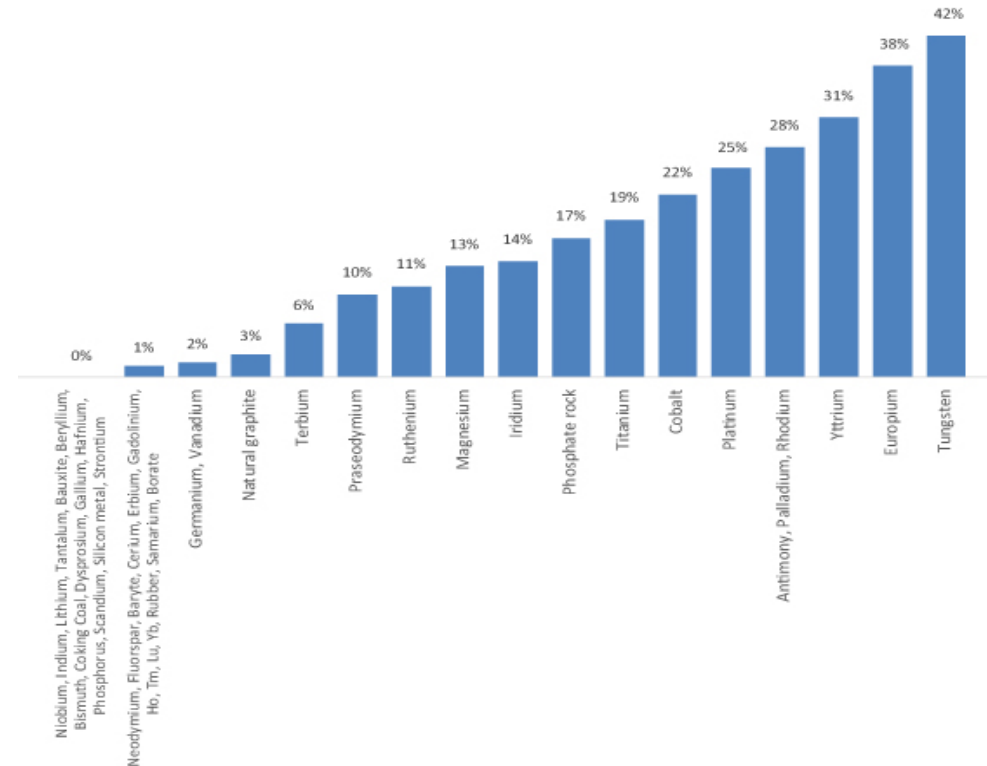
- 50% of some metals such as iron, zinc, or platinum are recycled and they cover more than 25% of the EU's consumption
- **Secondary production of most of the CRMs (rare earths, gallium, or indium) makes only a marginal contribution.**
- EU and MS collaboration to build **secondary raw materials intelligence**



Circular use of resources, sustainable products and innovation

4. Map the potential supply of **secondary critical raw materials** from EU stocks and waste and identify viable recovery projects

- By 2022
- How? EU via HE, internal work





Resilient value chains for EU industrial ecosystems

1. Launch a **European Raw Materials Alliance**, initially to build resilience and open strategic autonomy for the rare earths and magnets value chain, before extending to other critical raw material and base metal needs over time erma.eu
 - Actors: EIT RawMaterials, EIP on Raw Materials, Industry, Commission, investors, European Investment Bank, civil society, unions, Member States, regions
 - Launched on 29 September 2020, more than 200 partners from 30 countries already joined
 - Application to join open:
<https://erma.eu/about-us/join-erma/>

EUROPEAN
RAW MATERIALS
ALLIANCE | ERMA

CRM Action Plan –circularity in critical raw materials:

- We all need to do (even) more...
- Hope that others can learn from our experiences...
- Not a European Commission solo task- need to work in partnership...

Thank you for your attention!

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