A reliable, secure, and sustainable access to raw materials is a precondition for Europe’s Green Deal and for industrial leadership of Europe in the technologies of the future.

The Action Plan on Critical Raw Materials outlines the challenges lying ahead and provides ten actions to foster transition towards a green and digital economy and, at the same time, bolster Europe’s resilience and open strategic autonomy.

Excessive dependence on single supplier countries makes Europe vulnerable
Clean and digital technologies are heavily dependent on critical raw materials.

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:

- Lithium
- Cobalt
- Graphite
- Dysprosium
- Neodymium
- Nickel
- Praseodymium

x times more
Mining and processing of critical raw materials could present an opportunity for coal regions in transition

What can we do more?

Ten actions to make Europe’s raw materials supply more secure and sustainable

1. Launch an industry-driven European Raw Materials Alliance
2. Develop sustainable financing criteria for the mining and extractive sectors
3. Launch research and innovation on waste processing, advanced materials and substitution of critical raw materials
4. Map the potential supply of secondary critical raw materials in Europe and identify viable recovery projects
5. Identify priority mining and processing projects for critical raw materials in the EU

BATTERY RAW MATERIALS (2017/2018)
- Mines
  - Graphite
  - Lithium
  - Nickel
  - Cobalt (by-product of Ni/Cu)
- Status
  - Production
  - Preproduction
  - Feasibility

SMELTERS/REFINERIES
- Smelter/refinery

BATTERY FACTORIES (2019)
- Existing (in coal region)
- Future

COAL MINES (2015)
- Operating mine
- Direct jobs in coal mines
  - 80 000
  - 10 001 - 15 000
  - 6 001 - 10 000
  - 1 500 - 6 000
  - ≤ 1 500
  - NA
Launch an industry-driven European Raw Materials Alliance

Develop sustainable financing criteria for the mining and extractive sectors

Launch research and innovation on waste processing, advanced materials and substitution of critical raw materials

Map the potential supply of secondary critical raw materials in Europe and identify viable recovery projects

Identify priority mining and processing projects for critical raw materials in the EU

Develop expertise and skills in mining, extraction and processing in regions in transition

Deploy Earth-observation programs and remote sensing for resource exploration, operations and post-closure environmental management

Develop research and innovation projects to reduce environmental impacts of raw materials extraction and processing

Develop strategic international partnerships to secure a diversified supply of sustainable critical raw materials, starting with pilot partnerships with Canada, interested countries in Africa and the EU’s neighbourhood in 2021

Promote responsible mining practices for critical raw materials

The European Raw Materials Alliance - Building a raw materials value chain in Europe

The European Raw Materials Alliance will work on diversifying supply and achieving open strategic autonomy in the rare earths and magnets value chain.

At a later stage, it could expand to other critical raw material and base metal needs.

The alliance will involve all relevant stakeholders, including industrial actors along the value chain, Member States and regions, trade unions, civil society, research and technology organisations, investors and NGOs.

Its task will be to identify barriers, opportunities and investment cases to build capacities at all stages of the raw materials value chain, from mining to waste recovery.