



V CONGRESO NACIONAL DE GESTIÓN DE RESIDUOS
DE APARATOS ELÉCTRICOS Y ELECTRÓNICOS

V CONGRÉS NACIONAL DE GESTIÓ DE RESIDUS
D'APARELLS ELÈCTRICS I ELECTRÒNICS

Opportunities for the WEEE supply chain within the Critical Raw Materials Act

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The European House - Ambrosetti: overview

- **International management Group established in 1965**, with headquarters in Italy and a network of foreign offices around the world
- Awarded as **No. 1 Think Tank in Italy, No. 4 in the European Union and among the most respected globally**, by the "Global Go To Think Tanks Report" survey of the University of Pennsylvania **since 2013**
- Awarded as **Top Employer 2023** in Italy for the **3rd consecutive year**
- The European House - Ambrosetti provides:
 - **Strategic and managerial consulting services**
 - **Creation of strategic scenarios** and policy-making and advocacy activities (over 250 a year)
 - **Development programs** for Countries and regional governments (over 60 initiatives in the last 3 years)
 - **Political and entrepreneurial leadership forums** (over 550 events a year involving over 3,000 experts and top policy-makers along with 17.000 business leaders from around the globe)



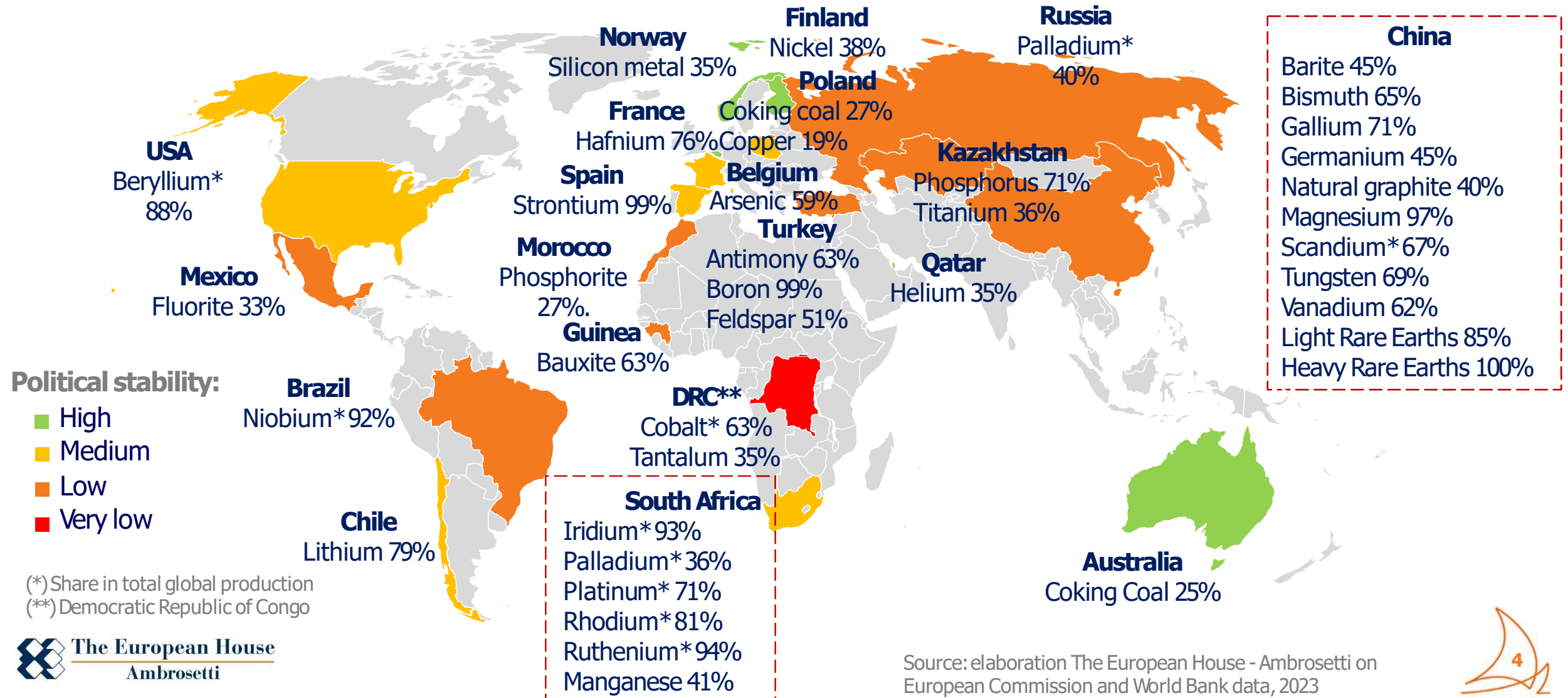
CRITICAL RAW MATERIALS ARE A VITAL ISSUE FOR THE EU

For **one third** of the Critical Raw Materials surveyed, the EU is **totally dependent** (100%) on imports from third Countries

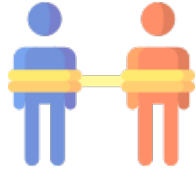
Dependence, combined with the **growing demand** and **relevance** of Critical Raw Materials for the manufacturing sector (they contribute to **23% of European GDP**), makes **value chains vulnerable**

The EU today is strongly dependent on imports of Critical Raw Materials

Main Countries for Critical Raw Materials Supply in the EU, 2023



The EU imports from third Countries up to 100% of Critical Raw Materials, which together contribute 23% of GDP



The European Union is **>80%** dependent on third Countries in **19 out of 34 Critical Raw Materials**

100% import-dependent for 11 Critical Raw Materials



At European level, Critical Raw Materials contribute to the generation of about **3.3 trillion Euros**

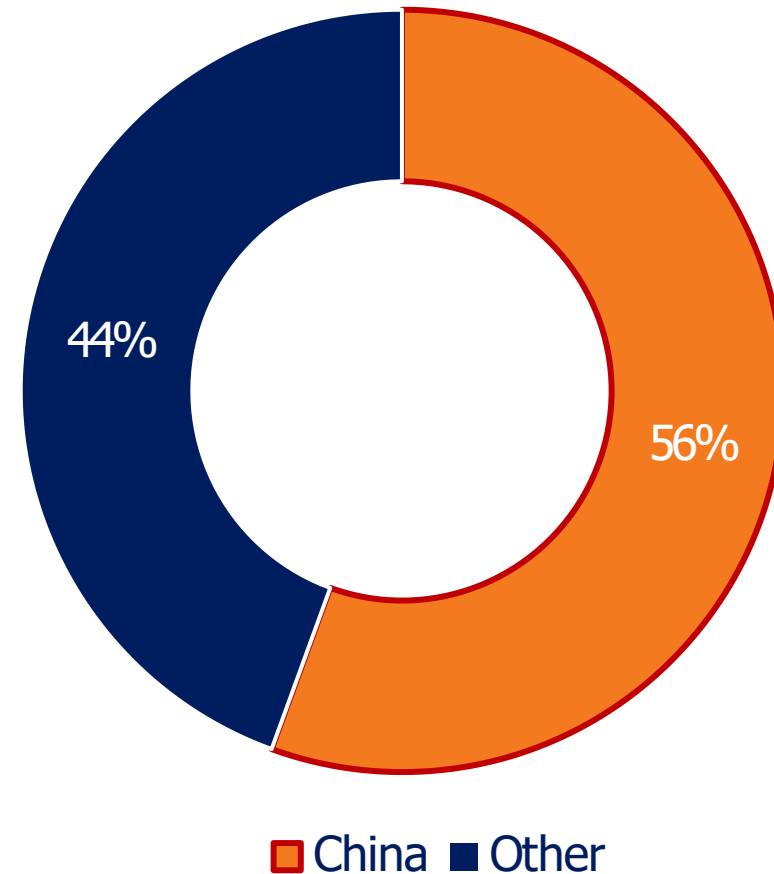
23% of European GDP

IN PARTICULAR: China is the EU's 1st supplier for 56% of Critical Raw Materials



Among the various Critical Raw Materials, **China** supplies the EU with 97% of **Magnesium**, 85% of **Light Rare Earths** and 100% of **Heavy Rare Earths**

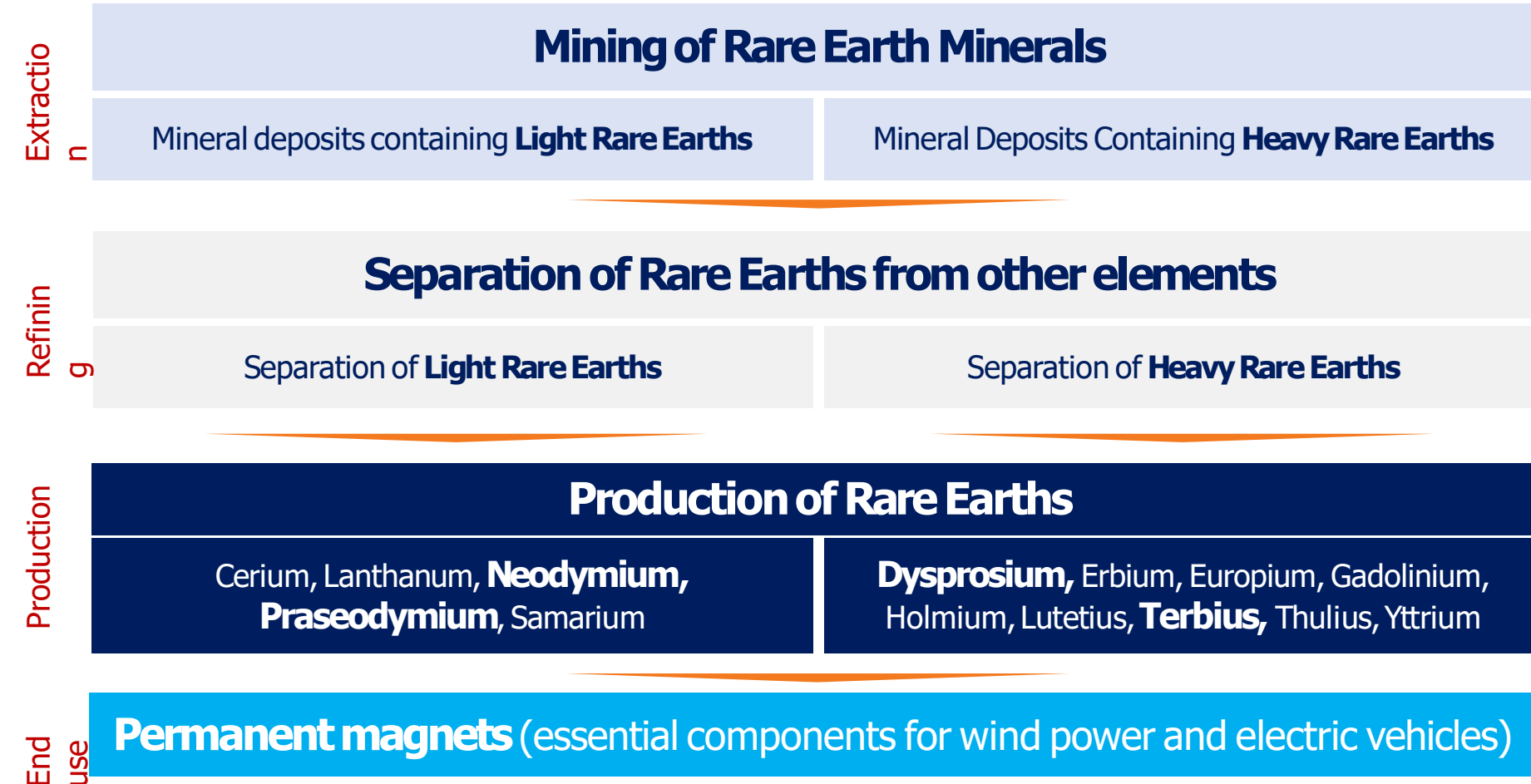
Main Countries Supplying Critical Raw Materials to the European Union (% values), 2023



Chinese leadership extends along the entire value chain: the example of neodymium (Rare Earth) within permanent magnets

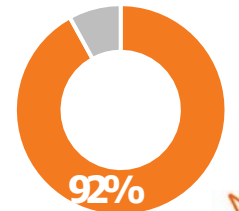
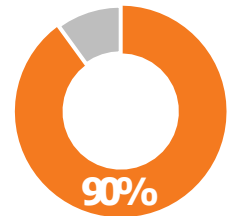
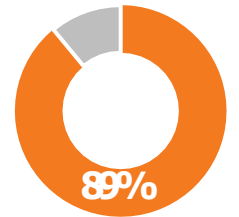
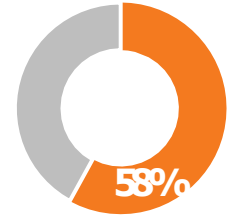


The value chain of Neodymium permanent magnets (illustrative)



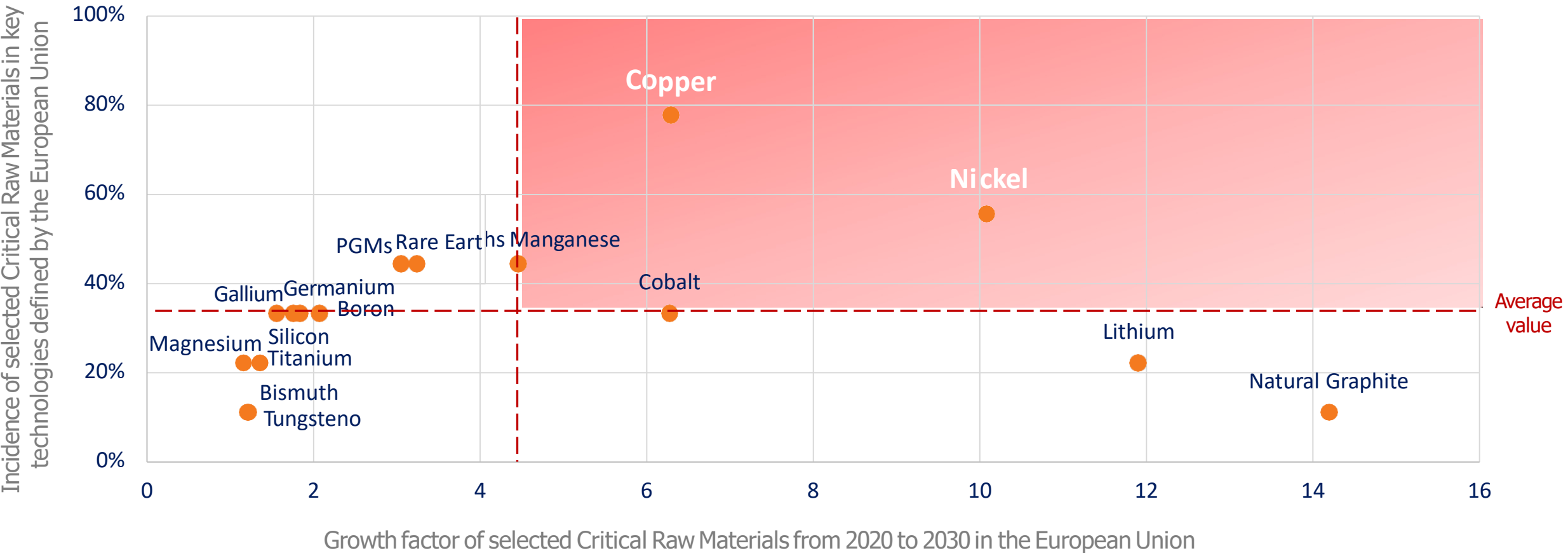
From resource to end

Market share China
(% values)



Dependence, coupled with the growing demand and relevance of Critical Raw Materials in key technologies, makes value chains vulnerable

Incidence of selected Critical Raw Materials in key technologies* defined by the European Union (% values on total European key technologies) and growth factor from 2020 to 2030 in the European Union (absolute values), 2023



N.B. The average growth factor is 4.5. The average incidence of the selected Critical Raw Materials in the key technologies defined by the EU is 33%. (*) Key technologies considered: Lithium-ion batteries, electrolyzers, fuel cells, heat pumps, smartphones, tablets and computers, photovoltaics, traction motor, wind power.

Source: elaboration The European House - Ambrosetti on European Commission data, 2023

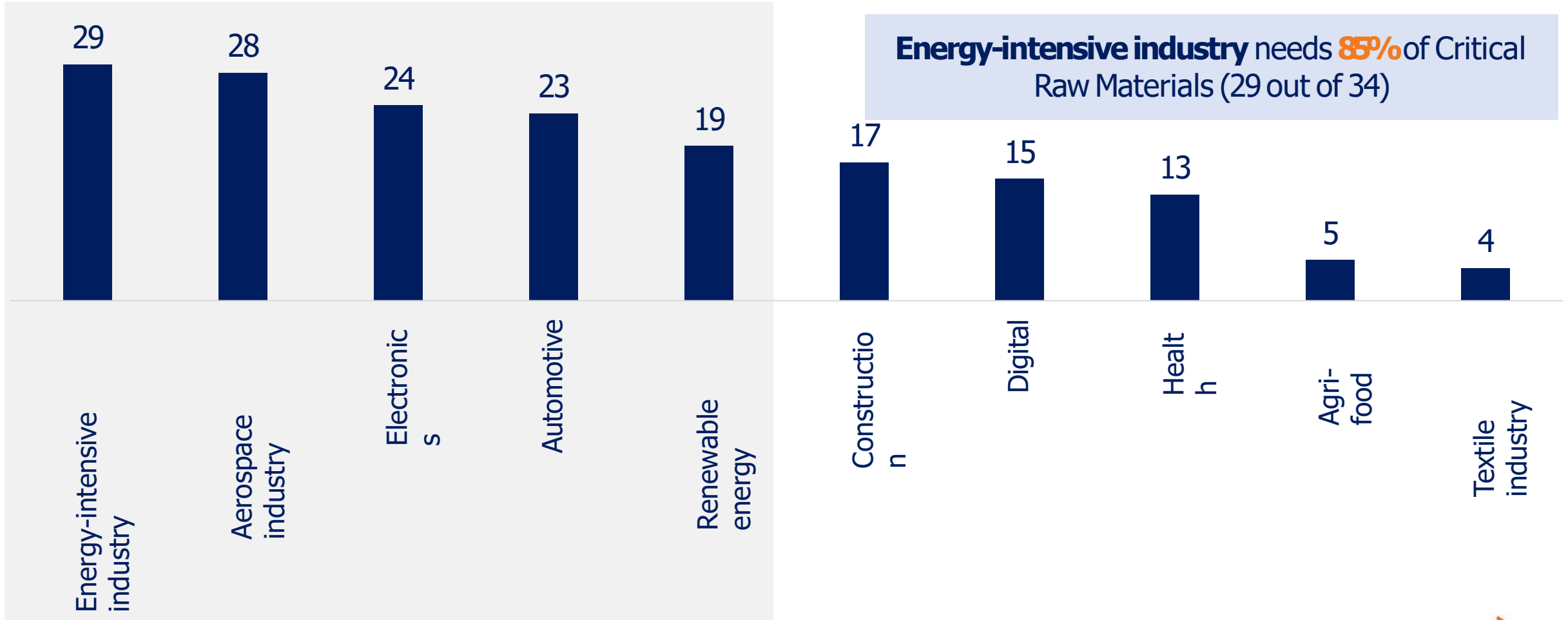
THE RELEVANCE OF CRMS : EVIDENCE FROM ITALY

CRMs are part of the Italian industrial production for **almost 700 billion Euro (+35% in the last 10 years, 1^o Country in the EU)**. Italy is also the **1^o Country in the EU-27 for incidence of Critical Raw Materials**, which are related to **38%** of Italian GDP

AND: meeting the **EU target on the WEEE collection rate** would allow the recovery of **17,000 tonnes of Critical Raw Materials (25% imported from China in 2021)**

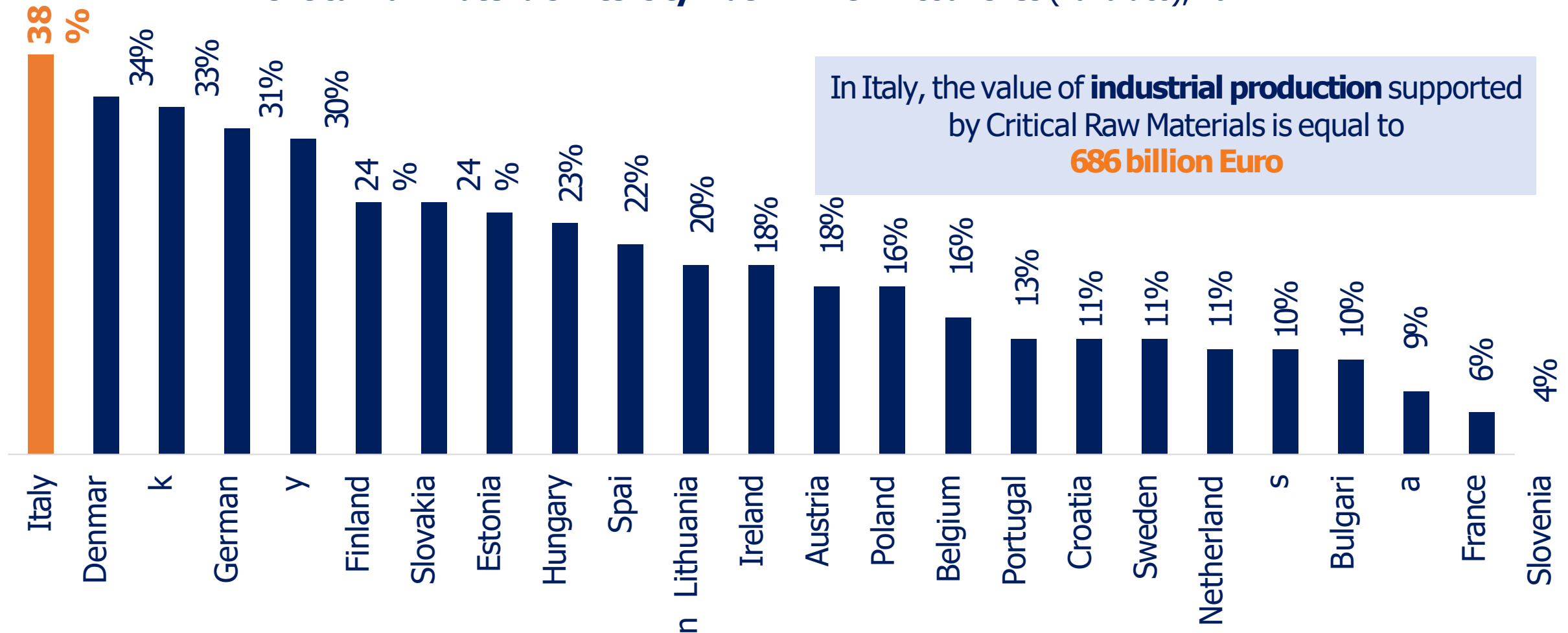
Critical Raw Materials are essential for multiple industrial ecosystems in Italy

Relevance of Critical Raw Materials for Industrial Ecosystems
(number of Critical Raw Materials involved in industrial processes), 2023



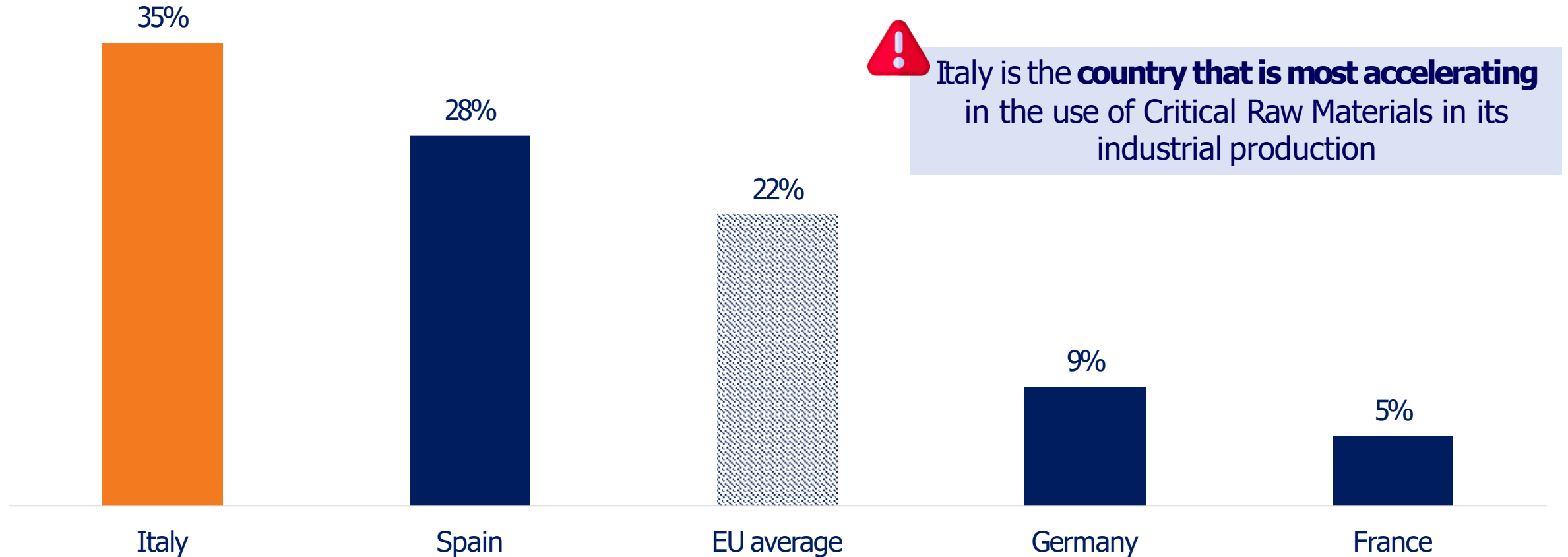
Italy ranks first in the EU-27 in terms of Critical Raw Materials' incidence, contributing to 38% of GDP

Critical Raw Materials Intensity Index* in EU-27 countries (% values), 2021



NOT ONLY: Italy is also the first Country for growth in industrial production supported by Critical Raw Materials (+35%)

Change in the value of industrial production supported by Critical Raw Materials
in selected European countries and EU-27 (% values), 2012-2021



IN PROSPECT: Critical Raw Materials are crucial for the energy transition on which Italy has ambitious targets



2019-2030 growth in Italy:



Incidence of Critical Raw Materials:



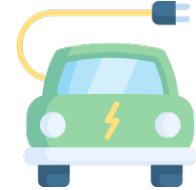
x4 times

x9 times
vs gas system



x3 times

x6 times
vs gas system



x17 times

x6 times
vs. traditional car

Italy allocates **€71.2bn** to **green transition in the PNRR**, the largest share of resources in the EU, as much as Spain (€27.6bn), France (€18.1bn) and Germany (€10.7bn) combined



The **waste associated with electronic products** is an «**urban mine**» that, while not substitute for mining, can make it possible to **reduce dependence on Critical Raw Materials**, while ensuring **environmental and social benefits**

Based on these considerations, The European House - Ambrosetti estimated the **activatable benefit from an increase in the WEEE collection rate**

Meeting the EU target on the collection rate would allow the recovery of 17 thousand tonnes of Critical Raw Materials (25% import from China in 2021)

1 EU target collection rate

Collection rate in **line with the target defined by the European Union**



65%
(vs **37%** Italy)



2 WEEE collected in Italy (domestic and professional)

As-is scenario in 2030:
518 thousand tonnes collected

vs.

To-be scenario in 2030:
830 thousand tonnes collected



Additional WEEE collected In 2030:
+312 thousand tonnes



3 Critical Raw Materials

Increased collection and subsequent recycling of WEEE would guarantee by 2030 a recovery of about **17 thousand tonnes of Critical Raw Materials**

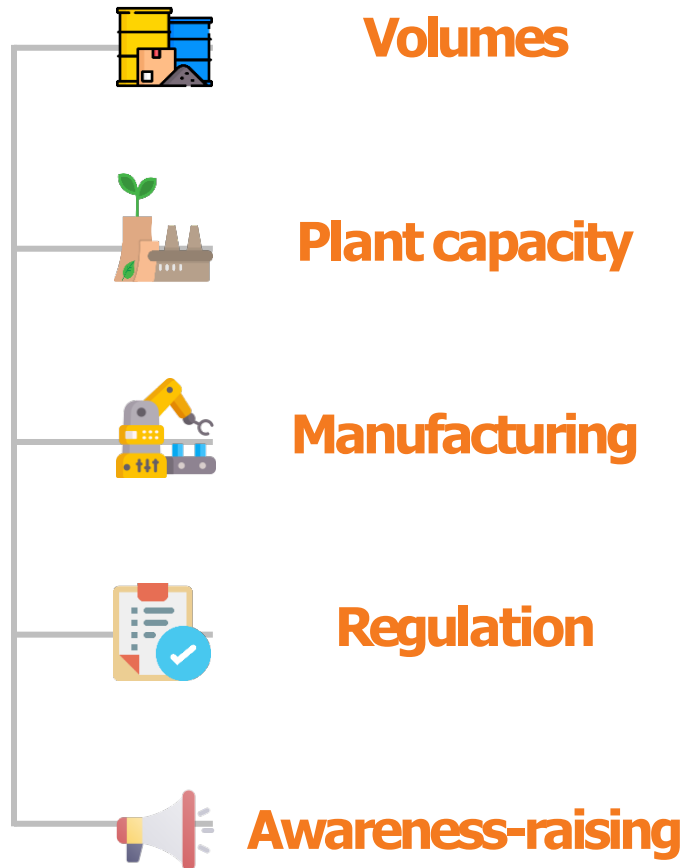


25% of those imported from China in 2021



For the collection and subsequent recycling of WEEE to become a full lever to reduce supply risks, it is necessary to act on 5 dimensions

Strategic vision on several levels:



Priorities for action:

- **Simplifications** for WEEE collection (**Household and Professional**)
- **Development of 'ecopoints'** for collection spread throughout the territory
- **Extending** the collection service in city centres, schools and businesses
- **Modernising** existing facilities, also by exploiting PNRR resources
- **Reducing regulatory uncertainty and** excessively long lead **times** for obtaining the necessary authorisations for new plants
- Creating the **necessary conditions** for manufacturing to be **stimulated by the use of secondary raw materials**
- **Apply clear and binding ESG criteria** to support the development of a **secondary raw materials market**
- **Simplification** and **digitalization** of registration in the National Register of Environmental Managers
- **Simplified authorisation procedures for treatment facilities** and **innovative collection methods** (e.g. home and office collections, professional WEEE collection schemes)
- Increase and enhance **communication campaigns** in traditional and social media
- Highlighting the **benefits of proper WEEE management**

Thank you for your attention

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*The European House - Ambrosetti was nominated in the category 'Best Private **Think Tanks**' - **1st Think Tank in Italy**, **4th in the European Union and among the world's most respected independents out of 11,175 globally in the latest edition of the "Global Go To Think Tanks Report"** by the University of Pennsylvania. The European House - Ambrosetti was recognised by Top Employers Institute as one of 141 Top Employer 2023 companies in Italy.*

