

Cu

International Copper
Association Europe

Copper circularity

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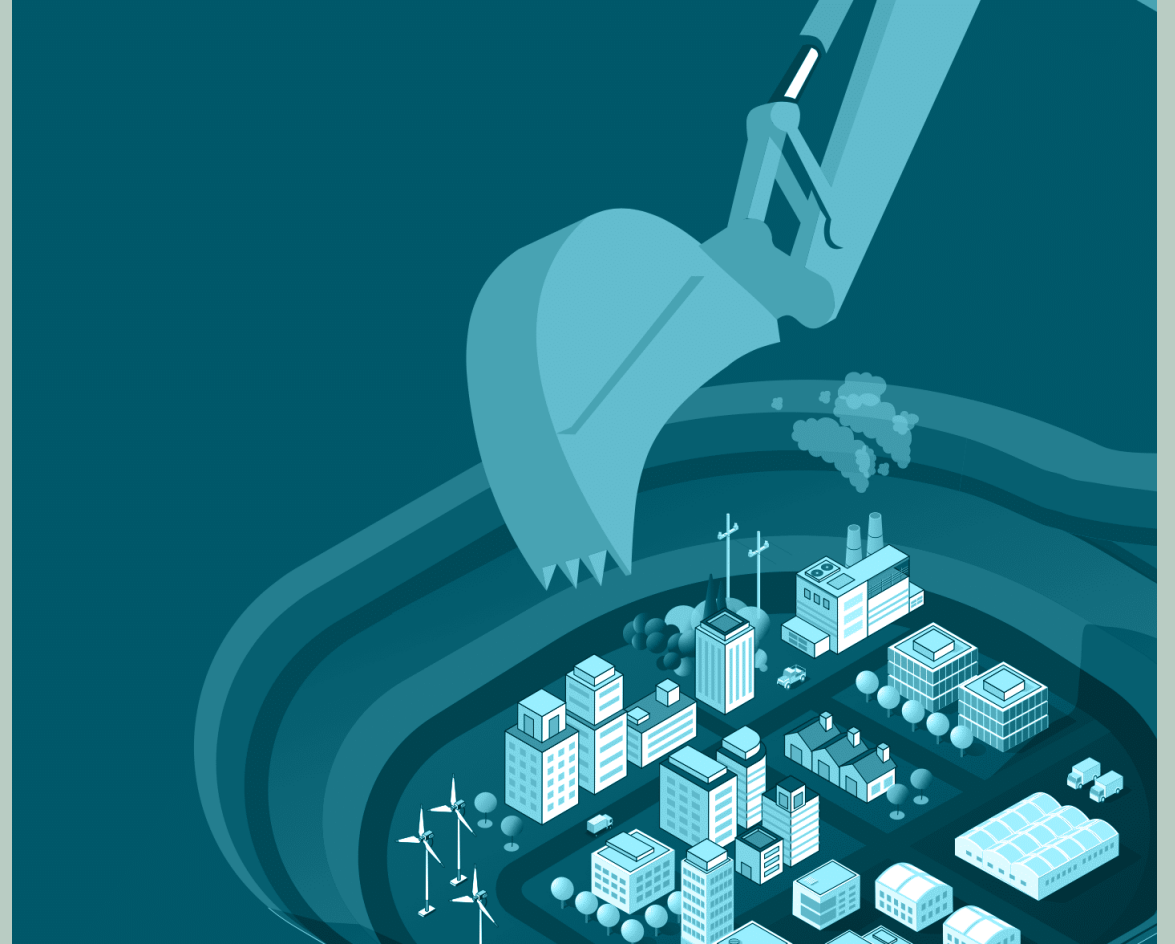
Circularity : our society holds a massive urban copper mine

2/3 of all copper produced since 1990 is still in use

It represents, on a global scale

470 Mt

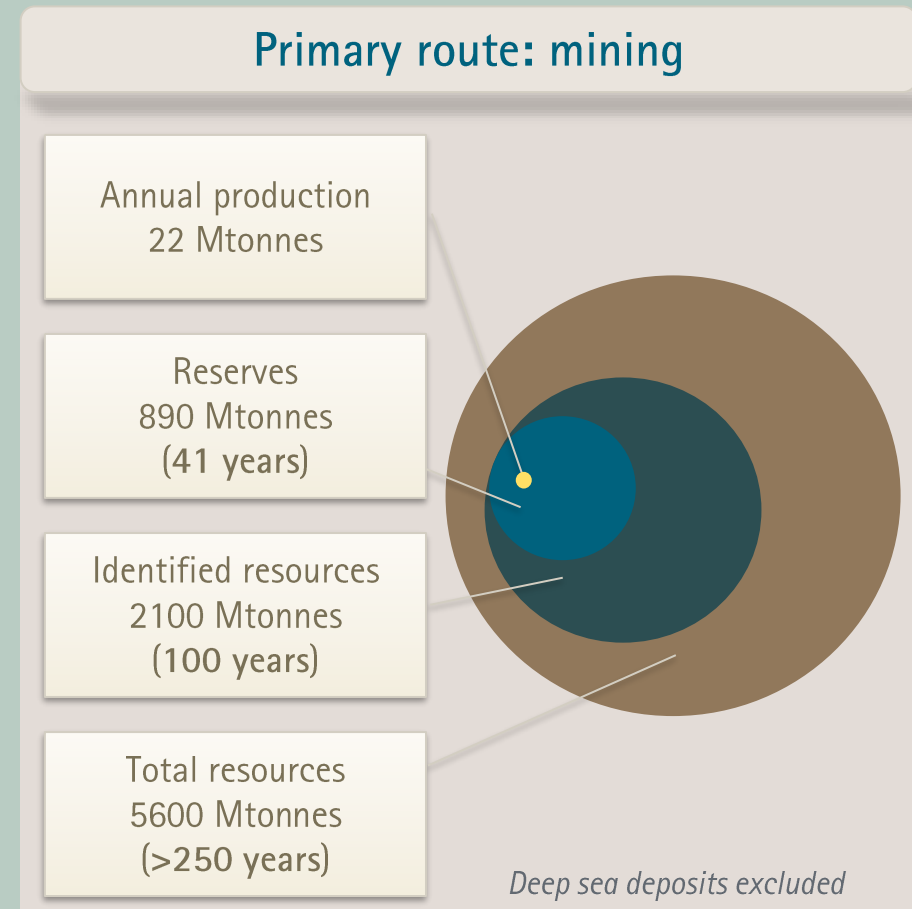
+ landfills, **150 Mt**



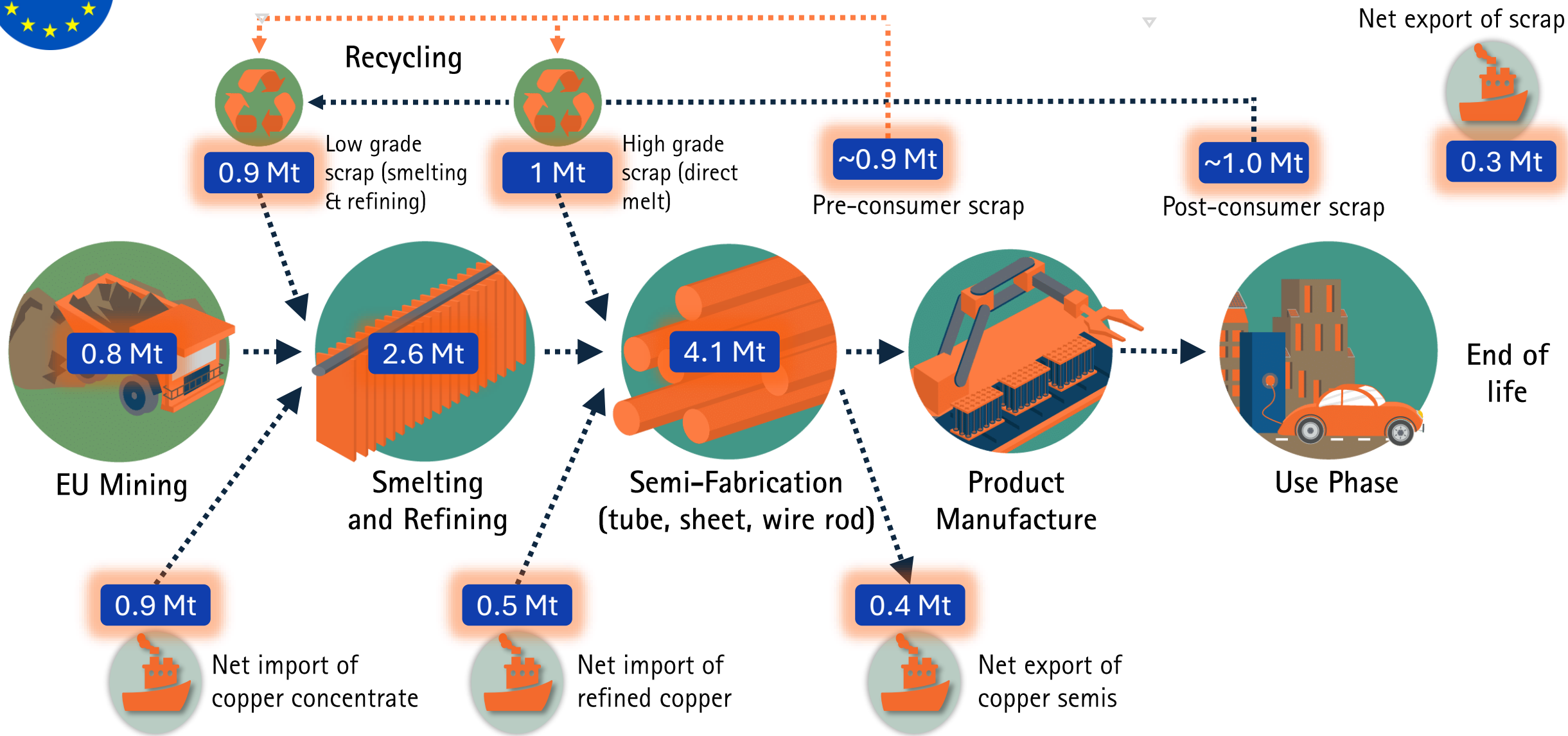
Mining resource: a potential of more than 250 years of availability

Reserves: **deposits** that have been discovered, evaluated, and assessed to be **economically profitable**

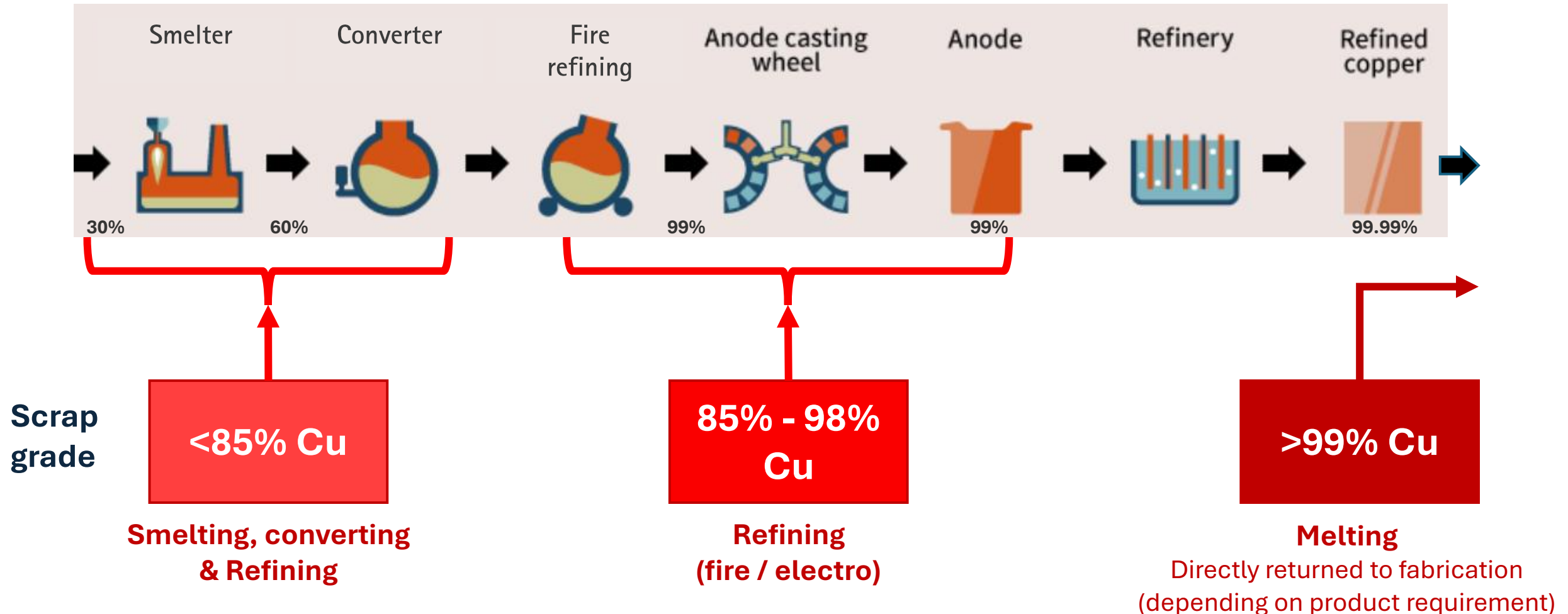
Resources: far bigger and include reserves, **discovered potentially profitable deposits**, and undiscovered **deposits that are predicted** based on preliminary geological surveys.



ICSG - The World Copper Factbook 2023: <https://icsg.org/copper-factbook/>
Dynamic Analysis of Global Copper Flows:
<https://pubs.acs.org/doi/10.1021/es400069b>
US Geological Survey (USGS), 2023: <https://www.usgs.gov/centers/national-minerals-information-center/copper-statistics-and-information>



Recycling route depends on scrap purity and on product requirements, but same end purity can be reached with the right process

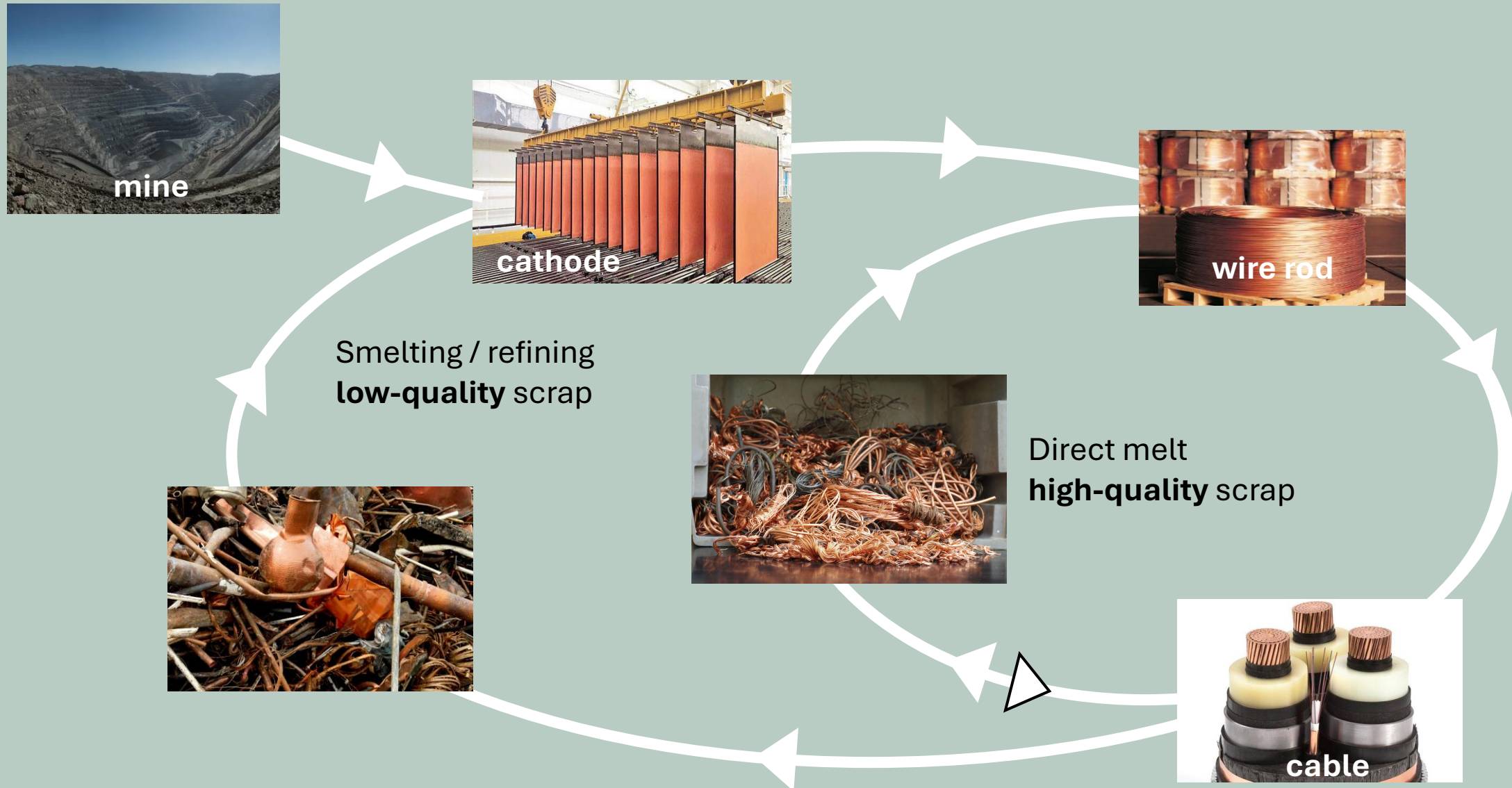


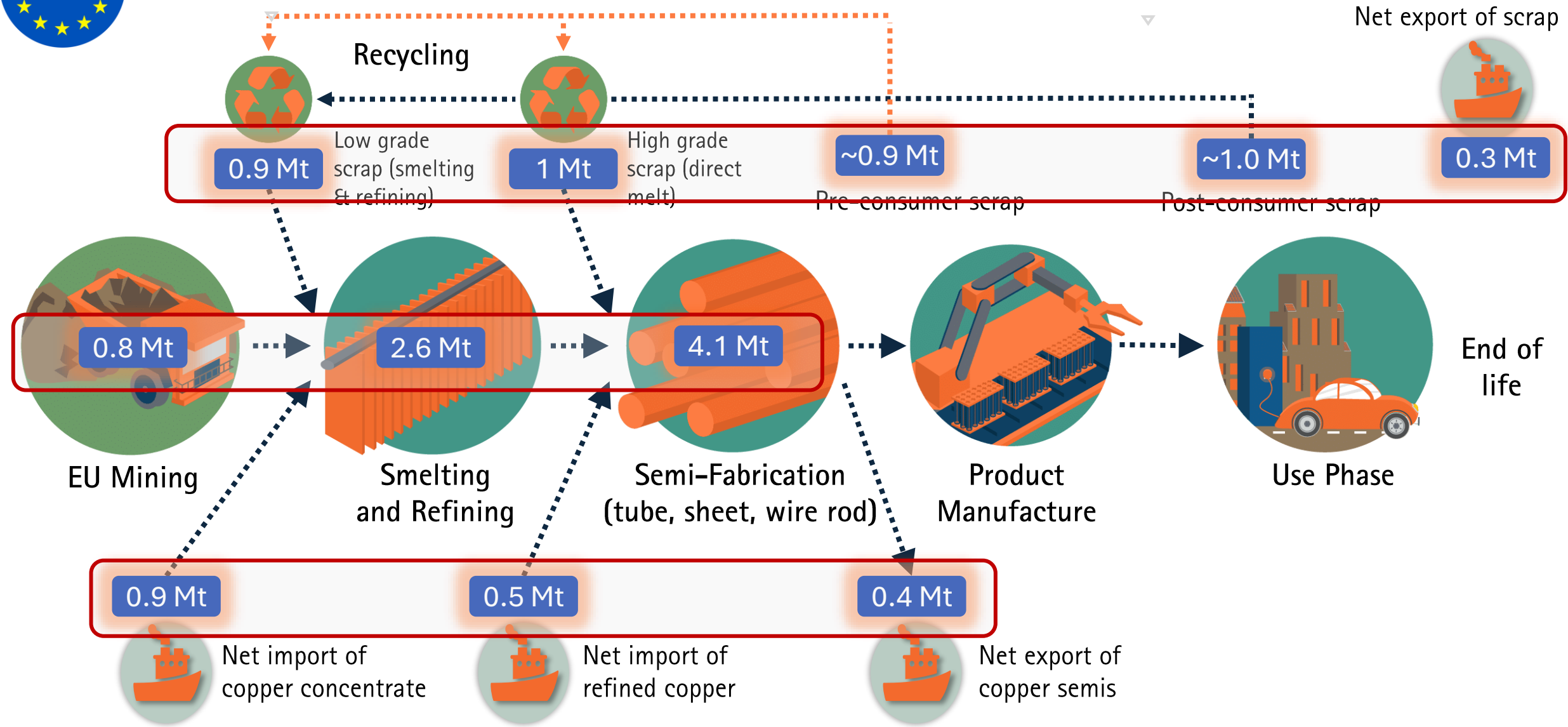
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A total of 20+ materials are in copper's recycling slipstream



The example of cables: recycling routes depending on scrap quality





Most of EU copper demand is met by domestic smelting, refining **and recycling** capacity



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To improve the recycling of
copper we need a focus on
recyclability and end-of-life



Better recycling can help meeting the growing demand, but not alone

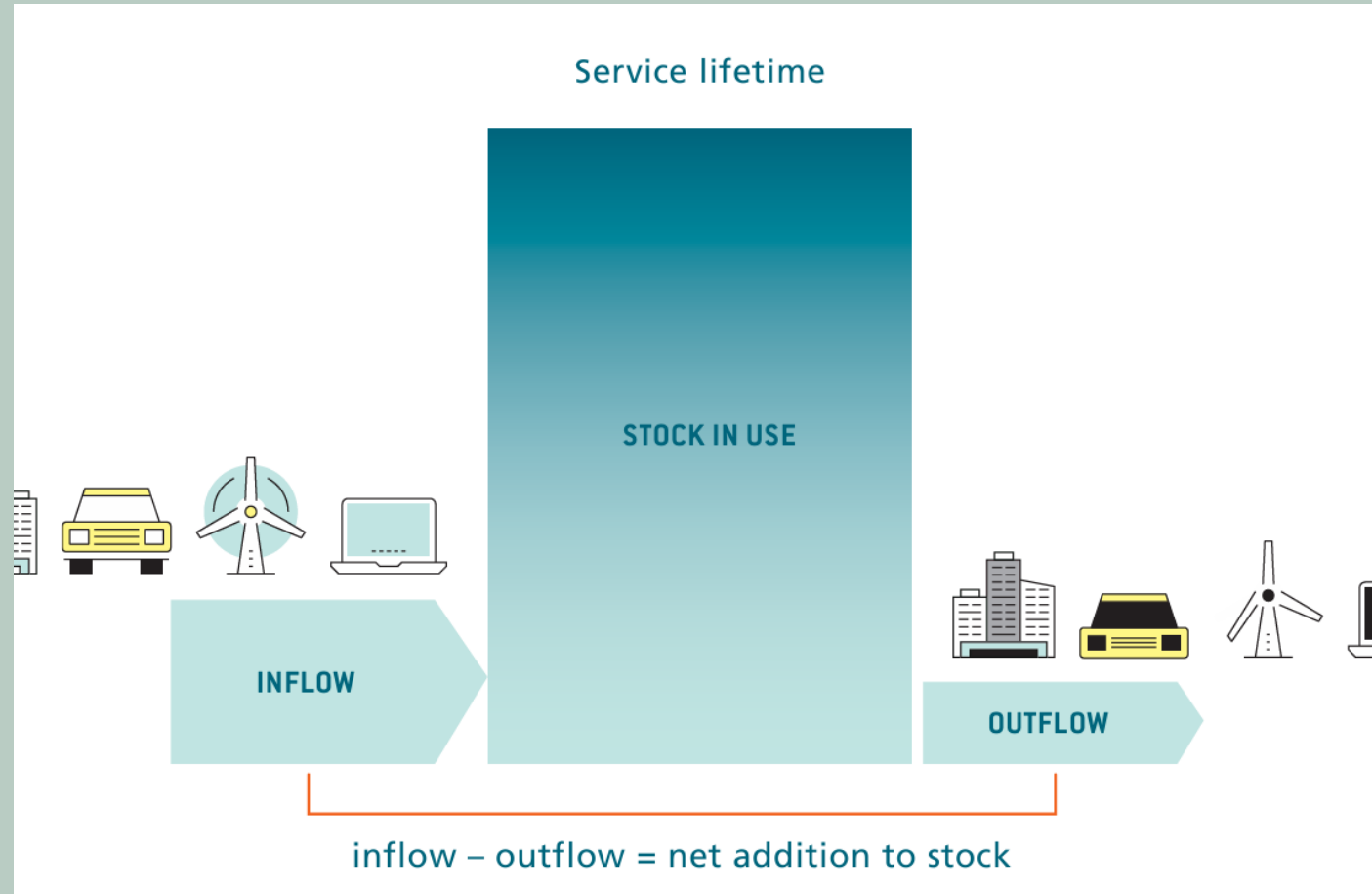
- Copper has one of the highest recycling rates of any engineering metal.
- Close to 50% of EU copper supply comes from recycled resources, pre and post-consumer.
- Copper has a long life in most applications 25-30 years on average (and often more than 40 years).
- Recycling alone will not meet the projected demand: we can only recycle what has been used already



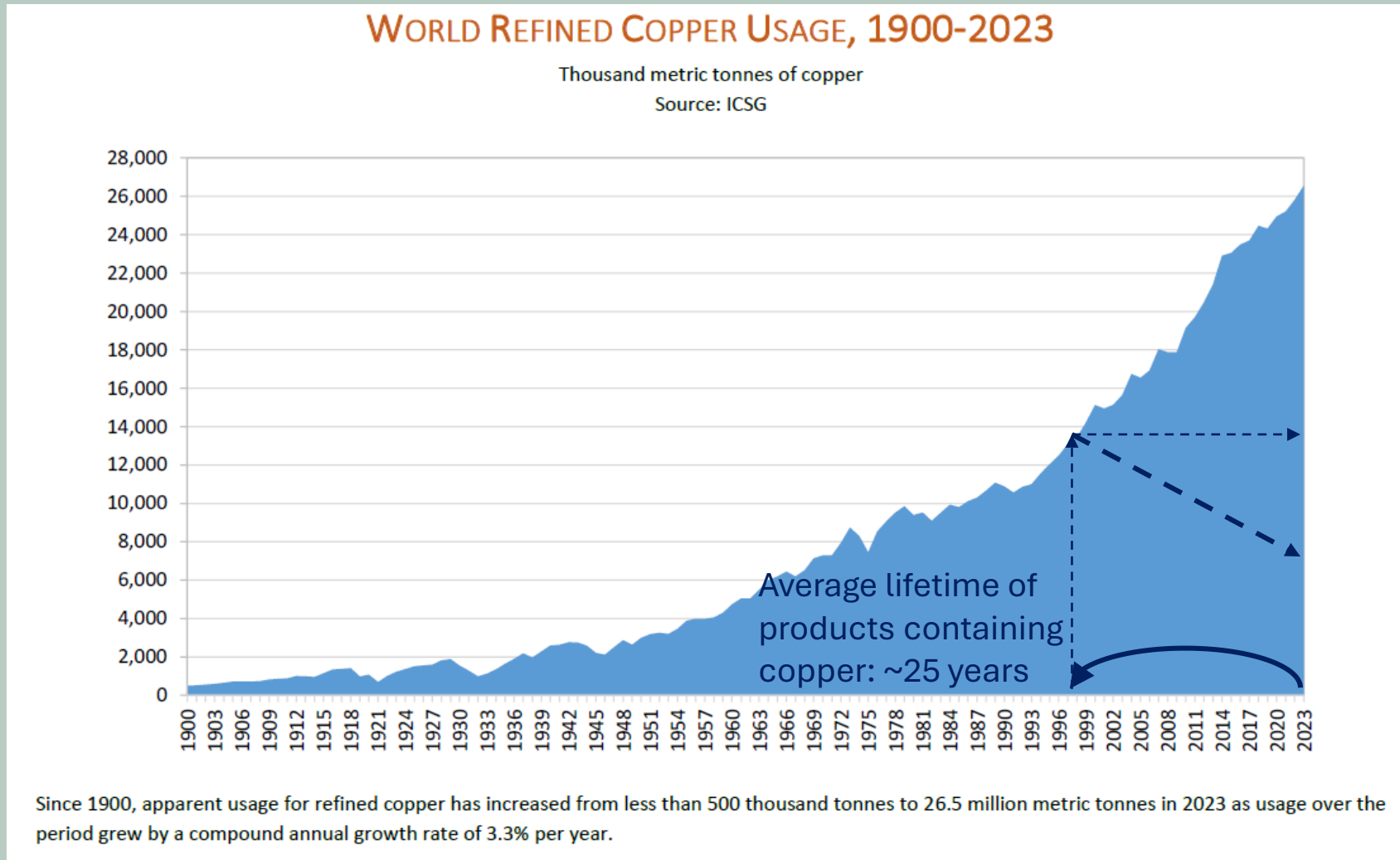
The long lifetime in use and the historical growing demand **limit the potential availability of secondary material**

Global copper demand roughly doubles every 25 years

Average lifetime in use is 25-30 years



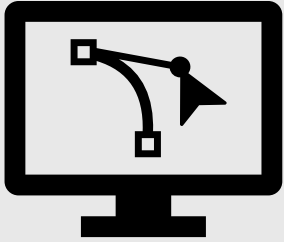
The availability of end-of-life scrap is limited by the growing demand and the long lifetime in use - Priorities are to improve design for recycling and EoL collection



Maximum theoretical
recycled content
(~50%)

Recycled content in
practice

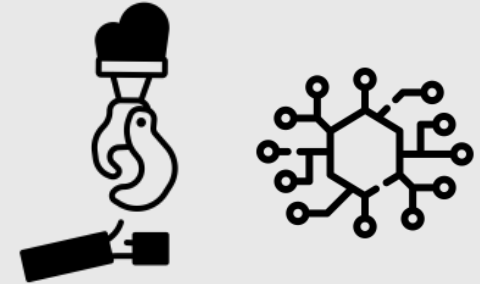
Factors affecting scrap availability: Priorities are to improve design for recycling and EoL collection



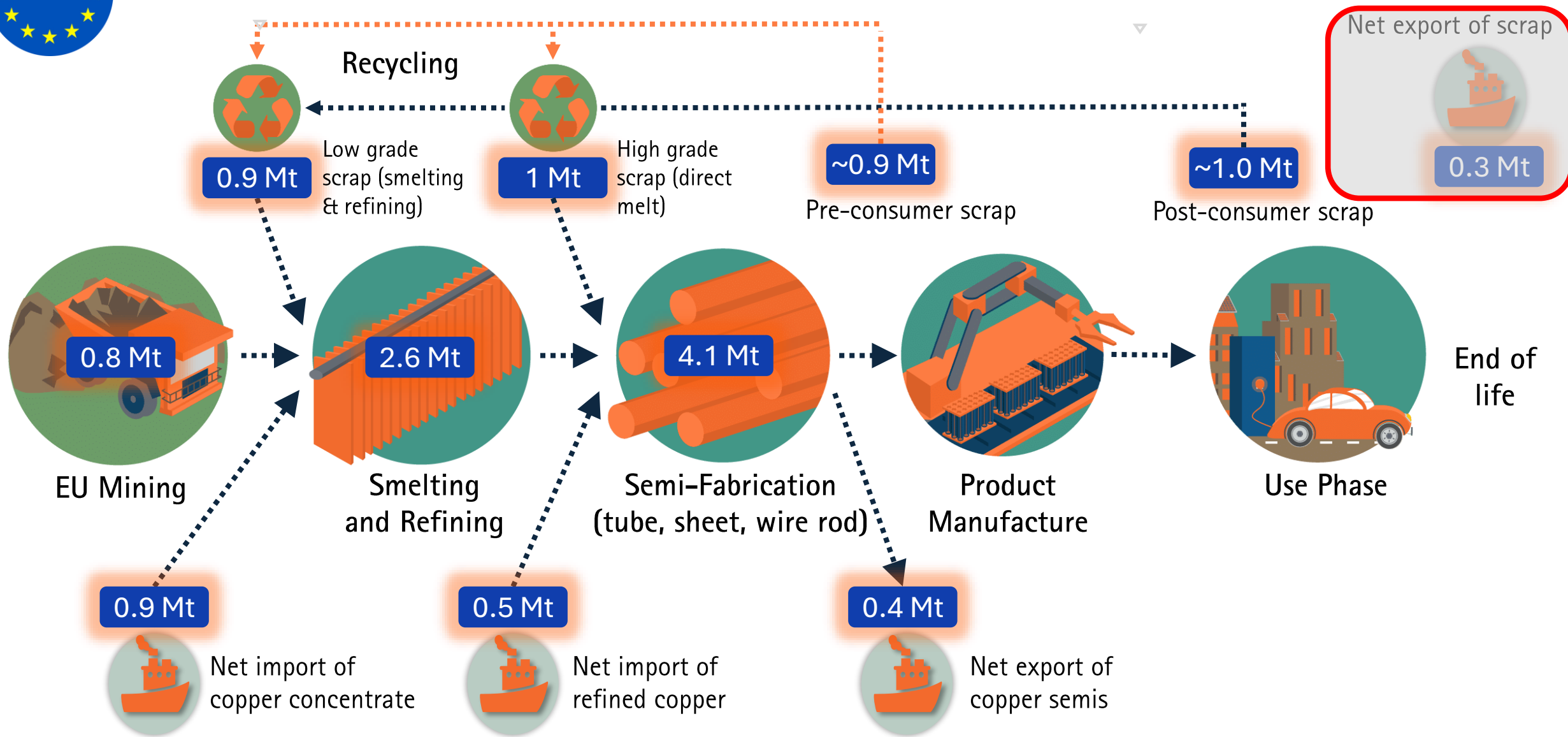
Design-for-sustainability



Incentives to improve
collection rates



Progress in sorting technologies
Trained AI systems
Innovative shredding





Takeaway



Copper can be recycled repeatedly without loss of properties



Meeting the growing demand requires recycling and mining

Both contribute to decarbonization



Improving design for recyclability and EoL collection are the priorities



Avoids the pitfall of Recycled Content requirements



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