PROCESSING

China made 94% of the world’s battery-grade graphite in 2025.

For most critical materials the tightest point is processing, not the mine.



Source: IEA (2026), Global Critical Minerals Outlook 2026, CC BY 4.0; USGS, Mineral Commodity Summaries 2026.

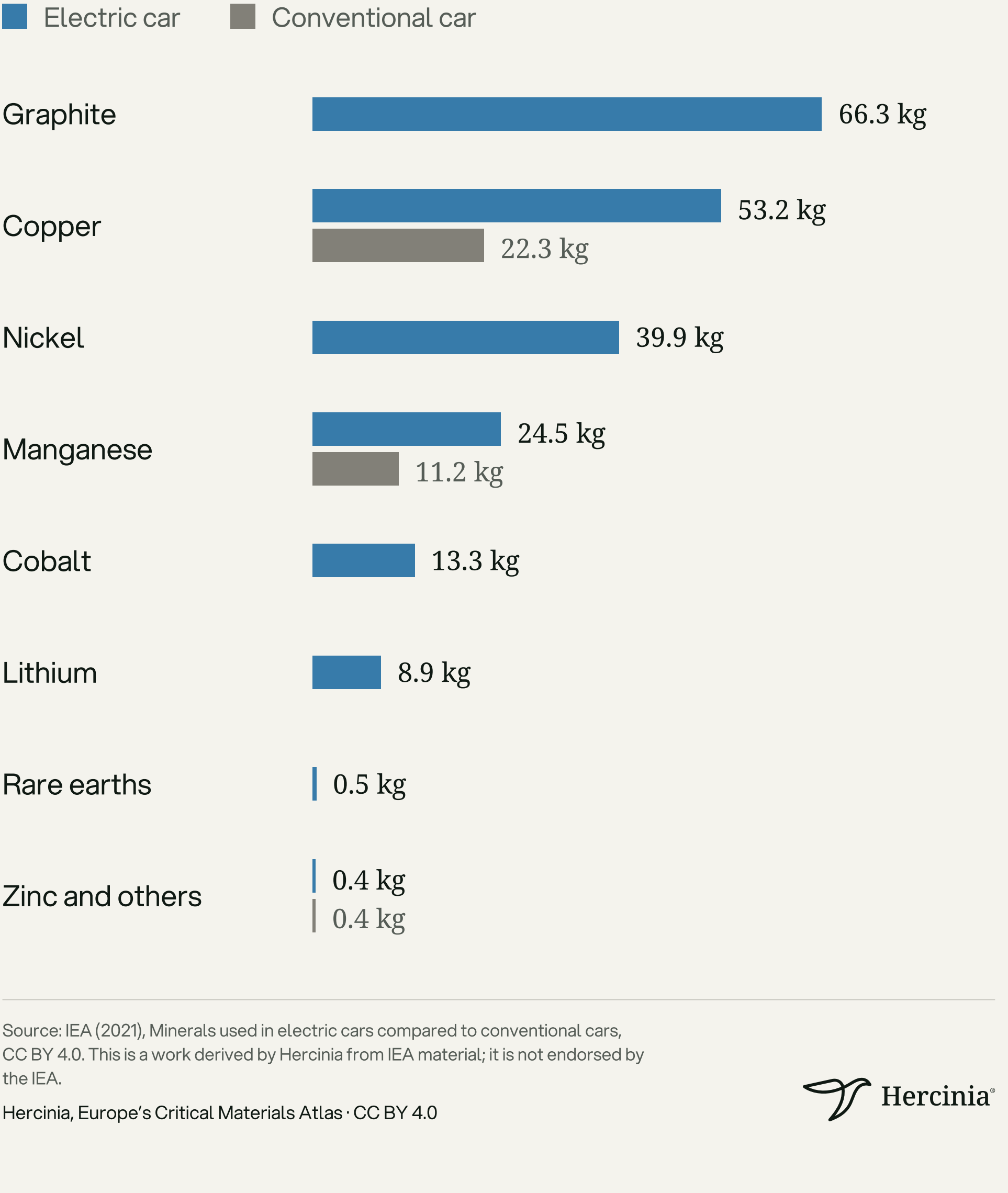
Hercinia, Europe’s Critical Materials Atlas · CC BY 4.0

Hercinia®

PRODUCTS

An electric car holds 207 kg of minerals. A conventional car holds 34 kg.

Electric car with a 75 kWh NMC 622 battery, per vehicle.



Source: IEA (2021), Minerals used in electric cars compared to conventional cars, CC BY 4.0. This is a work derived by Hercinia from IEA material; it is not endorsed by the IEA.

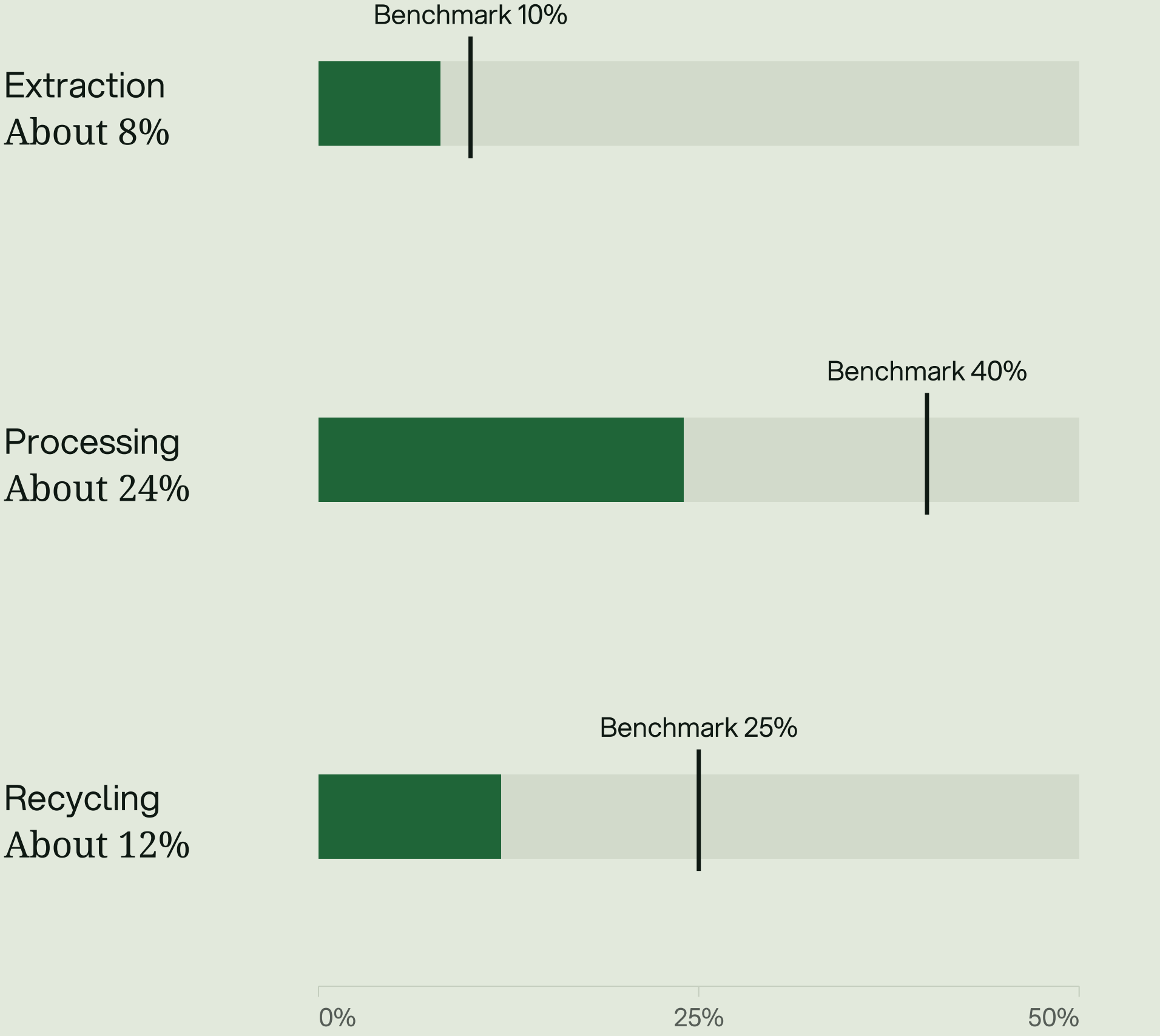
Hercinia, Europe's Critical Materials Atlas · CC BY 4.0

Hercinia®

THE 2030 GAP

The EU could process about 24% of what it uses. The 2030 benchmark is 40%.

Capacity as a share of EU consumption, 2016 to 2020.



Source: European Court of Auditors, Special report 04/2026, Figure 5 (EU capacity 2016 to 2020).

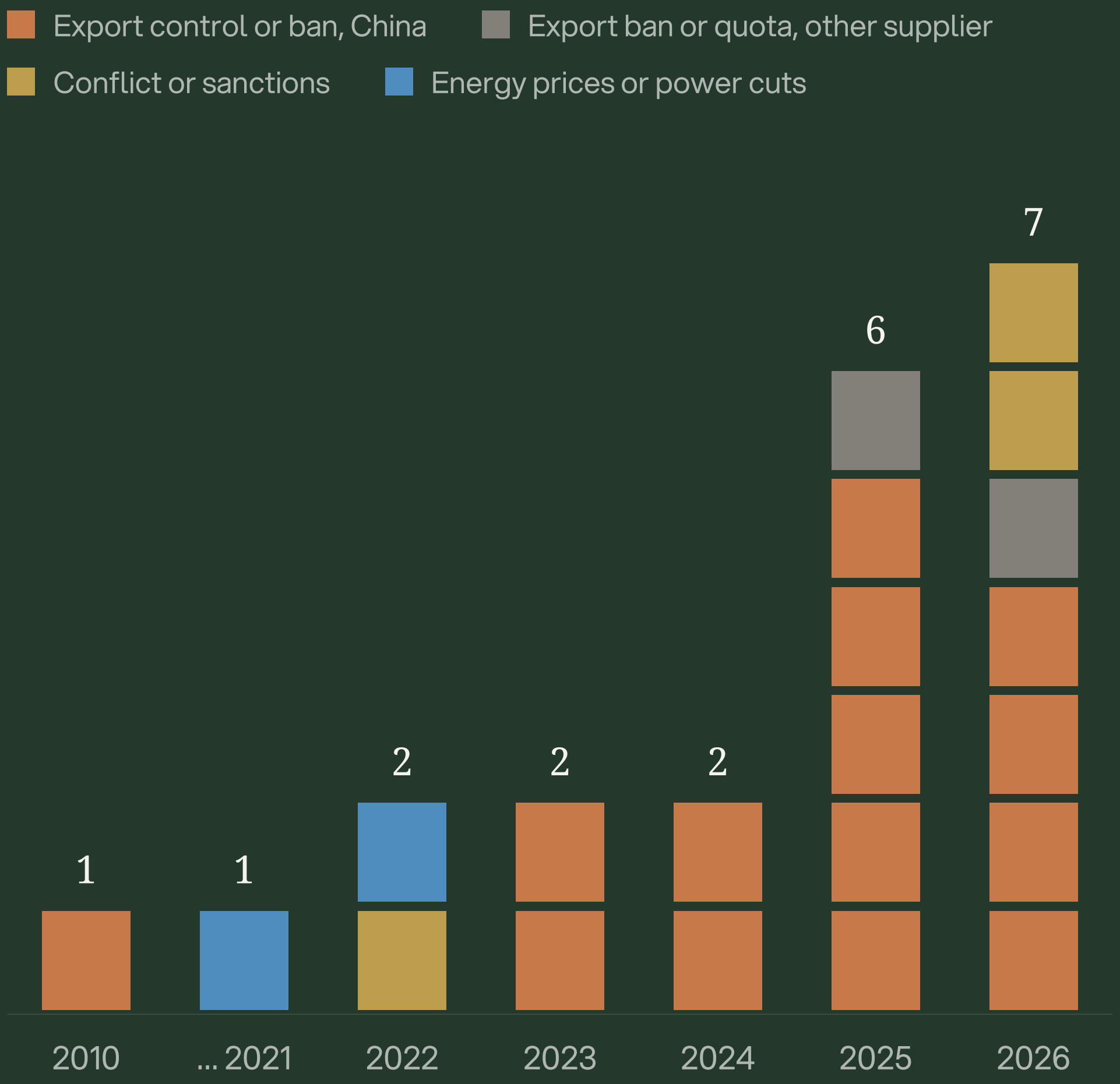
Hercinia, Europe's Critical Materials Atlas · CC BY 4.0

Hercinia®

DISRUPTIONS

Thirteen cuts in supply reached European or allied industry in 2025 and 2026.

Export bans, conflict and energy prices, counted by year.



Source: Hercinia, Europe’s Critical Materials Atlas, disruption record, with the primary source for each event in the data file.

Hercinia, Europe’s Critical Materials Atlas · CC BY 4.0

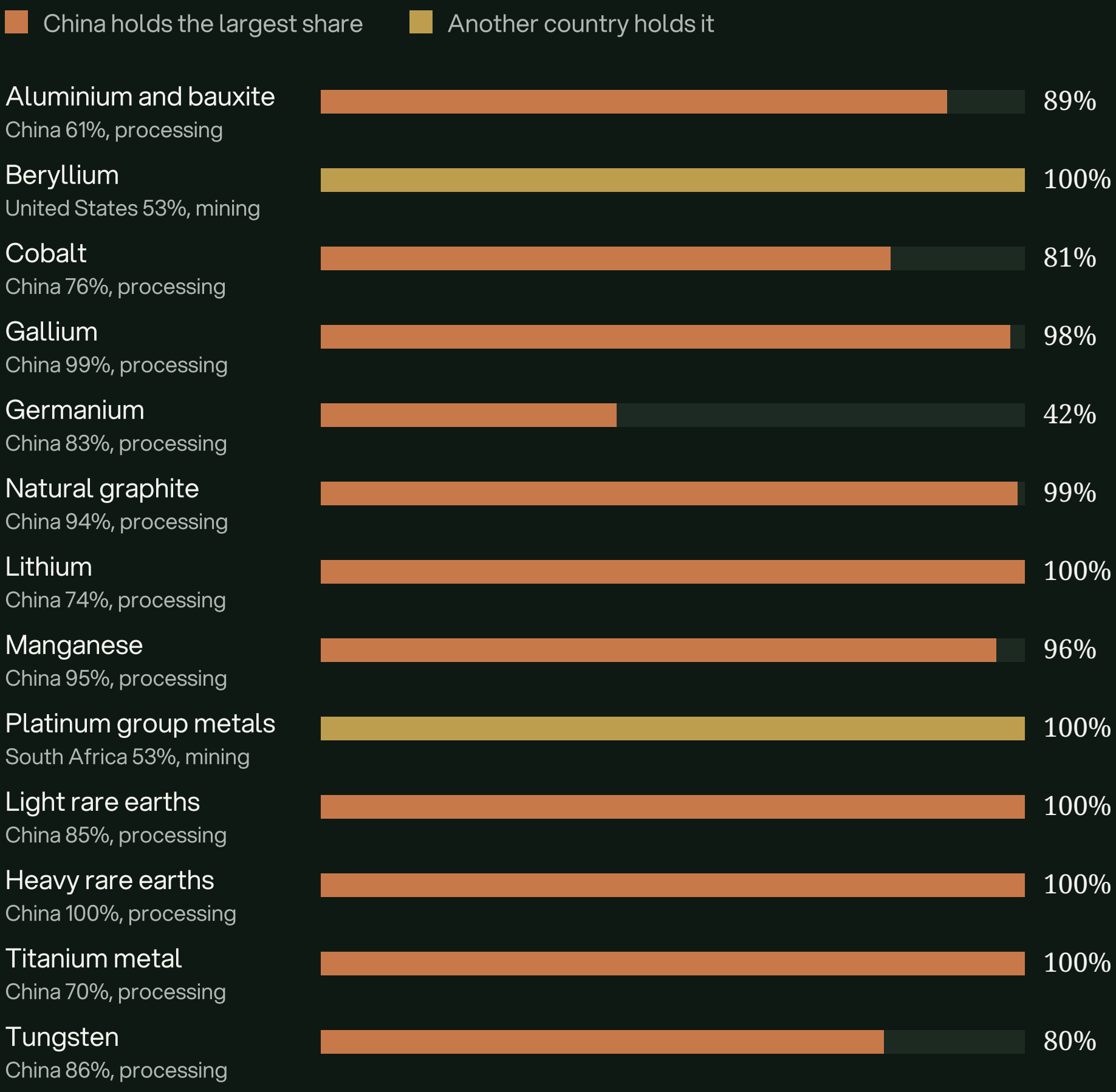
Hercinia®

DEFENCE

NATO lists 12 defence-critical materials. For 11 of them the EU imports 80% or more.

EU import reliance and the largest single supplier.

China holds the largest share · Another country holds it



Source: NATO, list of 12 defence-critical raw materials, 11 December 2024; European Commission, Study on the critical raw materials for the EU (2023), averages 2016 to 2020; USGS, Mineral Commodity Summaries 2026; IEA (2026), Global Critical Minerals Outlook 2026, CC BY 4.0.

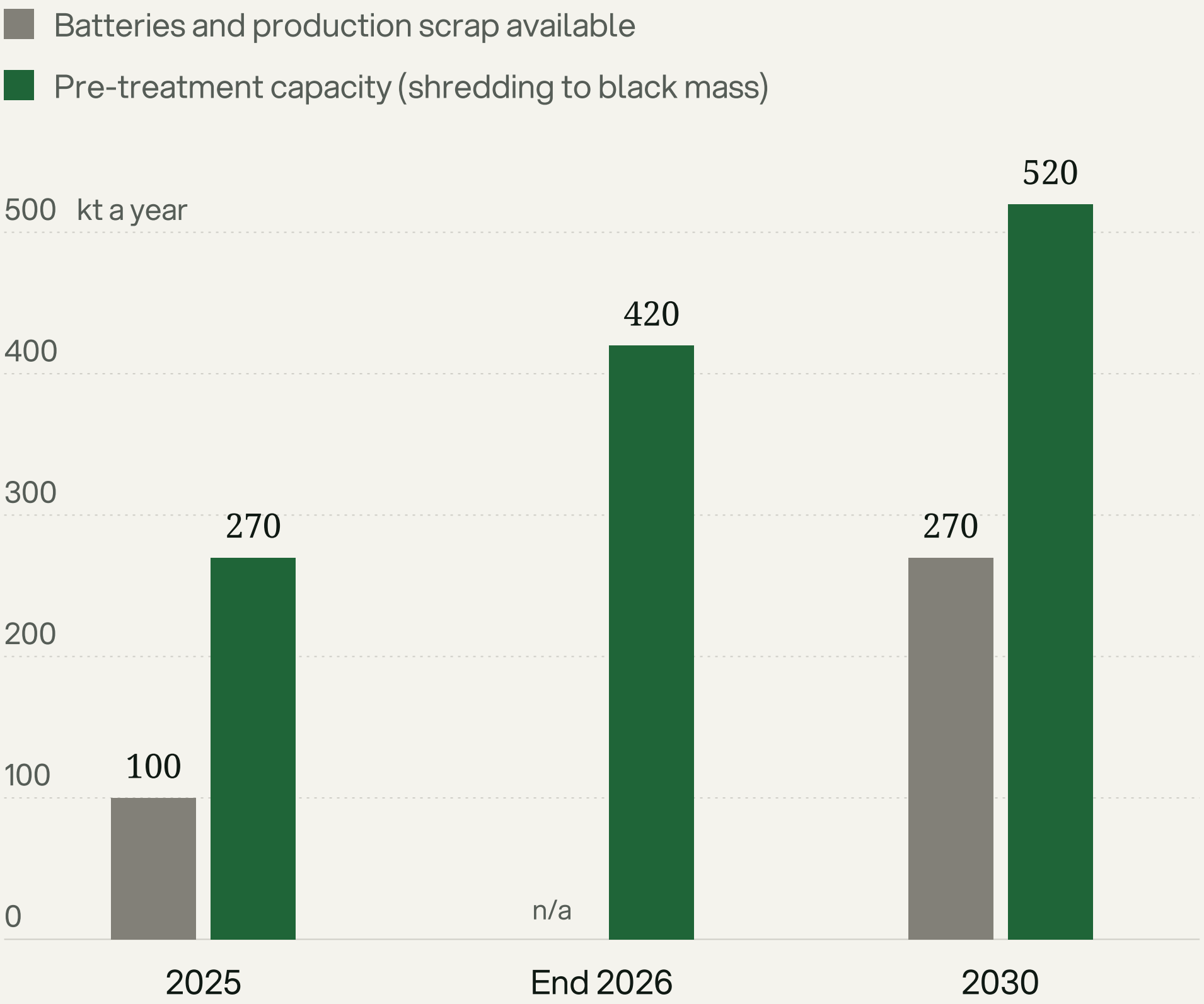
Hercinia, Europe's Critical Materials Atlas · CC BY 4.0

Hercinia®

RECYCLING

Europe can shred far more batteries than it collects, and still exports black mass.

From 9 December 2026, black mass is hazardous waste in the EU: no export for recovery outside the OECD.



Refining: nameplate capacity of about 130 kt of black mass a year in 2025. One tonne of batteries gives about 400 kg of black mass.

Source: Fraunhofer ISI (2025), Recycling capacities for lithium-ion batteries will exceed demand in Europe for the time being.

Hercinia, Europe's Critical Materials Atlas · CC BY 4.0

Hercinia®