Daniel Larsson (Geological survey of Sweden) 28 February 2023

Commodity	**Copper (Cu)**	**Data source**
Significance for the EU (2023)	*Critical and Strategic*	
Uses of the commodity	Main uses: *Power cables and wiring; building (pipes, taps, valves, fittings, roof plates)* Minor uses: *Automobile parts; electric motors; heat exchangers and radiators; pressure vessels and vats; 'copper chips'; coinage, cookware; antimicrobial; superconductors; jewellery* Future uses: *Cables and wiring; electric motors; other uses in electric vehicles; various IT/digital applications; photovoltaic applications; building and infrastructure*	Eynard et al. (2020);
Resources and potential in Nordic countries	Estonia: *No known resources* Finland: *Known resources 4,820,000 t Cu. Assumed ('undiscovered') additional resources at regional scale estimated to 9,669,000 t. The largest deposit: Kevitsa mine, 371 Mt at 0.32 % Cu.* Greenland: *Known resources: 108,000 t Cu. Assumed ('undiscovered') additional resources: 3,345,000 t Cu.* Norway: *Known resources: 1,882,000 t Cu. Assumed ('undiscovered') additional resources: Distinct additional potential in areas with closed mines or known resources. Biggest deposit: Nussir, 73 Mt at 1.17 % Cu.* Sweden: *Known resources: 11,768,000 t Cu. Assumed ('undiscovered') additional resources: in the Skellefte district 726,000 t and in the Caledonides 145,000 t Cu; other regions still lack such assessment. The biggest deposit: Aitik mine, 3167 Mt at 0.23 % Cu.*	Stensgaard et al. (2011), Rasilainen et al. (2017), Eilu et al. (2021, 2022), Rosa et al. (2023)
Anthropogenic resources and potential in Nordic countries	*Mine tailings, smelter slags, refinery tailings*	
Main deposit types in Nordic countries	*VMS, mafic layered intrusions, porphyry copper*	Eilu et al. (2022)
Main global deposit types	*Porphyry copper; stratiform sediment-hosted copper (SSC); VMS*	Eynard et al. (2020)
Global production (2022)	*22,000,000 t (mines); 26,000,000 t (refineries / smelters)*	USGS (2023)

Nordic production (2022)	*Finland 27,637, Sweden 88,000 t (mines); Finland 153,297 t, Norway 20,535 t, Sweden 218,000 t (refineries + smelters)*	Tukes (2023)
Main producing countries (2021)	*Chile 24 %, Peru 10 %, DRC (10 %), China 8.6 %, USA (5.9 %) (mining); China 42 %, Chile 8.1 %, Japan 6.2 %, Russia 4.2 (smelting, refining)*	USGS (2023)
Technological challenges in production	*Well-established technology*	
Recycling	Present: *Old (post-consumer) and new (manufacturing) scrap* Future: *Landfills, electric vehicles*	Eynard et al. (2020), USGS (2022)

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