

Scarce metals – Applications, supply risks and need for action

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Abstract: In the past few decades, scarce metals have become increasingly relevant for emerging technologies, which are, *inter alia*, expected to play a significant role in the transition to a sustainable post-fossil society. This has raised concerns about whether the supply of such metals is secure and, if so, whether the ecological and social impacts associated to scarce metals supply would not counteract the expected benefits of emerging “clean” or “green” technologies, in particular. This paper presents typical applications of scarce metals, addresses associated supply risks and considers interventions required for a more sustainable governance of these raw materials. In particular, it shows that for a more sustainable governance of scarce metals, significant knowledge gaps still have to be overcome. Interventions will be necessary on different societal levels involving stakeholders at multiple points along the scarce metals life cycle.

Keywords: ICTs, Life cycle thinking, Recycling, Scarce metals, Supply risks, Sustainable governance.