

WMF 2024 - Critical Materials Facts & Figures - Key messages

- 1. We have added Social acceptance as the no 8 criteria in our Assessment (on top of Known reserves, Uncertainty of supply, Political exposure of supply, Recycling potential, Uncertainty of demand, Vulnerability on core applications and Environmental performance).
- 2. 5 of those 8 criteria are becoming more critical globally: Uncertainty of supply, Political exposure of supply, Uncertainty of demand, Vulnerability on core applications and Social Acceptance.
- 3. And this year we have 8 red elements of which 2 are new as High Purity Graphite and Tungsten join the list that previously included Copper, Nickel, Tin, Zinc, Praesidium and Dysprosium.
- 4. From today to 2050, the Mining industry will move from Volumes to Value.
- 5. In 2023, Coal, Gold and Iron ore drove the largest revenues globally and Coal and Construction materials the largest volumes. In 2050 we expect Aluminium, Copper and Gold to drive the largest revenues with Copper and Construction materials to drive the largest volumes.
- 6. Key actions to make the « green revolution » happen are: Developing new battery chemistries and New green mining/refining technologies as well as Moving faster towards new capacities through Efficient regulation and permitting.
- 7. Our selected 10 Breakthrough Technologies (Efficient rock grinding, Dry stack tailings, Lithium leaching of uncalcinated rocks..) would drastically lower down the environmental impact of mining and refining if used in all new projects.
- 8. Reaching a proper environmental footprint on the entire supply chain will not only mean building capacity for the new critical materials needed (example of Copper) but also lowering the environmental footprint of existing capacities for some high volume commodities (the example of Aluminum electrolysis with inert anodes).