

IRENA INNOVATION WEEK **20**
23

Geopolitics of the energy transition: innovation in critical materials

Organised in partnership with the Energy Transitions Commission

26 September 2023 • 16:00-17:30 CEST

#IIW2023

A decorative graphic in the bottom-left corner consisting of a complex network of interconnected nodes and lines. The nodes are small circles in various colors (blue, green, yellow, orange) and are connected by thin, light-colored lines, creating a web-like structure that extends across the bottom of the slide.

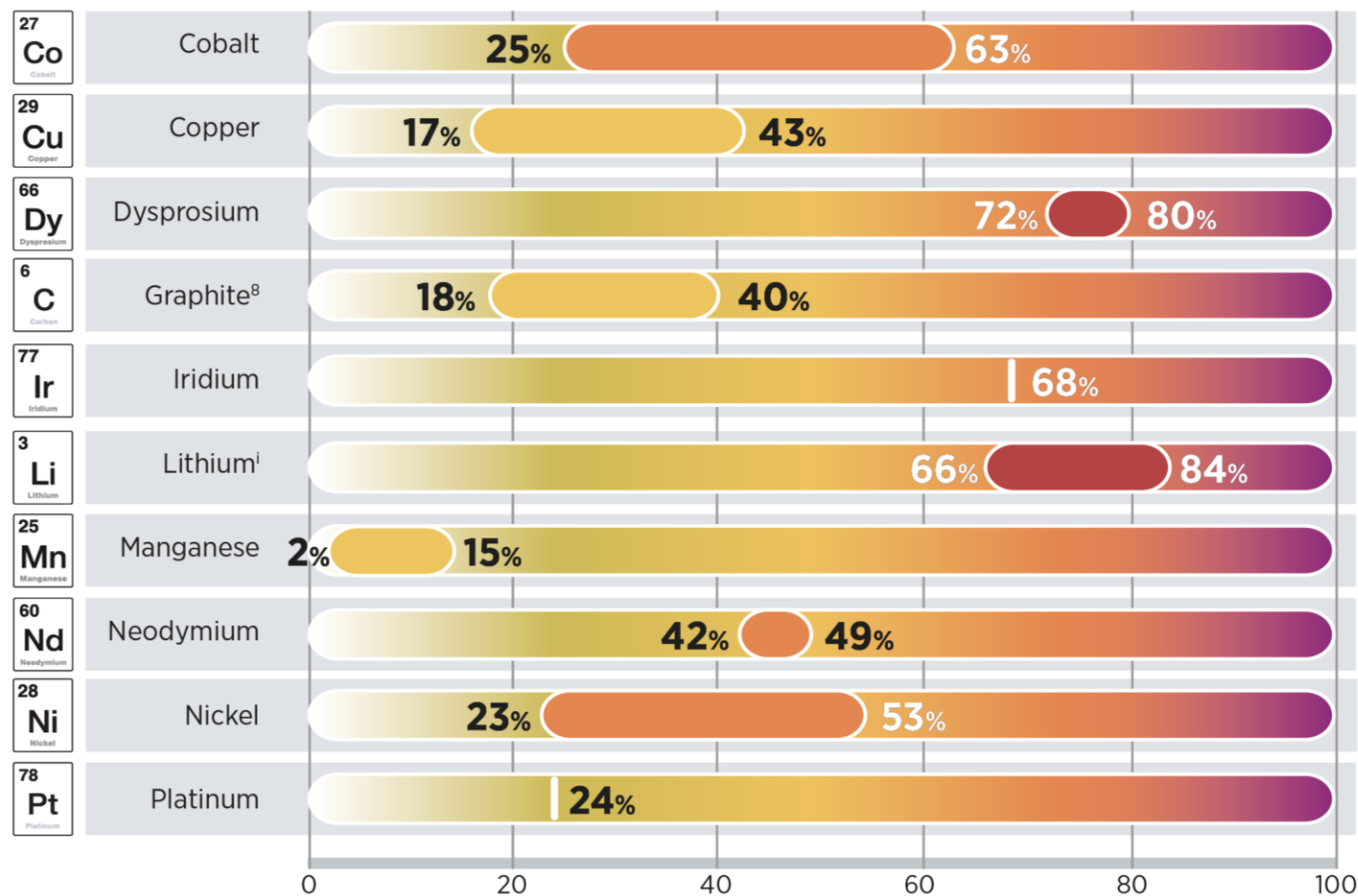
Keynote



Elizabeth Press

Director – Planning and Programme Support
IRENA

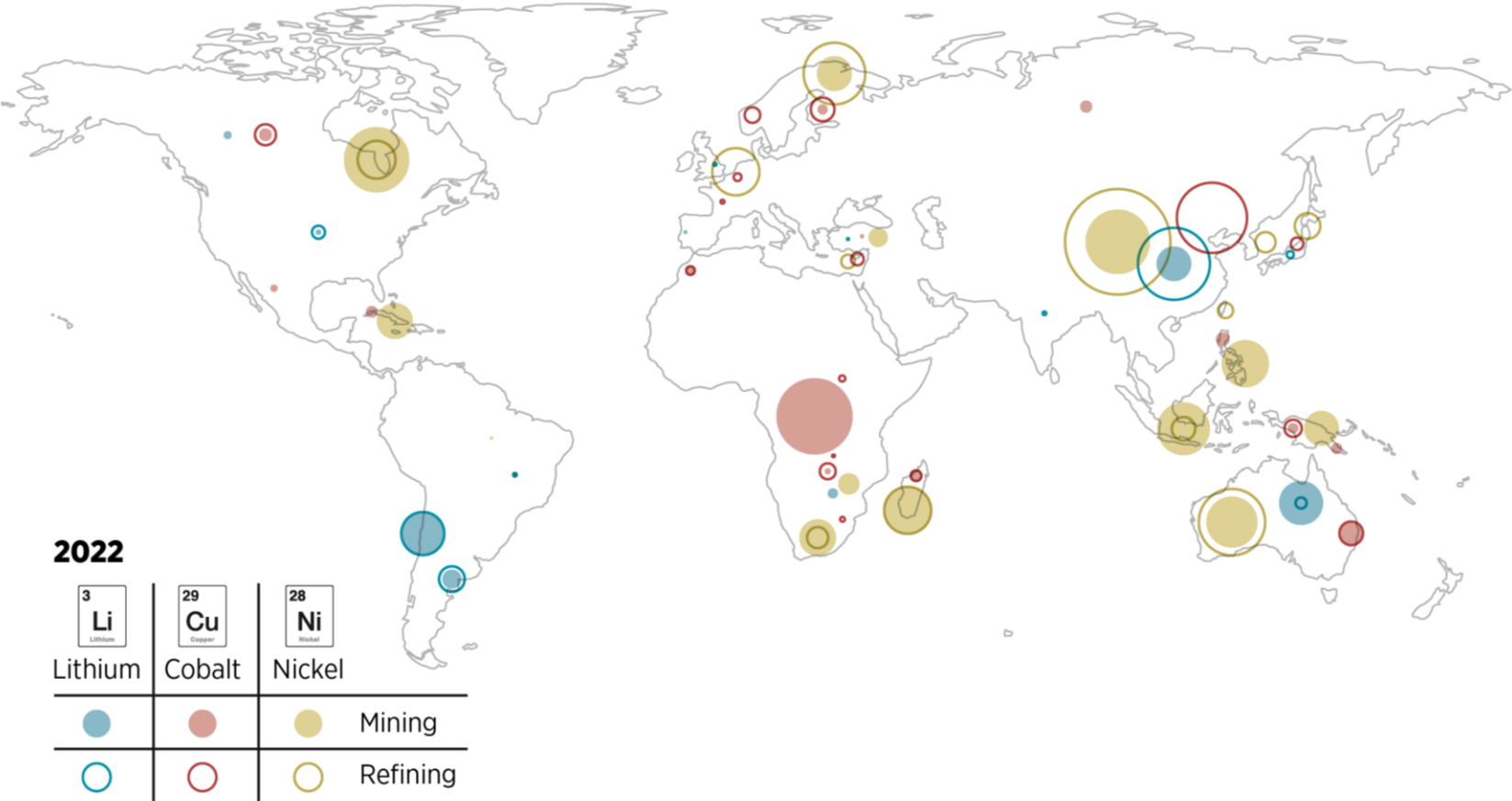
Assessing disparity between current supply and anticipated demand in 2030 for selected materials



Sources: (USGS, 2023a; Eurometaux, 2022; IRENA, forthcoming; McKinsey, 2023; WSJ, 2023; Mining.com, 2021; Mitchell and Deady, 2021; NVM, 2021; QYResearch, 2023; Garvey, 2021; Minerals Council of Australia, 2022; Nickel Asia, 2022; Systemiq, 2023; Cobalt Blue Holdings, 2022; Darbar, 2022; Fu, 2020; Albemarle, 2023; Lazzaro, 2022; McKinsey, 2022; S&P Global IQ, 2022).

Note: *A short-term scarcity ratio compares the mine production of selected material in 2022 with the demand expected in 2030; see Annex for calculation methodology.

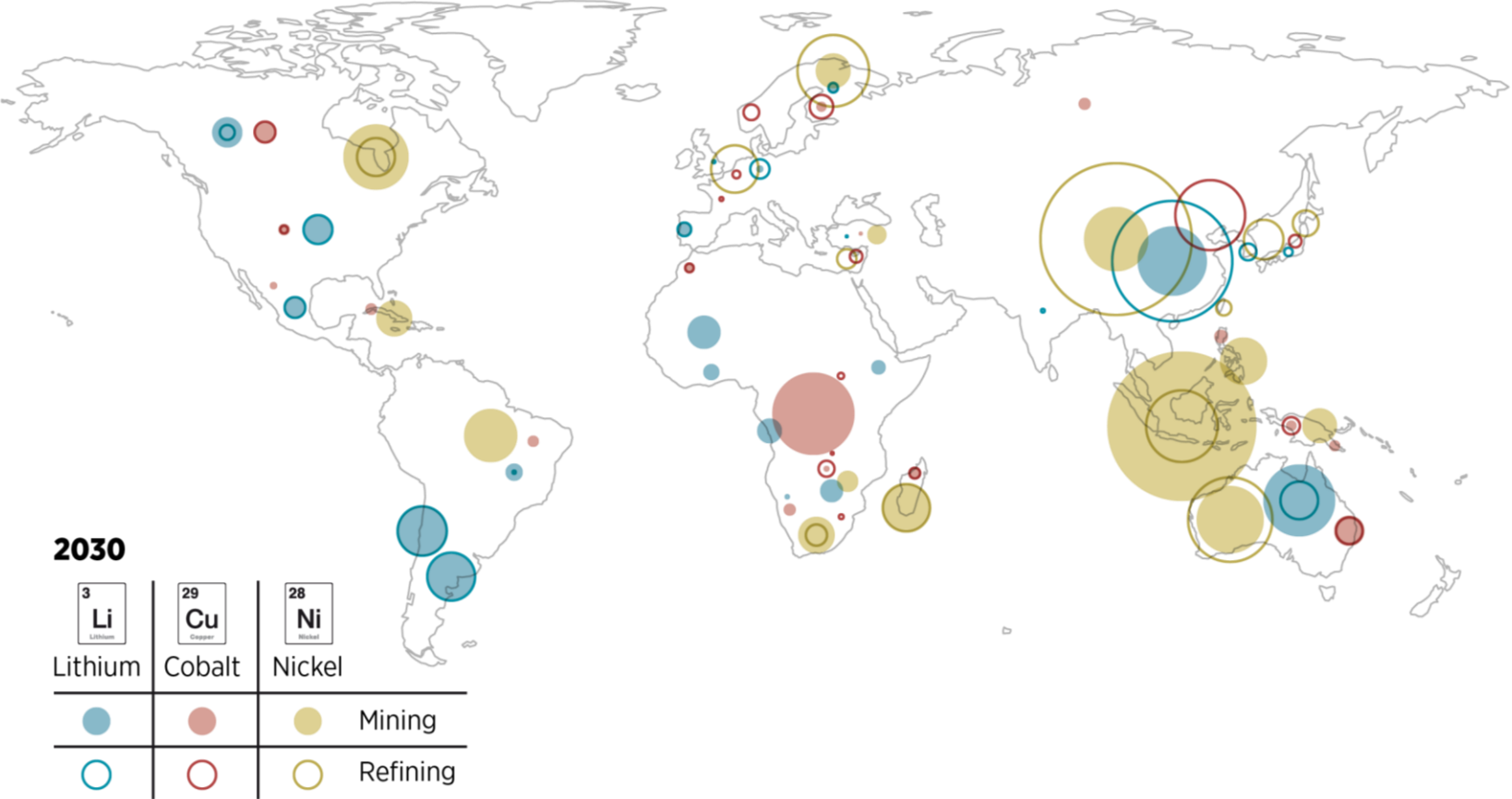
Mining and refining supply for selected critical materials, 2022



Source: (BloombergNEF, 2023).

Disclaimer: These maps are provided for illustration purposes only. Boundaries and names shown on the maps do not imply any endorsement or acceptance by IRENA.

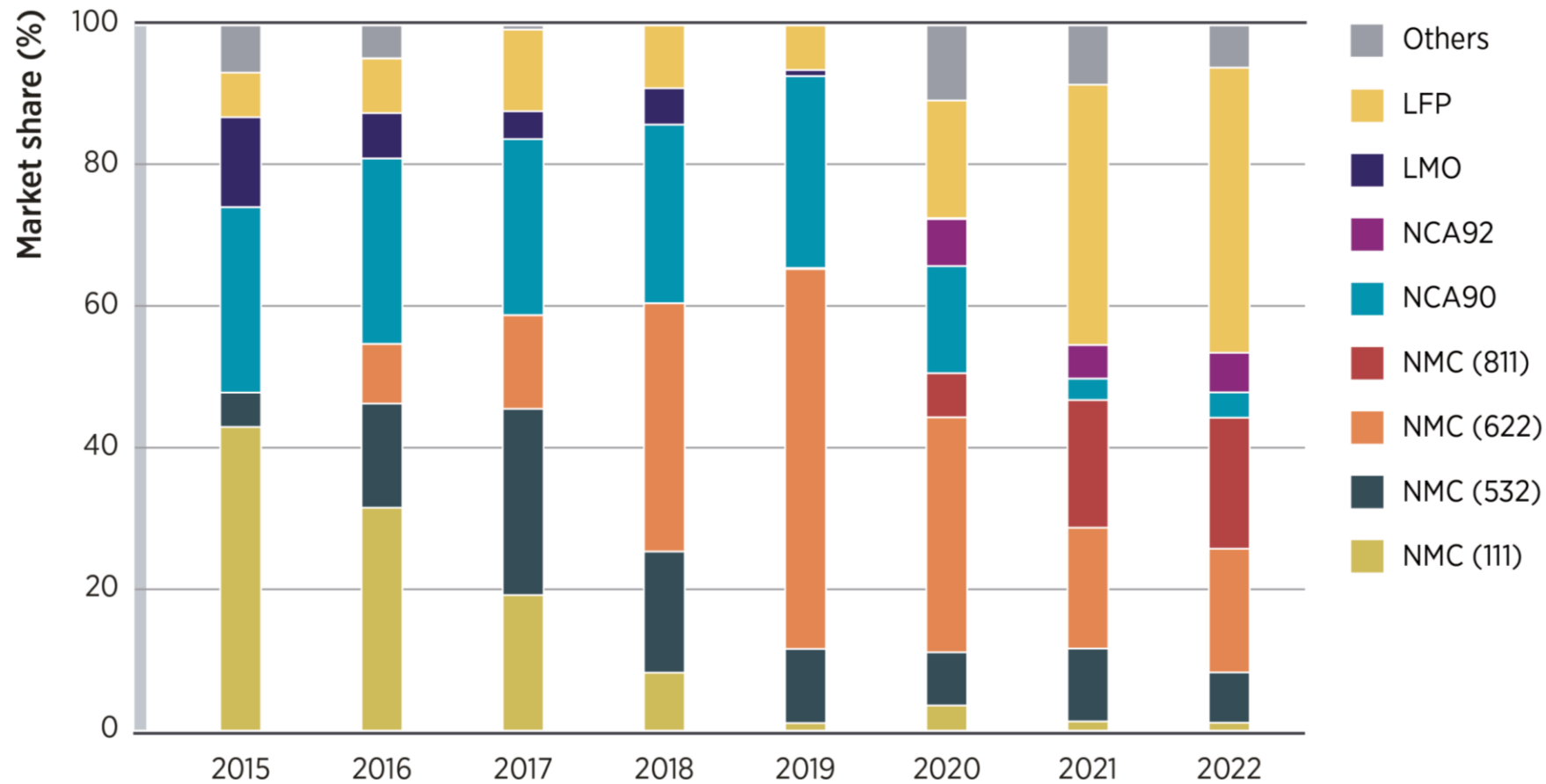
Mining and refining supply forecasts for selected critical materials, 2030



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Source: (BloombergNEF, 2023).

Rapidly changing global EV battery chemistry mix between 2015 to 2022



Source: (BNEF, 2022b).

Note: The numbers following NCA indicate nickel's proportion in the NCA battery chemistry, whereas the numbers following NMC indicate nickel's proportion in the NMC battery chemistry; for example, NMC (622) means 6 parts of nickel, 2 parts of manganese and 2 parts of cobalt. LFP = lithium iron phosphate; LMO = lithium manganese oxide; NCA = nickel cobalt and aluminium; NMC = nickel manganese and cobalt.



IRENA INNOVATION WEEK ²⁰₂₃

Geopolitics of the energy transition: innovation in critical materials

Moderator



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Panelists



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Thank you!

Coming up next:
Closing Remarks and Takeaways

