Supply Chains and Critical Minerals in the Context of Rapid Clean Energy Deployment

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Outline

- Why are we talking about supply chains?
- Who are the stakeholders involved?
- What are the challenges and opportunities?
- Where do we go from here?
The U.S. DOE National Lab Complex
• Improve circular economy technologies for materials to minimize waste, reduce cost, and drive new capabilities.
• Explore alternative technologies that reduce dependence on these minerals.
• Create opportunities for near-shoring stages of the clean energy supply chain to bolster supply chain resilience, create economic growth and develop international partnerships.
Stakeholders and Partnerships

Energy Equity/Justice

- Educational Resources & Tools
- Internal Programs & Investments
- Workforce Development

Domestic Economic Opportunity

- Onshore Wind
- Offshore Wind
- Solar PV
- Lithium-ion Batteries
- Heat Pumps
- Hydropower
- Long-term Energy Storage
- Hydrogen

Partnership Engagement and Collaboration

- Industry
- Government
- Research and Universities

Sustainable Energy Technology Transition
Concentration of Critical Materials Can Lead to Supply Chain Instability

Source: Global Critical Minerals Outlook 2024, IEA
2021 Global Cobalt Supply Chain Flows

*Mining, Recycling and Preprocessing products:
- Ores: naturally occurring solids containing cobalt
- Mattes and Intermediates: (50-100% Co)

Closing thoughts
Thank You!

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