

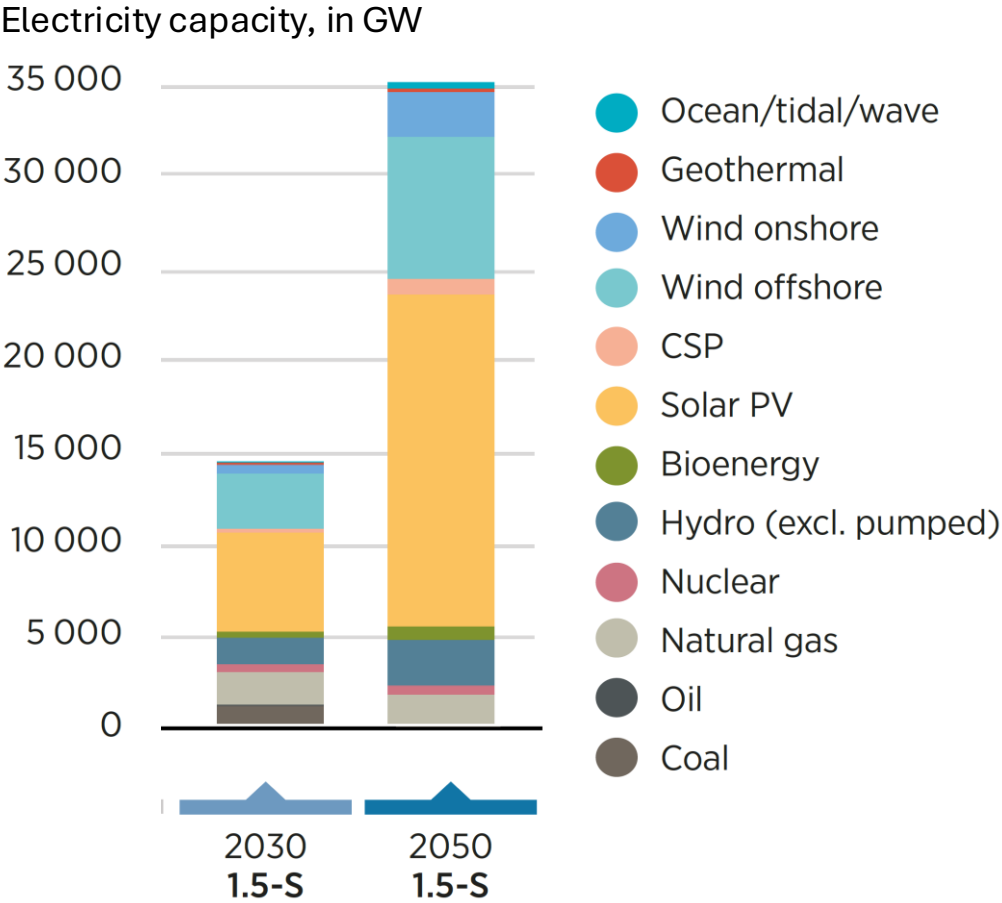
Circular Economy for the Energy Transition: A Global Perspective

Jinlei Feng
Programme Officer, Policy Advice
International Renewable Energy Agency (IRENA)

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Global energy transition requires an accelerated deployment of renewables

Global installed power capacity by energy source, 1.5°C scenario, 2030 and 2050



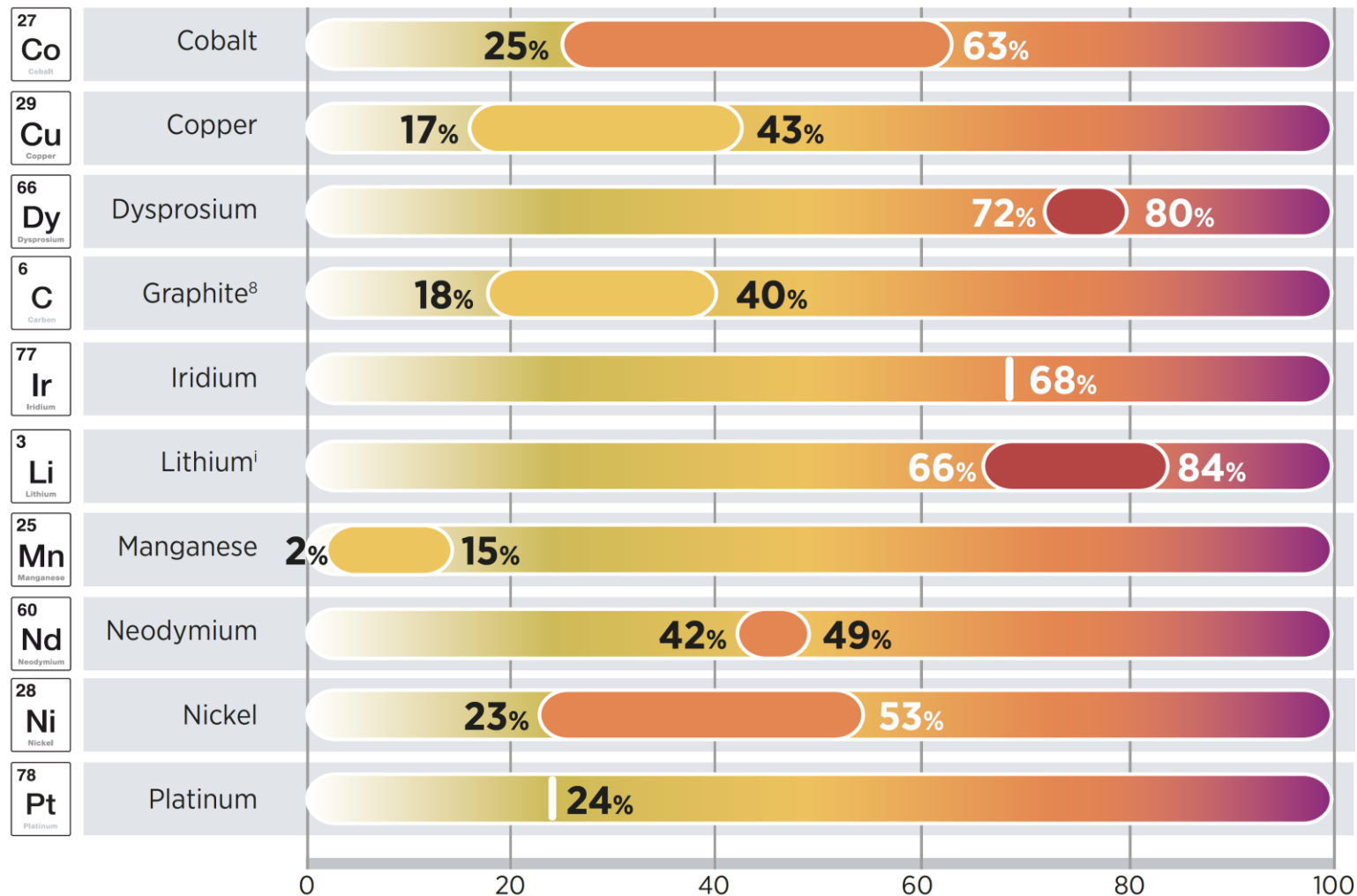
Selected energy transition indicators in the 1.5°C scenario, 2020, 2030 and 2050

		2020	2030	2050
			1.5°C Scenario	1.5°C Scenario
Heat pump installations (million units)	Global	58	447	793
	G20	58	447	793
Electric and plug-in hybrid light passenger vehicles stock (million units)	Global	10	359	2182
	G20	10	328	1811
EV chargers (million units)	Global	1	372	2300
	G20	1	339	1905
RE total installed capacity (GW)	Global	2813	11174	33216
	G20	2435	9359	24868
Battery storage (GW)	Global	17	359	4098
	G20	16	278	2925

Source: IRENA, 2023

Material demand for energy transition technologies will also increase

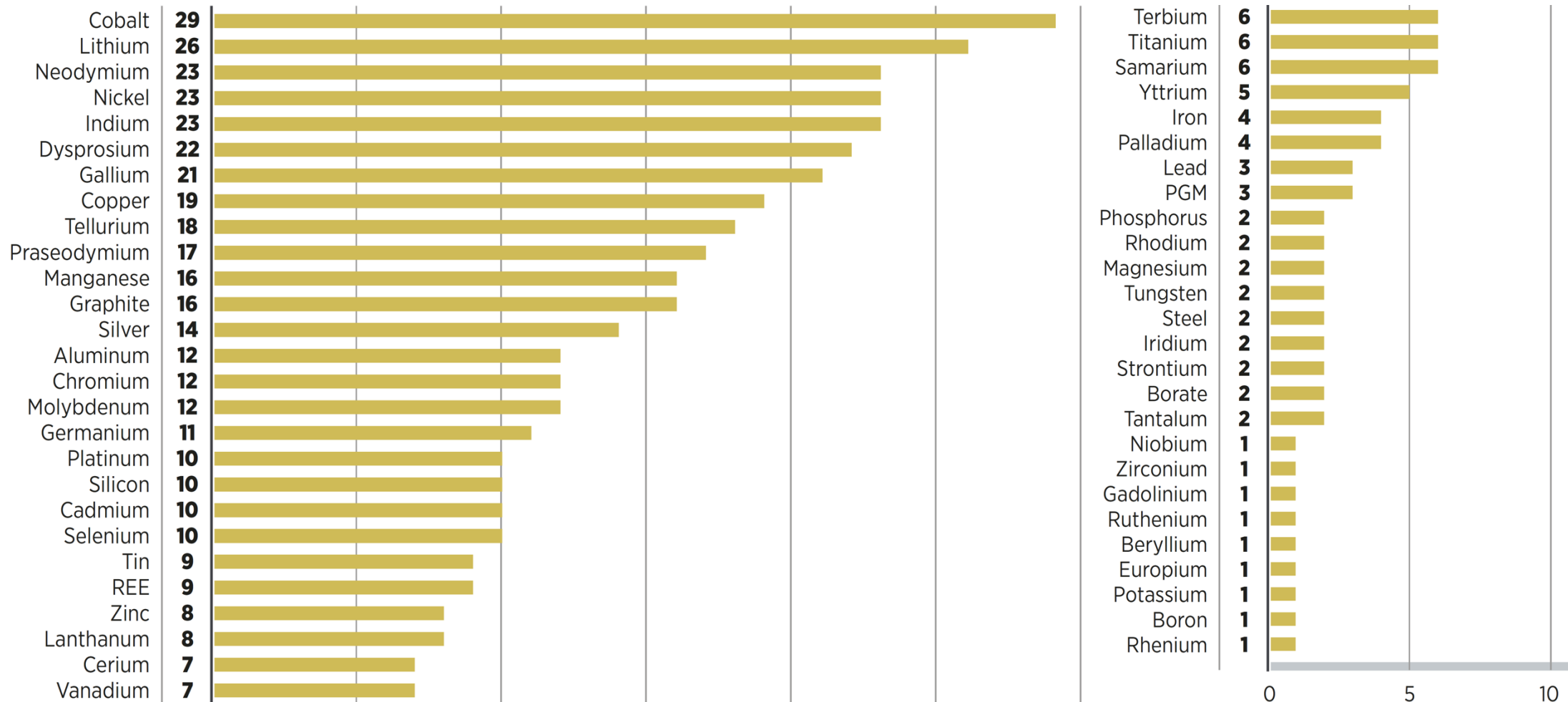
IRENA estimation on disparity between current supply and anticipated demand in 2030 for selected materials



Source: IRENA, 2023

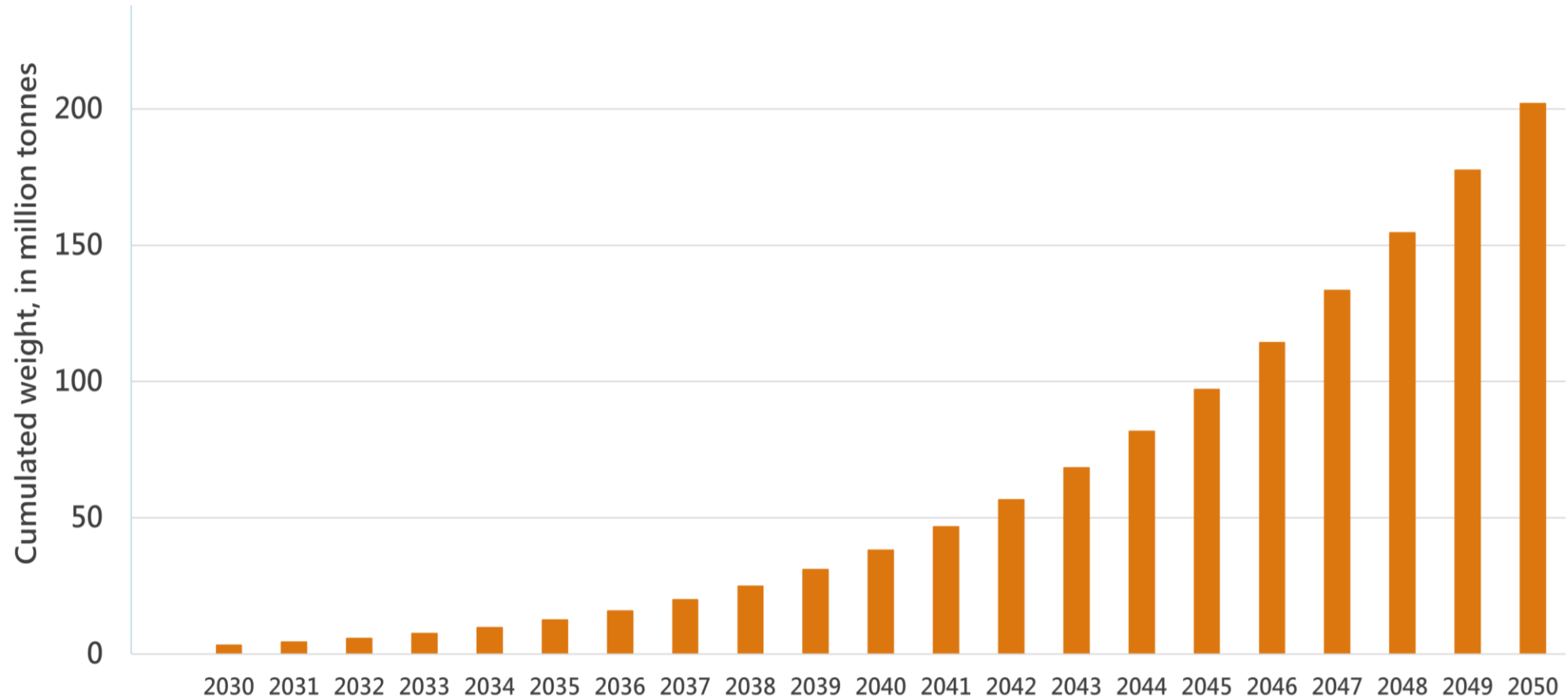
Some materials are defined as critical by countries and regions

Energy transition materials defined as critical by countries and regions, 2023



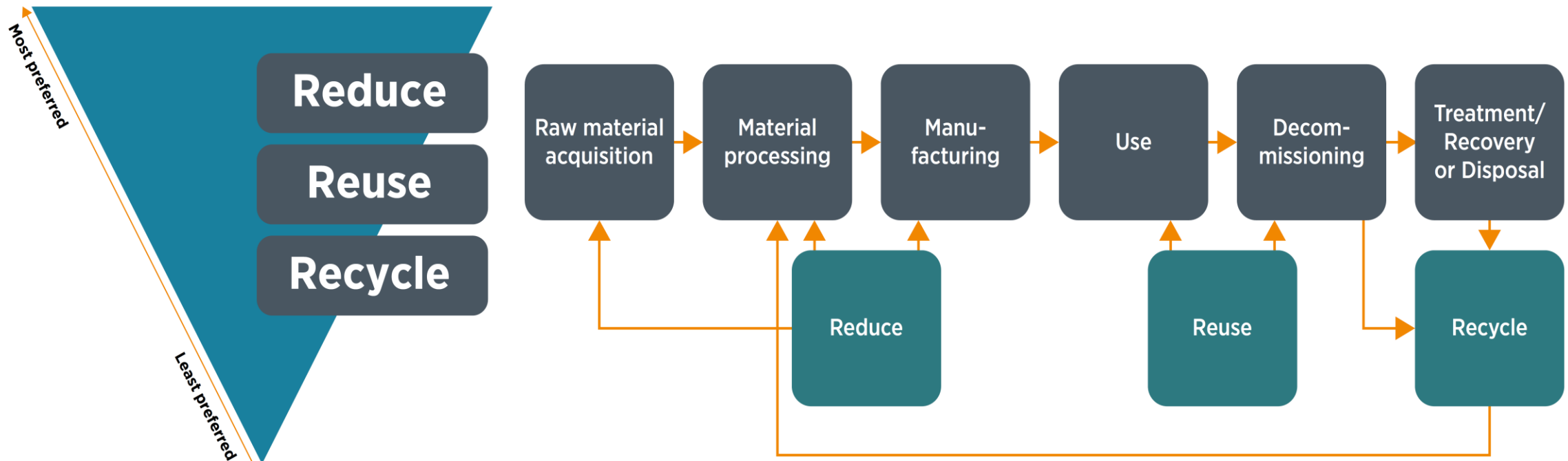
End-of-life management of renewables can be another challenge

Estimation on global cumulated weight of end-of-life solar PV, 2030 to 2050, 1.5°C scenario, in tonnes



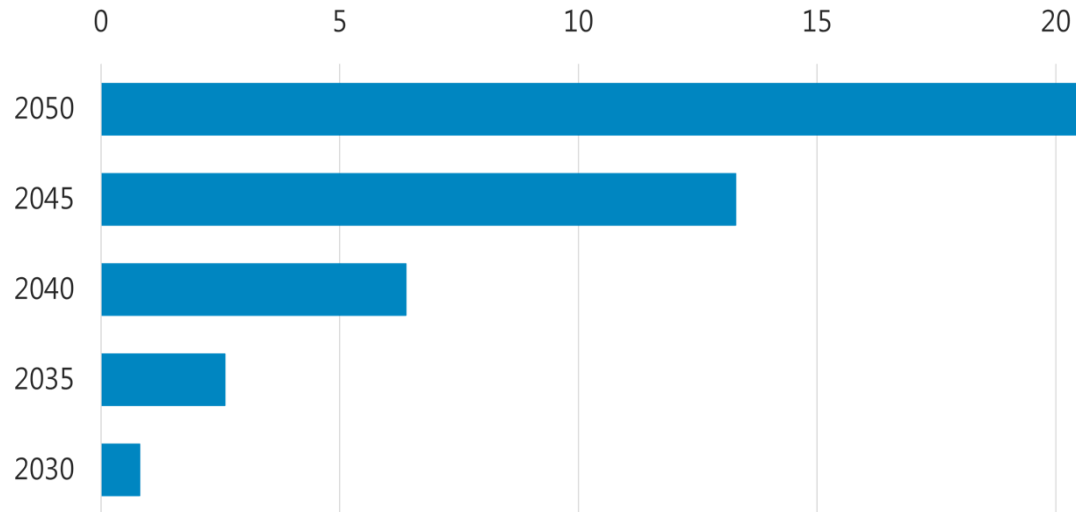
Circular economy is key to address both challenges

Circular economy approaches for the end-of-life management of renewables



Circular economy brings economic, social and environmental benefits

Projected market value of recyclable materials from end-of-life solar PV in the 1.5°C Scenario, in USD billion



Source: IRENA, forthcoming

- Recyclable material from end-of life solar PV can create billion USD of market value
- Job creation through reusing, repairment and recycling
- Additional supply of raw materials
- Avoided environmental impacts from mining activities
- Avoided water/land/air pollution from solid waste

Policies and measures are needed to overcome barriers





THANK YOU!

jfeng@irena.org

