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Harnessing benefits from critical energy transition minerals

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Harnessing benefits from critical energy transition minerals

Presenter: William Davis
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IGF INTERGOVERNMENTAL FORUM on Mining, Minerals, Metals and Sustainable Development

Secretariat hosted by IISD

Secretariat funded by Canada Kingdom of the Netherlands

Key messages

How to benefit from critical energy transition minerals:

- Better **mining governance**
- Broader **industrial development**
- **Avoid a race** to ‘win’ the energy transition

What are critical energy transition minerals?

Some examples…

Minerals and metals for electric vehicles by weight (in kg) and major producing countries

Cobalt 13.3 kg
Australia, **Canada**, DR Congo, **Madagascar**, **Philippines**, Russia

Lithium 8.9 kg
Argentina, Australia, Chile, China, Zimbabwe

Nickel 39.9 kg
Australia, **Brazil**, **Canada**, Indonesia, New Caledonia, **Philippines**, **Russia**

Manganese 24.5 kg
Australia, **Brazil**, Cote d'Ivoire, **India**, **Gabon**, **Ghana**, **Georgia**, **South Africa**

Graphite 66.3 kg
Brazil, **Canada**, China, **India**, **Madagascar**, **Mozambique**

Iron and Steel
China, **Brazil**, **India**, **Germany**, Japan, South Korea, **United States**

Rare Earth 0.5 kg
China, **Myanmar**, **Madagascar**, **United States**

Copper 53.2 kg
Australia, **Canada**, Chile, DRC, **Kazakhstan**, **Mexico**, **Peru**, **US**, **Zambia**

***Blue** indicates IGF membership.*

Minerals and metals for renewable energy

Chromium
Manganese
Cobalt
Molybdenum
Copper
Zinc
Gallium
Germanium
Tin
Tellurium
Nickel
Rare Earth Elements

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What Makes Minerals and Metals "Critical"?

A practical guide for governments on building resilient supply chains

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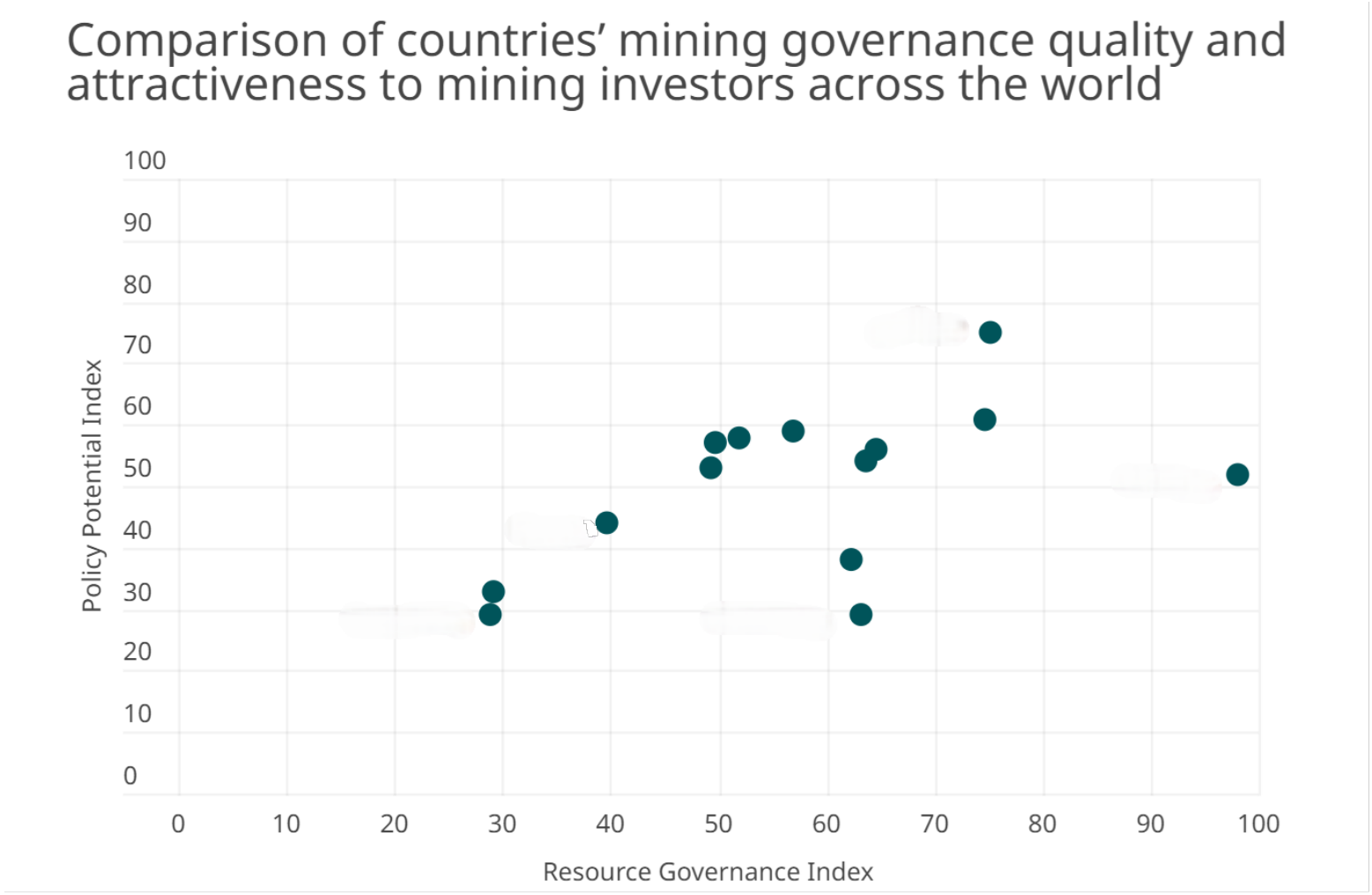
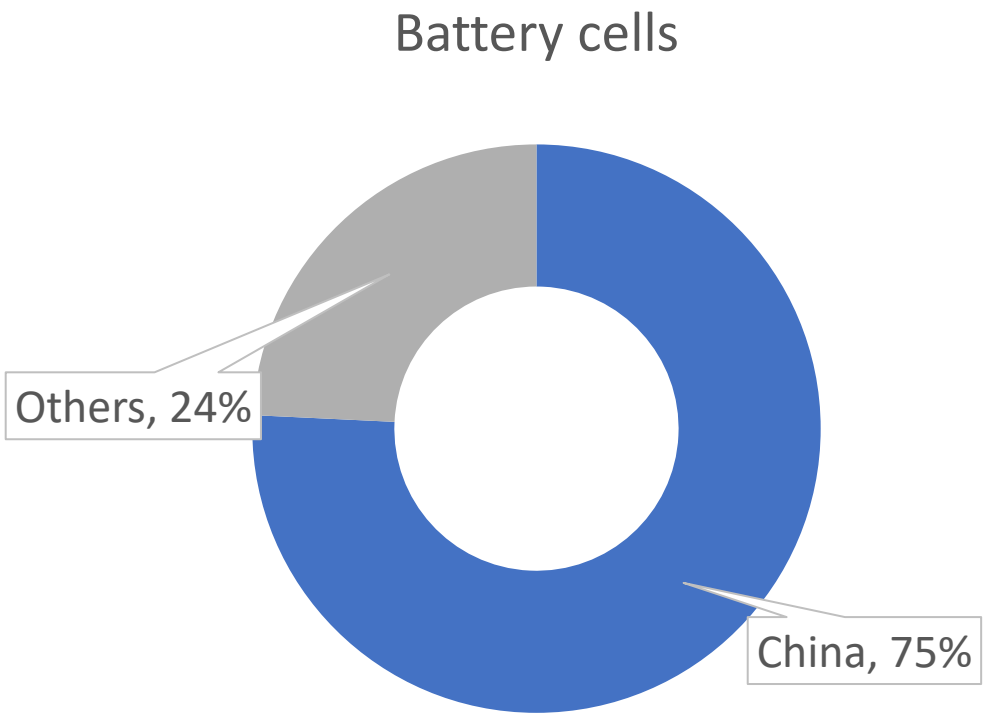
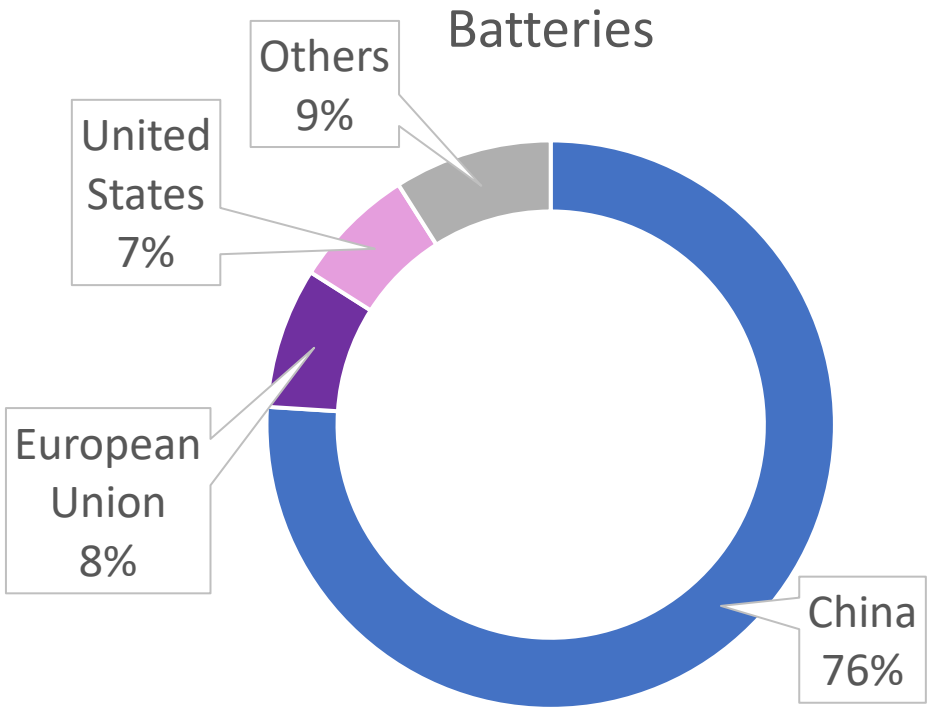
Making the most of critical minerals



Source: Diene et al. (NRGI), *Triple Win*

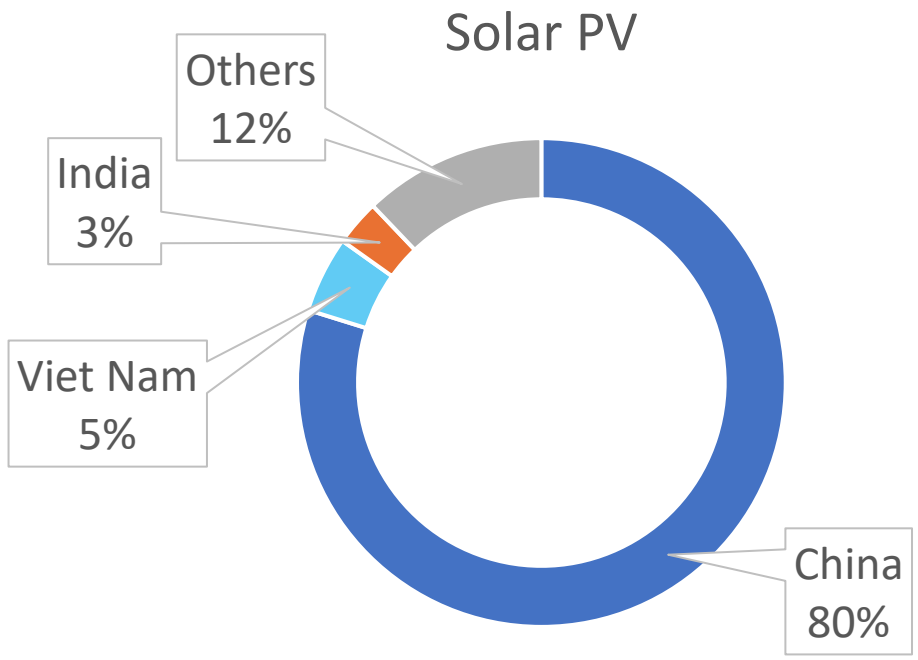
Supporting value addition & local content

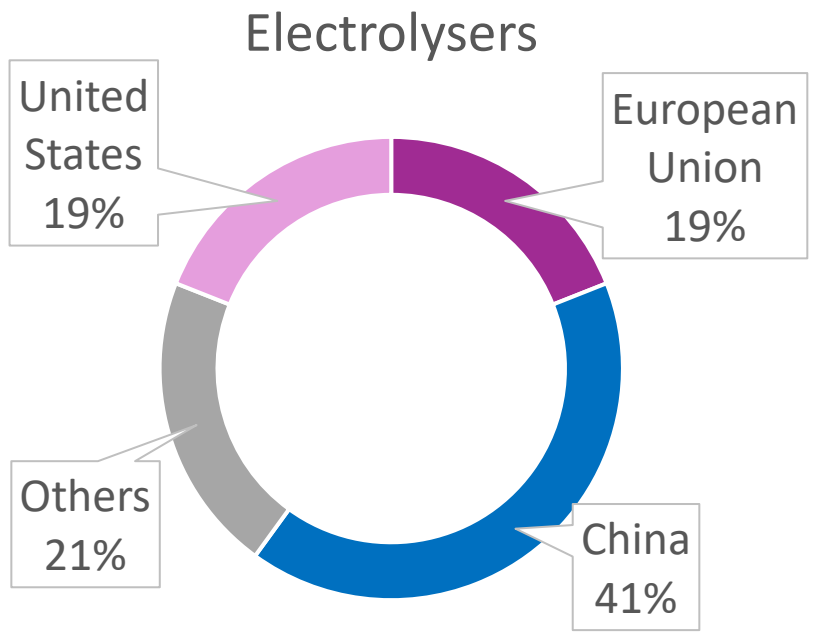




Source: Publish What You Pay

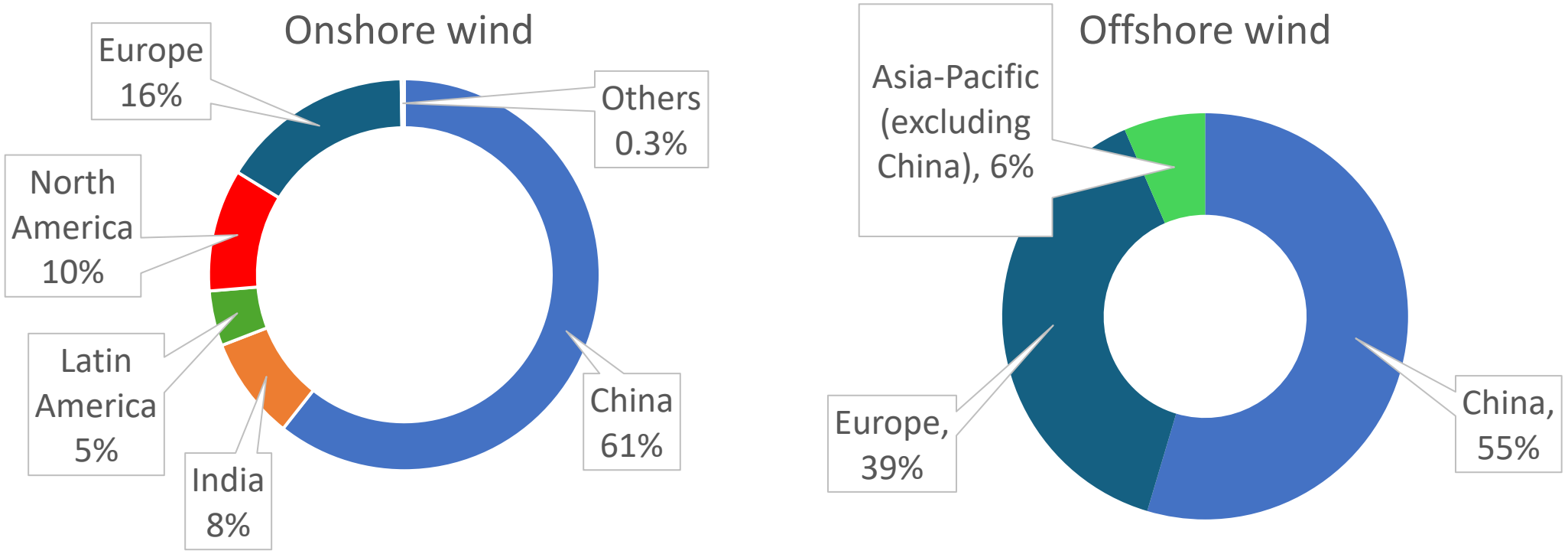
Shares of solar PV and electrolyser manufacturing, 2022





Source: Publish What You Pay

Shares of wind turbine nacelle manufacturing, 2023



Source: Publish What You Pay

How to increase participation in critical mineral supply chains?

Best practices in industrial policy

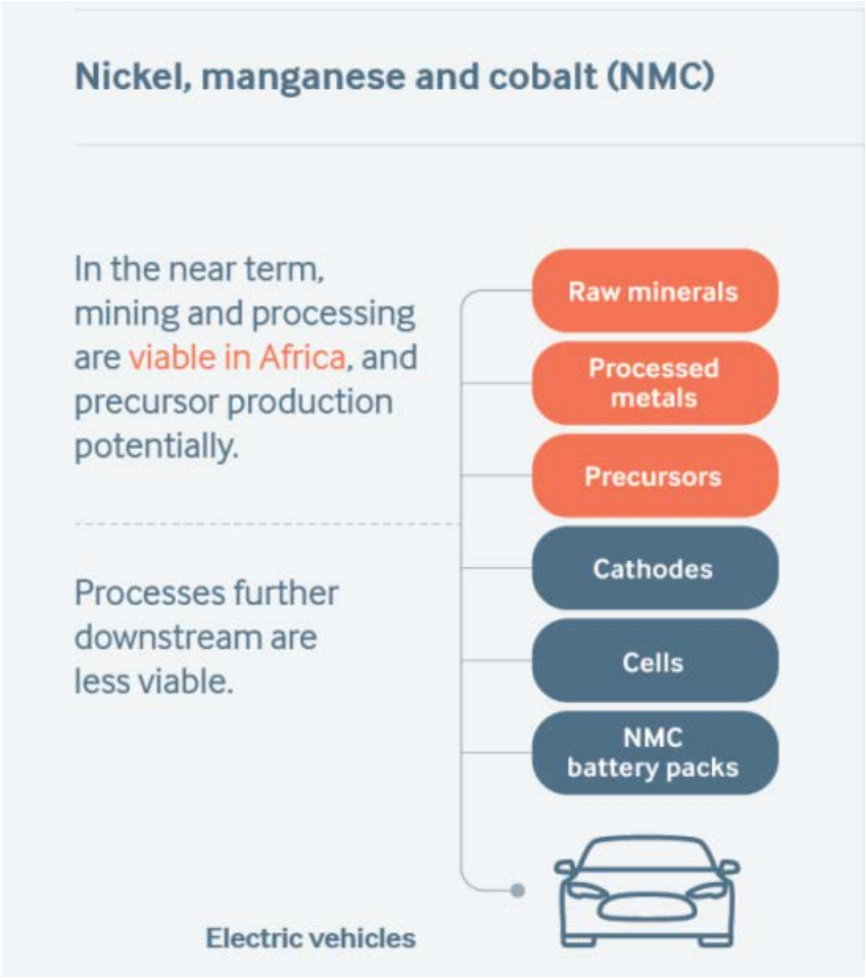
- **Based on private sector dialogue (“embedded autonomy”)**
- **Monitor & adapt policy**
- **Export promotion is better than import protection**
- **Provide incentives, not unconditional support**
- **Regional cooperation**
- **Basics (infrastructure, skills, good regulations)**
- **Export restrictions are rarely effective**

Export restrictions are rarely effective:

- Need high degree of market power / low level of value addition

Dilemmas in industrial policy

- Governments can’t do everything
- Need to prioritise
- Mineral value addition not always the priority

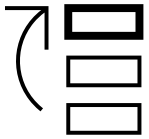


Source: NRGI

Key questions for targeting a new industry

- Is it realistic?

- Is it desirable?



- Is it the priority?

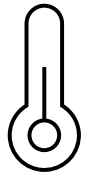
Why the global race to ‘win’ the energy transition is undesirable

Why the global race to ‘win’ the energy transition is undesirable

Active industrial policies can be good, but some policies are:

- Distortionary

- Regressive



- Bad for the climate?

Conclusion

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THANK YOU

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