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Beyond CO2: a circular perspective on sustainable mobility

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Overview

- 1. Why this subject?**
- 2. Insights gained**
- 3. Why does this matter now?**
- 4. (how) Can we act?**
- 5. Discussion**



Why this subject?

Ambitions on two subjects:



1. Reducing CO2 emissions with -55% in 2030;
2. Reducing the use of (primary) materials with 50% in 2030. Becoming a circular economy in 2050.



Tension: energy transition leads to increase of (scarce) materials.



'The technology is there' – Little attention is drawn to (possible) material shortage in mobility policy.
→ Research TNO

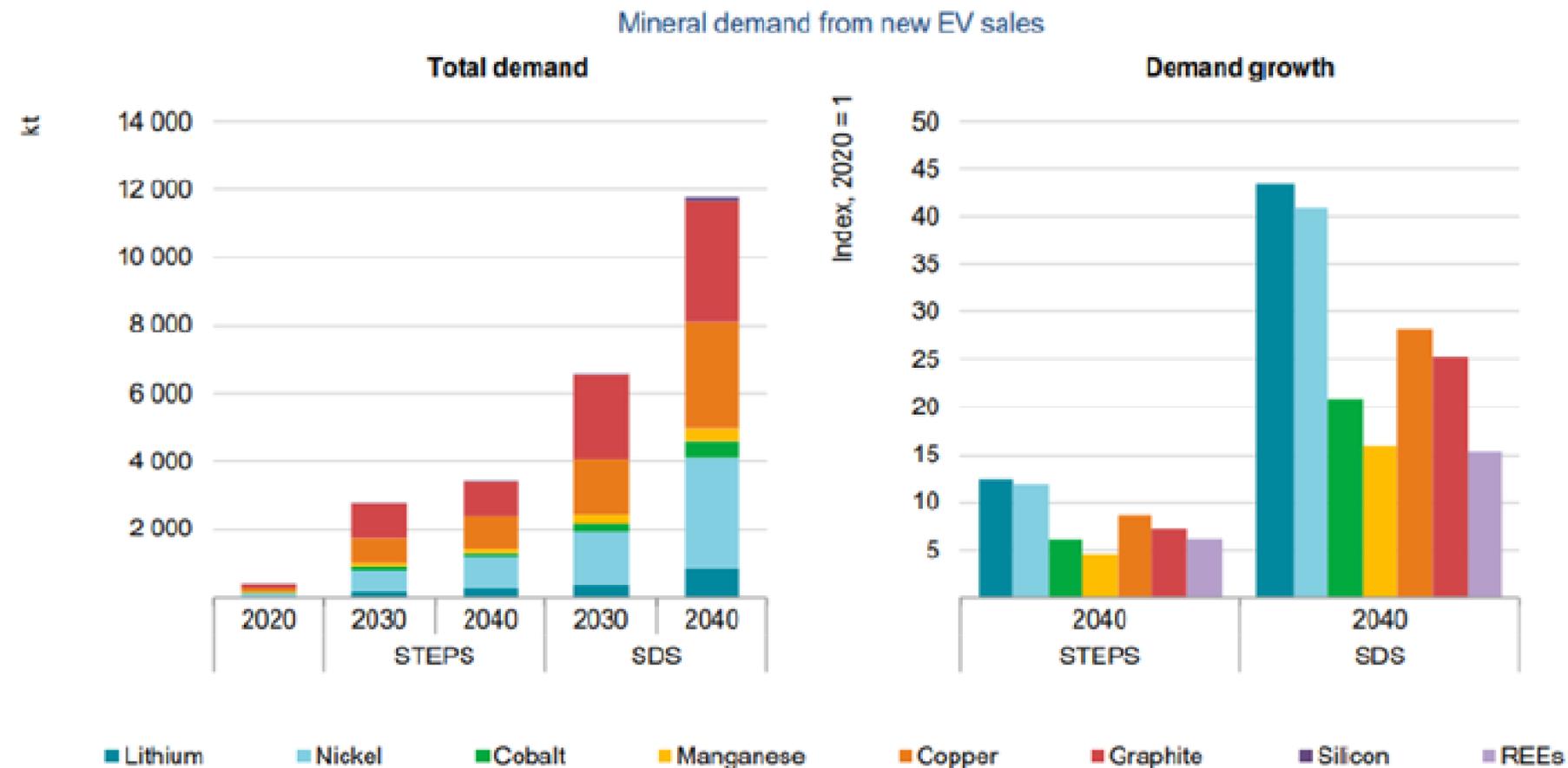


Insights gained

EV always best option from CO2 perspective. LCA shows that impact during production is compensated during use.

More (scarce) materials needed for production. Various risks in terms of availability of these resources:

1. Delving countries vulnerable;
2. Often monopoly on resources and production chain;
3. Expectation: demand exceeds supply with stacking of ambitions energy transition.

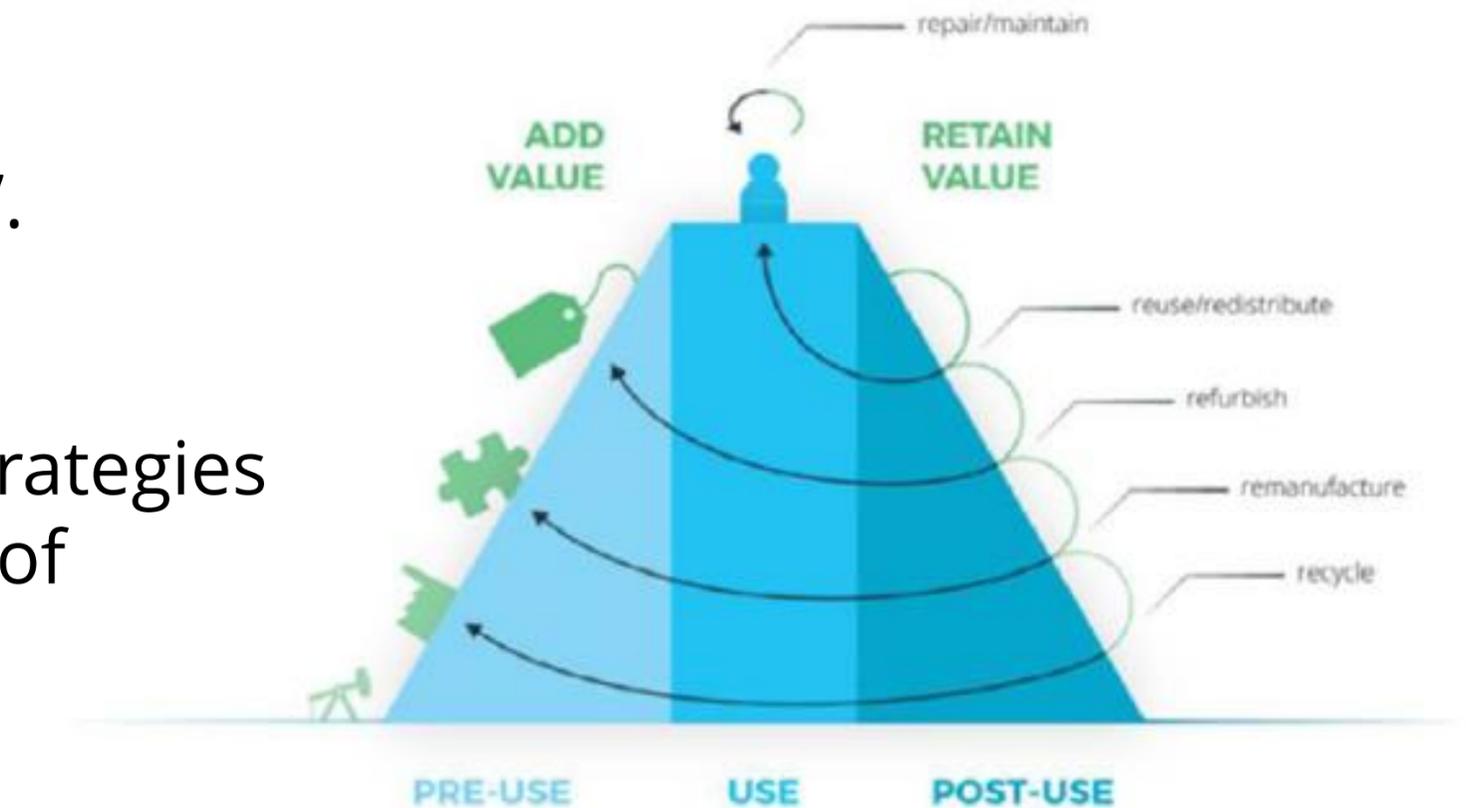
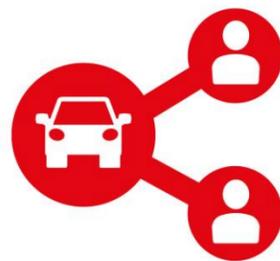


Insights gained

↻ Capacity for reuse and recycling in Europe is growing, but not expected to be sufficient in short term.

🔗 Circular = not just the vehicle, but entire 'chain'.

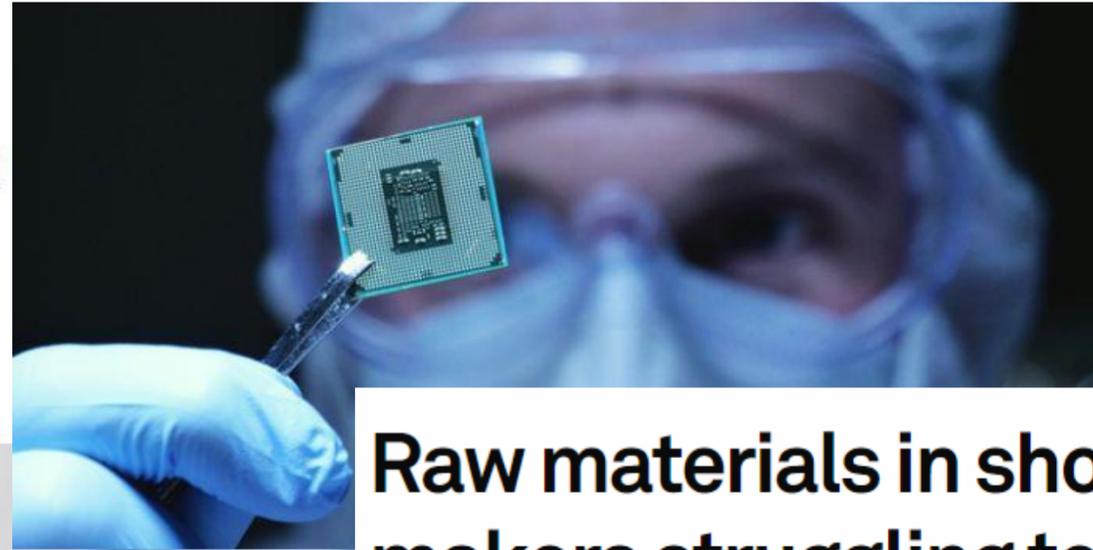
↓ 'Reduce' and 'Rethink' are important circular strategies that gain urgency looking at the risks in terms of availability of materials.



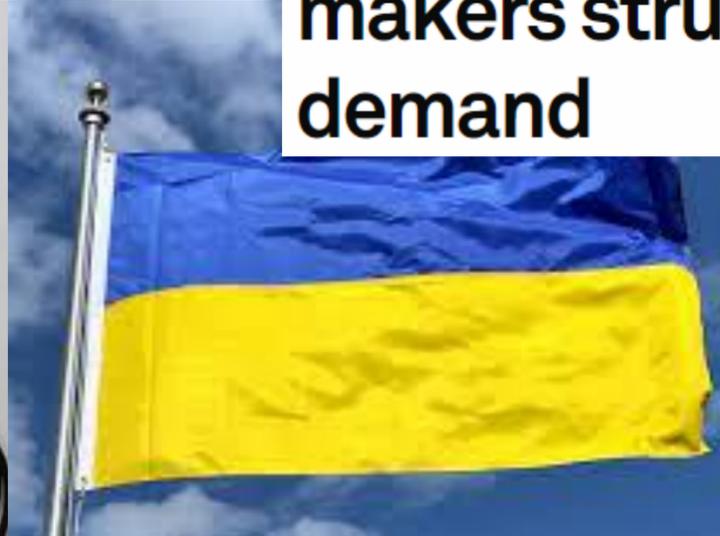
Why does this matter now?

Electric car battery shortage looms in 2025, warns Stellantis boss

Carlos Tavares says planned production boost won't cope with surging demand for electric vehicles



Raw materials in short supply for EV makers struggling to meet customer demand



Electric cars in an energy crisis: Lack of battery materials adds to troubles of green drivers



(how) Can we act?



Global problem: can we act local?

- Pay attention to availability of materials with development of mobility policy. A roadmap should include this perspective.
- Sustainable mobility and circular strategies (reduce, rethink) go hand in hand.
- Look into the distribution of CO2 effects between Verschonen (Decarbonization), Verminderen (Reduce) and Veranderen (Change/Rethink).
- Pay attention to the 'chain' as a whole (from production to use and end of life) and what is needed to excellerate the transition from both perspectives.





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Thank you for your attention!

For questions:

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