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#digitalsummit

Digital Summit
14 mei 2022
Zalencentrum Vredenburg
Vredenburg 19, Utrecht

Duurzame digitalisering

Roel Dobbe (TU Delft)
Martine Postma (Repair cafe)
Richard Wouters (Wetenschappelijk bureau)
o.l.v. Kim van Sparrentak (Europarlementariër)

DE GROENEN/EVA
in het Europees Parlement
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Greening the digital transition

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Metals are the Achilles heel of the energy and digital transitions

The green and digital transitions will lead to a drastic increase in European demand for certain critical raw materials by 2050

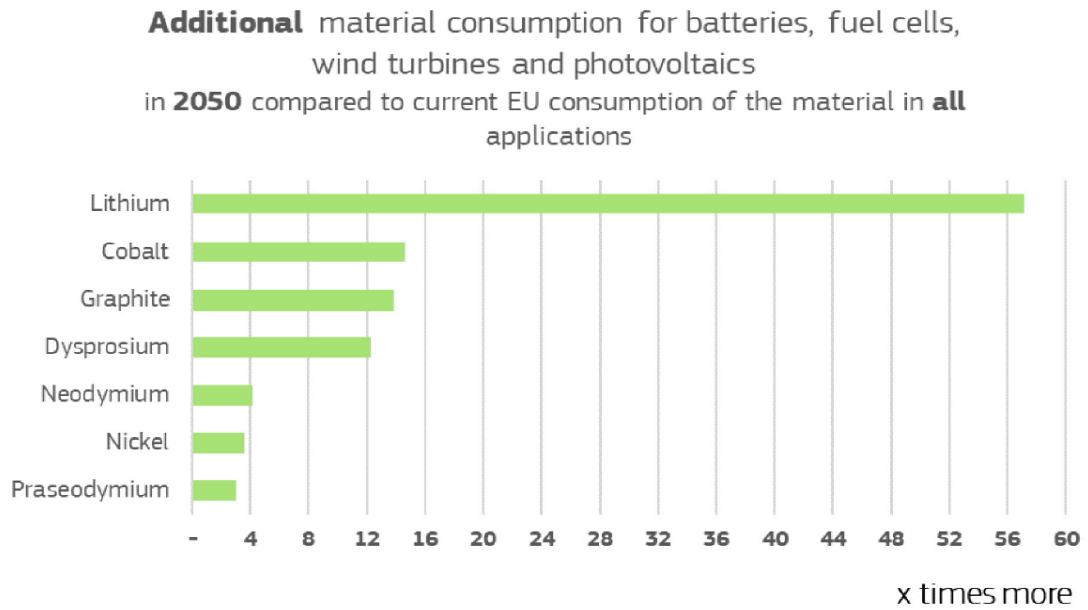

Chart: European Commission, 2020

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Three types of scarcity

1. **Economic scarcity**

Lithium prices rose more than 400% in 2021; supply agreements failed to keep up

2. **Physical scarcity**

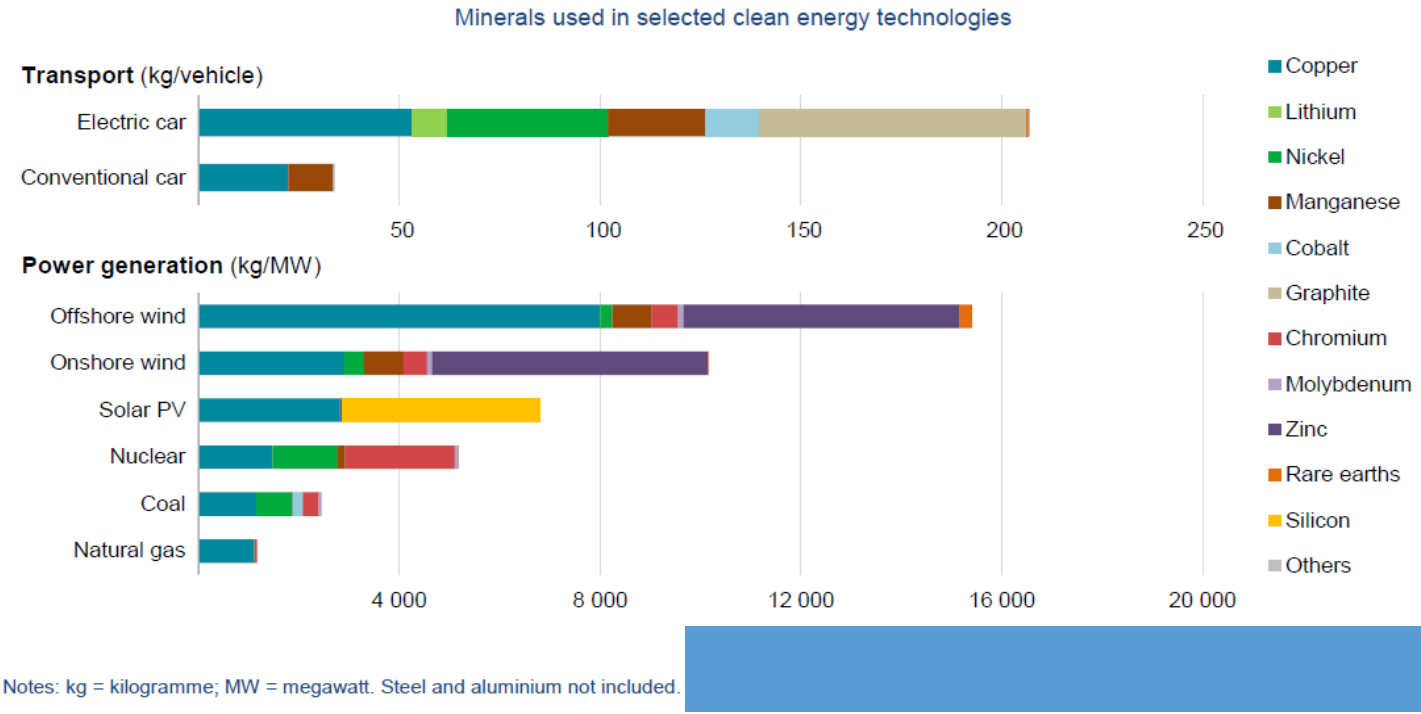
The world risks ‘running out of copper’

3. **Geopolitical scarcity**

Nickel shortage caused by Ukraine war could endanger e-mobility transition

From a fuel-centric to a metal-centric energy system

The rapid deployment of clean energy technologies as part of energy transitions implies a significant increase in demand for minerals



Notes: kg = kilogramme; MW = megawatt. Steel and aluminium not included.

Charts: IEA, 2021

The energy and digital transitions compete for the same metals

Figure 44. Raw materials in digital technologies.

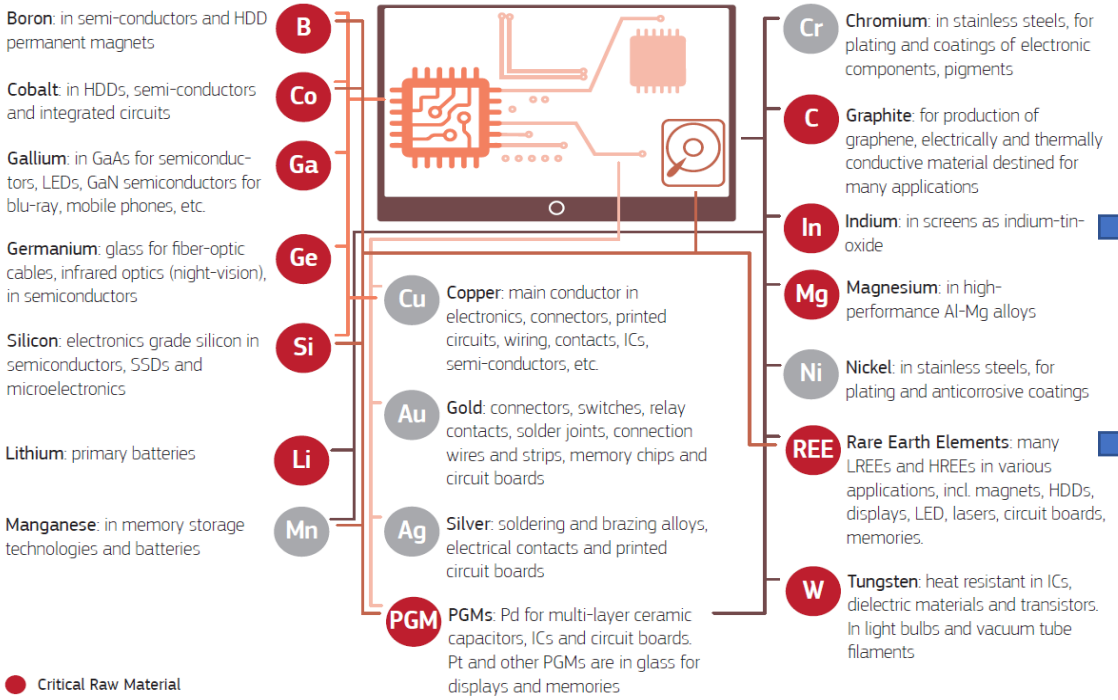
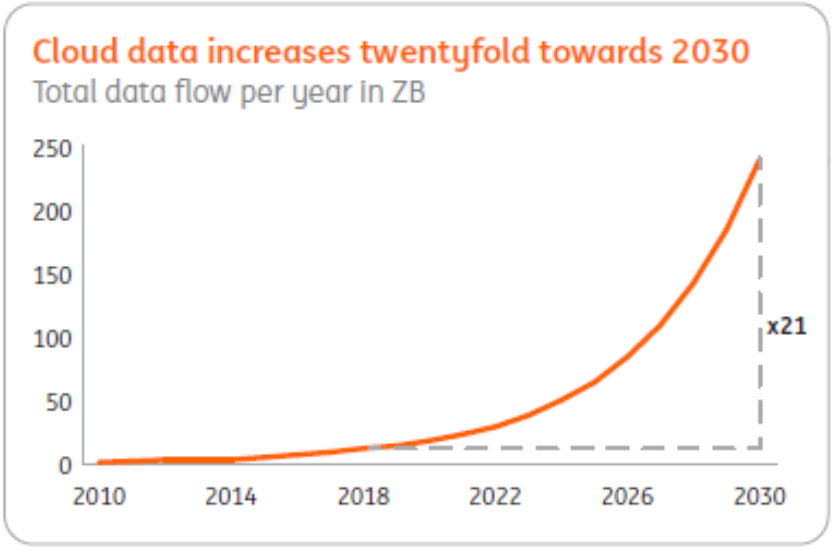


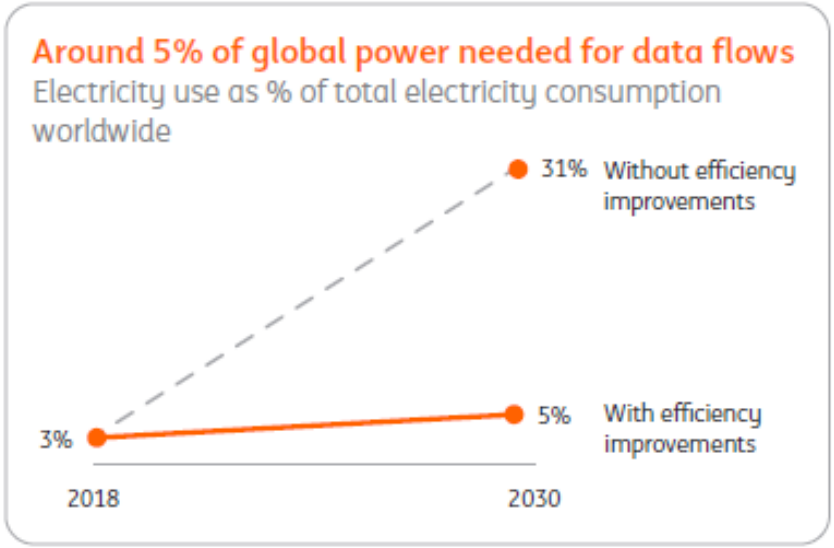
Diagram: European Commission Joint Research Centre, 2020

Indium
* 60 % of current EU end use for flat screens.
* Growing demand for indium in thin film solar cells.

Neodymium
* 10 % of current EU end use for smartphones, laptops and desktop PC's.
* Growing demand for neodymium in electric vehicle motors and wind turbine generators.

The digital transition is dependent on the energy transition…





Charts: ING Economics Department, 2019

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Gains in material & energy efficiency → Rebound effect

…but the energy transition is also dependent on the digital transition…

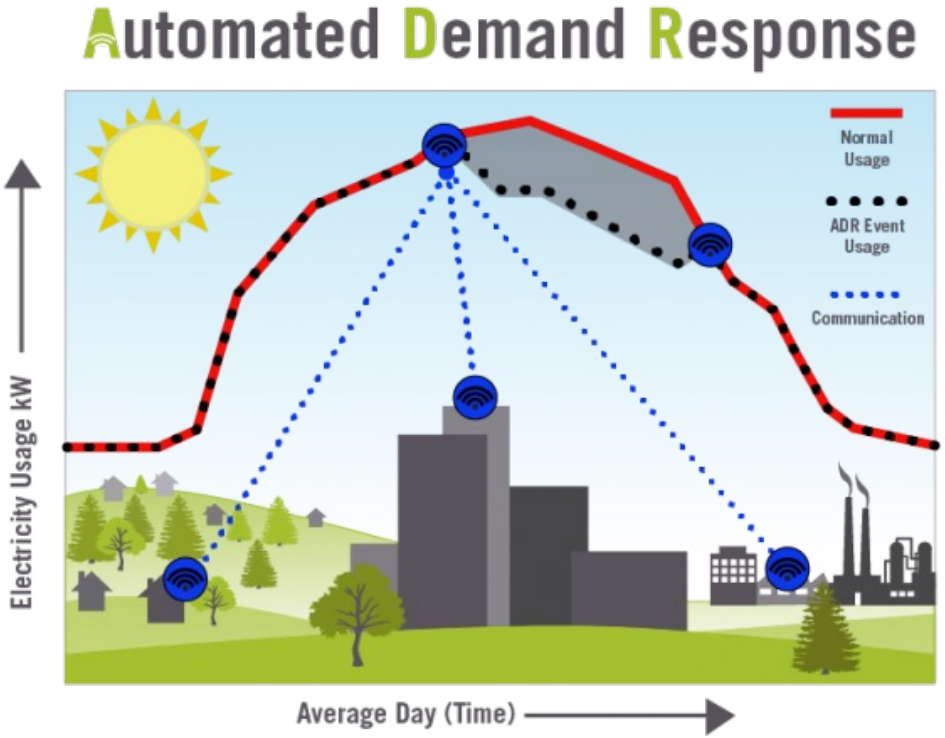


Image: Energy Solutions

…and the circular transition is dependent on the digital transition as well

EU instruments for greening the digital transition - 1

- **Ecodesign standards for energy and material efficiency of digital devices** including recycled content obligations

- **Stricter legislation on e-waste** (WEEE) including material-specific recycling targets

Or combine these two approaches in one regulation (cf. draft battery regulation)

- If you cannot recycle the scarce metals in your device, you can no longer use them.
- Deposits on all devices.

EU instruments for greening the digital transition - 2

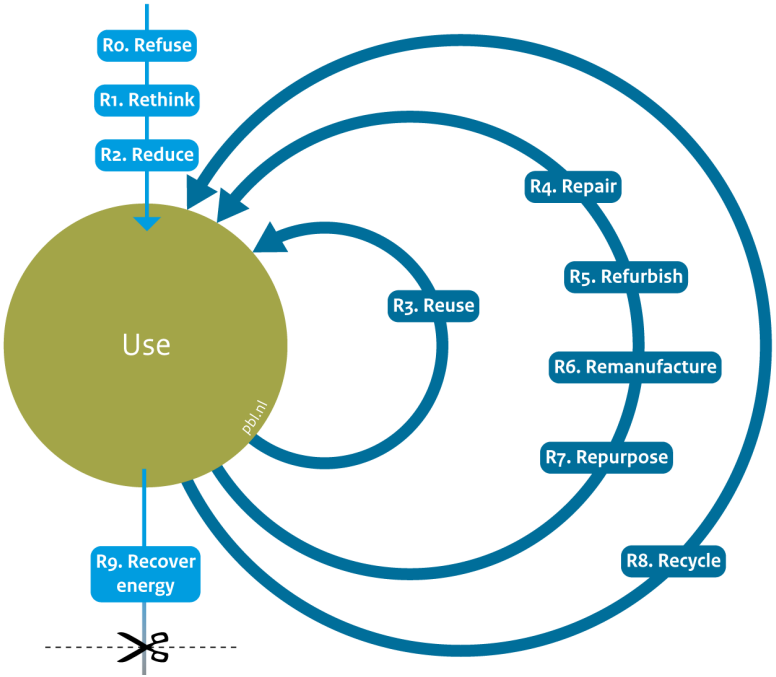
- **Universal right of repair** + repair score

Support a repair score in Europe

- **Binding sustainability standards for datacenters**

- **Empower the European Commission to ban the use of critical raw materials for non-essential applications in times of shortages**, by means of delegated acts.

Move up the circularity ladder

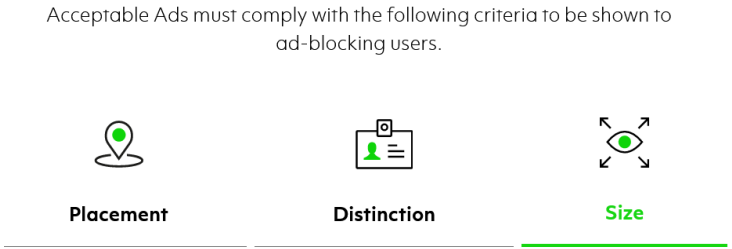


Visual: PBL et al., 2018

Refuse, rethink, reduce: counter the rebound effect

Tackle the exponential growth of data head-on:

- **Develop ecodesign standards that limit the data use of online films, videos, games and advertisements** (cf. Acceptable Ads Standard)



- **Adopt ecodesign standards for cryptocurrencies** (cf. Ethereum: proof of stake)

- **Develop a metric for the computational intensity of AI models**

  + try it out in public procurement of AI

Refuse, rethink, reduce: connect ecological and digital justice

- **Ban trade in personal data**, including personalised advertisements
- **Ban biometric mass surveillance**, f.i. facial recognition cameras
- **Ban social scoring**
- **Ban untargeted interception of telecommunications**

➡ **Less storage, transmission and processing of personal data**

➡ **Protection from manipulation and mass surveillance**

➡ **Better quality of life while saving resources for future generations**

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Minder gigabytes, meer privacy

Een studie in opdracht van de Groene fractie in het Europees Parlement werpt licht op de klimaatimpact van het surveillancekapitalisme. Veel smartphone-apps volgen het doen en laten van gebruikers, vaak buiten hun weten, teneinde hun persoonsgegevens te verwerken tot een profiel. Dit stelt adverteerders in staat om smartphonegebruikers te bestoken met gepersonaliseerde advertenties. Het dataverkeer dat door dergelijke *tracking* en *targeting* wordt gegenereerd bedraagt alleen al in de EU tussen de 30 en 50 miljard gigabyte per jaar. Dat veroorzaakt een jaarlijkse CO_2-uitstoot van 5 tot 14 megaton. Om deze uitstoot te compenseren, zou de EU tussen 90 en 260 miljoen zonnepanelen moeten installeren.[106] De Europese wetgevers zouden ook kunnen besluiten om deze schending van onze privacy door de apps op onze smartphones niet langer toe te staan.

Thank you for your attention!

Stay informed: wbgl.nl/nieuwsbrief

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