Global Material Resources Outlook to 2060
Economic drivers and environmental consequences

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@OECD_ENV
Outline

• The economic drivers of materials use
• Materials use projections to 2060
• Environmental consequences
• Conclusions and policy implications
Material Resources Outlook in a nutshell

- **Global assessment (disaggregated to 12 large economies + 13 regions)**
- **2060 time horizon**
- **50+ economic sectors**
- **60 materials**

Macro model: ENV-Growth

- Demographics
- Labour
- Capital accumulation
- Total factor productivity

Multisectoral model: ENV-Linkages

- Structural change assumptions on demand and production
- Material extraction data
- Recycling technologies data

Environmental impacts

Economic projections

Materials use projections
Global economy to triple ...

… but global growth slows down
Living standards will converge to current OECD levels.
Investment increases over time and construction follows
Structural change shifts activity away from material intensive sectors
Competing forces lead to near doubling of materials use
Growth in material use differs widely across materials
.. And across countries
Recycling grows faster than mining...

... but remains a small share of the economy.
Greenhouse gas emissions related to materials management will more than double.

12% of total GHG emissions associated with 7 key metals

12% of total GHG emissions associated with concrete

50Gt CO₂ eq emissions associated with materials cycle
Environmental impacts from extraction and processing will more than double, but vary widely by material.
Primary materials cause much more environmental damage

Per kg environmental impacts (highest impact normalised to 1) for 2015
The Outlook also covers projections of …

Materials Criticality

Steel

Copper

Uncertainty
Conclusions

• Conflicting socio-economic trends will drive materials use. Despite structural and technological change, **global materials use will double** between now and 2060, translating into a **relative decoupling**.

• This exacerbates a **wide range of environmental impacts**, and is on a collision course with meeting the objectives of the Paris Climate Accord.

• While **recycling** becomes more competitive over time it is not sufficient to shift the balance between primary and secondary materials use.

• Given the stark differences between materials we need greater **granularity for resource efficiency policies**, motivated by environmental concerns.

• Greater **coherence** is needed between resource management and climate policies, as well as other policies, such as trade and innovation.
Thank you for your attention!

Find the report, highlights and explore the data at: oe.cd/materials-outlook

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