



PBL Netherlands Environmental Assessment Agency

To Zero or not to Zero? That is the question

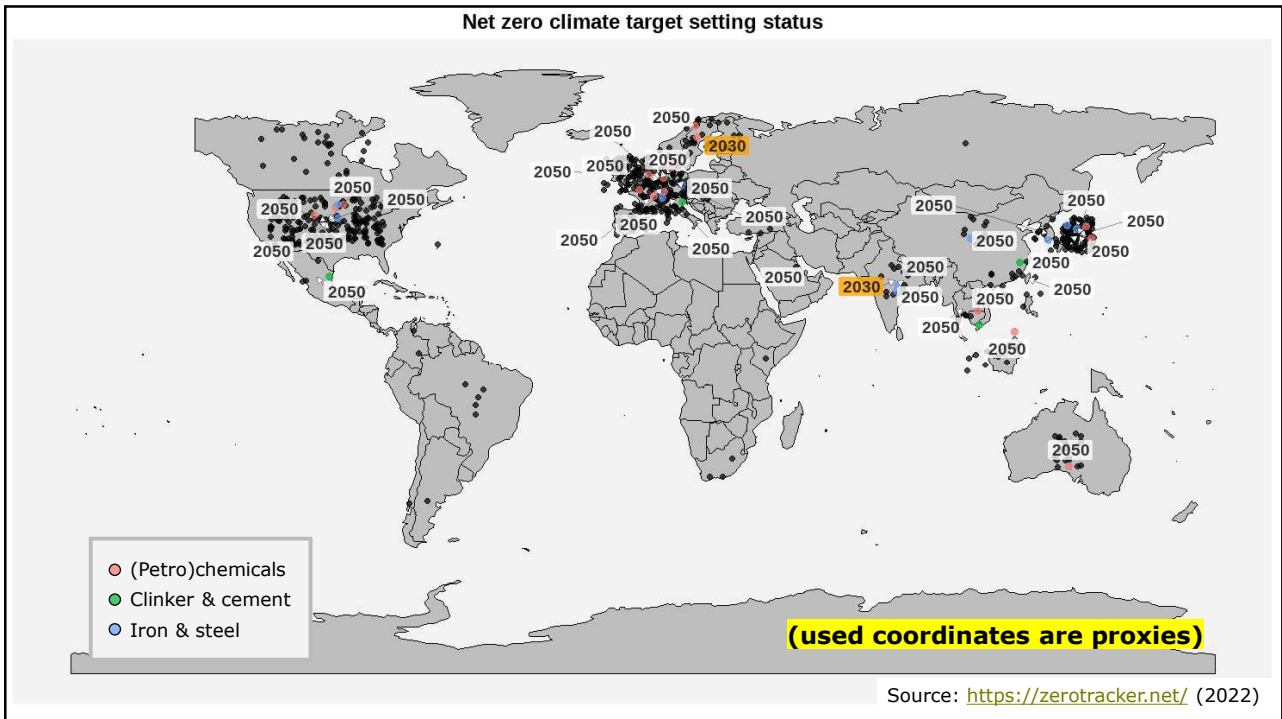
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PBL Netherlands Environmental Assessment Agency

24 February 2022 – Industry transformative change towards carbon neutrality



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Corporate Climate Responsibility Monitor 2022

ASSESSING THE TRANSPARENCY AND INTEGRITY OF COMPANIES' EMISSION REDUCTION AND NET ZERO TARGETS
February 2022

Table 12: Overview of companies assessed in the Corporate Climate Responsibility Monitor 2022

High Integrity	Pledge	Transparency	Integrity	Page
High Integrity				
REACHABLE INTEGRITY	PLEDGE	TRANSPARENCY	INTEGRITY	PAGE
MAZDAK	Net zero by 2040	⬆️	⬆️	p. 86
Low Integrity				
APPLE	Carbon neutral by 2030	⬆️	⬆️	p. 54
SONY	Zero emissions by 2050	⬆️	⬆️	p. 95
VODAFONE	Net zero by 2040	⬆️	⬆️	p. 102
Very Low Integrity				
ACCENTURE	Net zero by 2025	⬆️	⬆️	p. 52
BMW GROUP	Carbon neutral by 2050	⬆️	⬆️	p. 59
CARREFOUR	Carbon neutral by 2040	⬆️	⬆️	p. 41
CVSHEALTH	Net zero by 2050	⬆️	⬆️	p. 63
DEUTSCHE POST DHL	Zero / net zero by 2050	⬆️	⬆️	p. 65
EDN SE	Carbon neutral by 2040	⬆️	⬆️	p. 72
IBL	Net zero by 2040	⬆️	⬆️	p. 84
NESTLE	Net zero by 2050	⬆️	⬆️	p. 88
NOVARTIS	Carbon neutral by 2030	⬆️	⬆️	p. 91
SANT-GOBAIN	Net zero carbon by 2050	⬆️	⬆️	p. 93
UNILEVER	Net zero by 2030	⬆️	⬆️	p. 97

“[...] it is more difficult than ever to distinguish between real climate leadership and unsubstantiated greenwashing.”

Source: <https://newclimate.org/2022/02/07/corporate-climate-responsibility-monitor-2022/>

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Industry transitions
Changes in 2050 compared to 2010 levels

IPCC

- 1.5C or below
- Below 2C

Yet, representation of demand-side mitigation in the literature is limited. The majority of Integrated Assessment Modelling papers only provide high-level details of changes to the demand-side such as reduction in carbon emissions, energy intensity or fuels share changes [3].

Napp et al. (2019) <https://doi.org/10.1016/j.apenergy.2019.01.033>

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“What can a technology detailed IAM say about ‘net-zero’ in **industry** in a **1.5°C/2°C** context?”

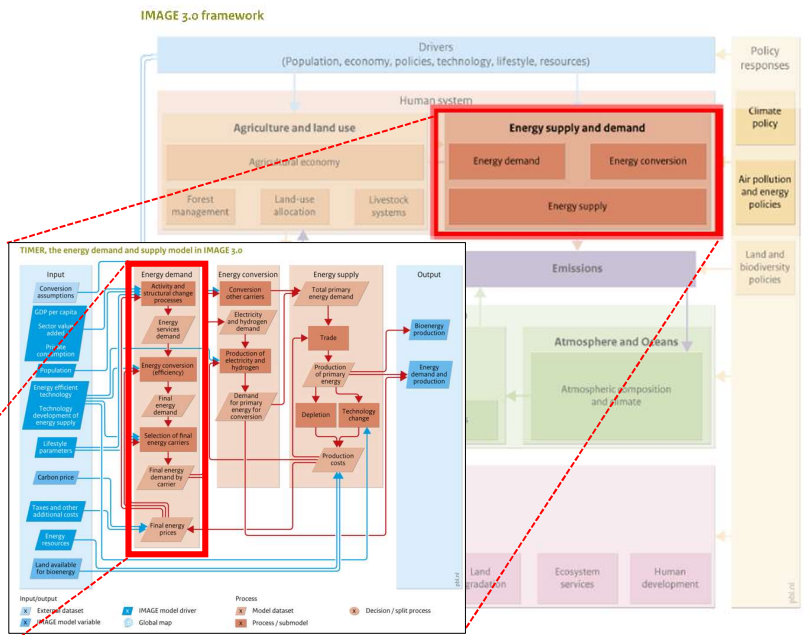
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The IMAGE model

- Interactions between:
 - society
 - biosphere
 - climate system
- **26 world regions**
- 1970-2100, yearly time steps
- **Output:**
 - land
 - water
 - energy
 - resources
 - emissions
 - climate change indicators
 - Etc.

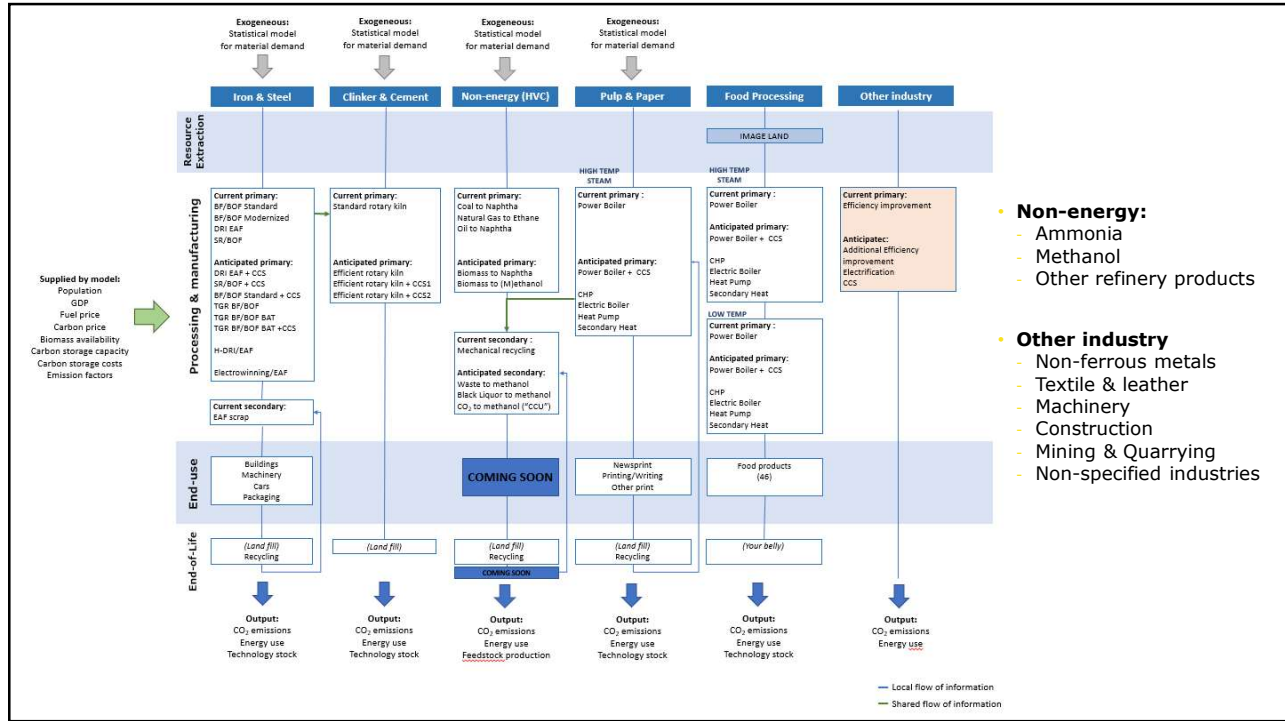
Transport
Household
Industry



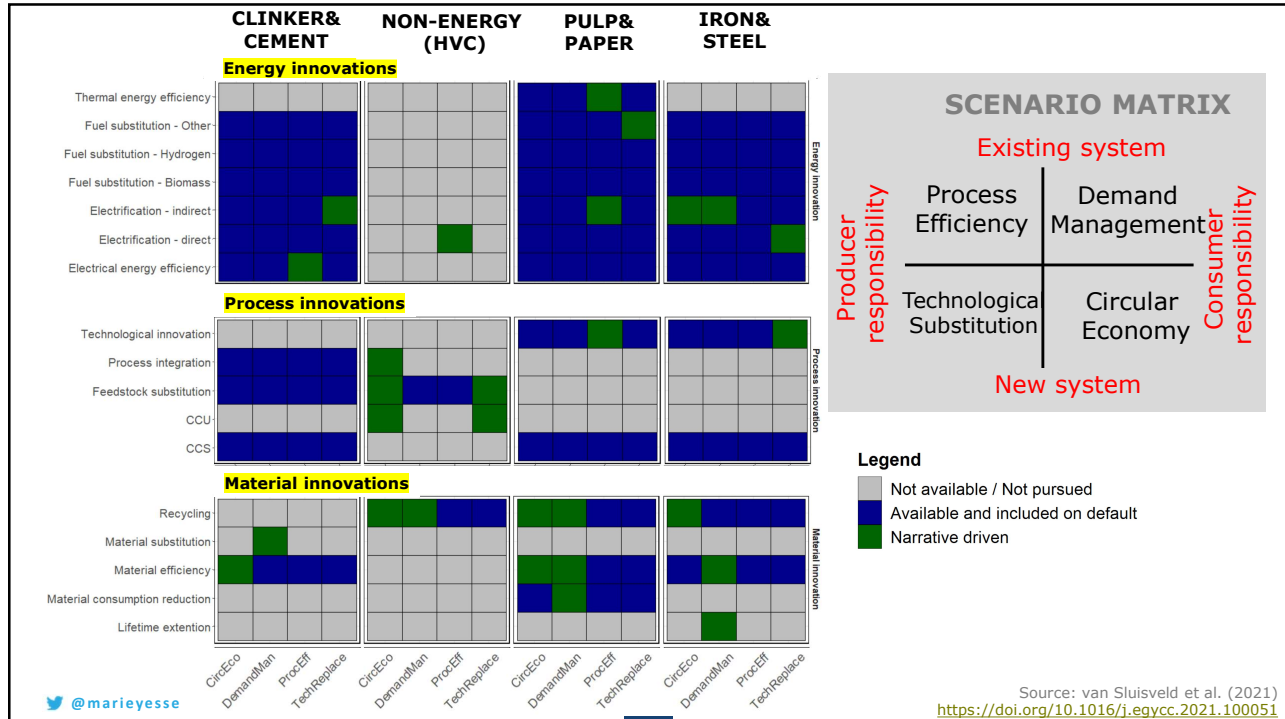
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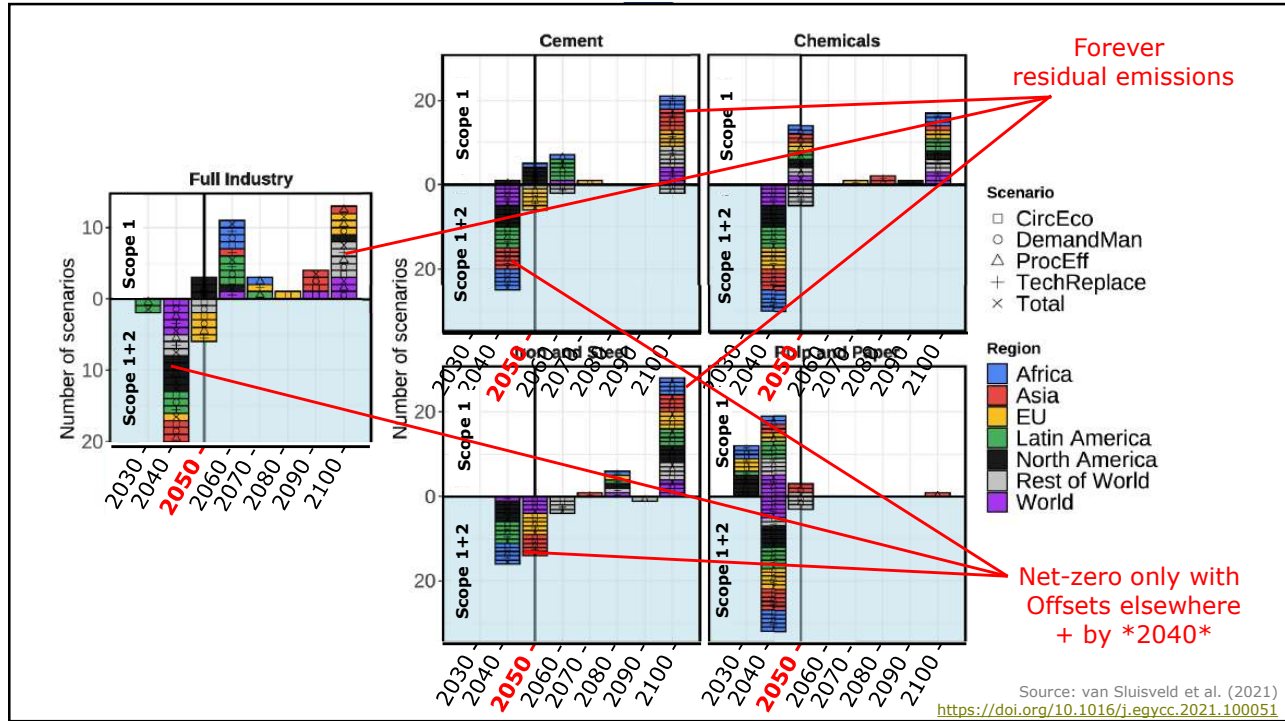
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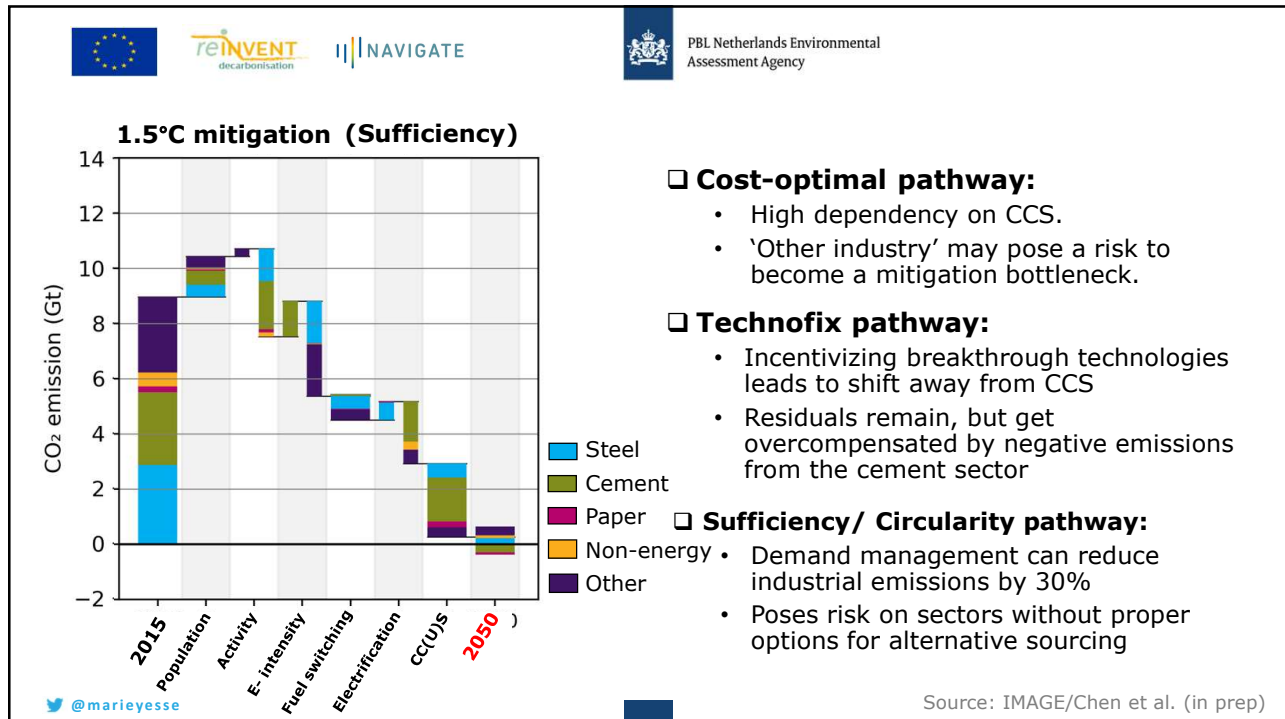
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Learnings: To Zero or not to Zero?

- ❑ Corporate net zero commitments that bank on offsets are consistent with the IMAGE scenarios
- ❑ However, the 1.5°C goal would require such a net-zero achievement by 2040 for industry across all world regions
- ❑ Absolutely key to account for 'breakthrough' innovations
- ❑ Absolutely key to account for the material lifecycle & feedbacks too.
- ❑ IMAGE shows robust responses:
 - "Top heavy" & Energy oriented
 - No full integration / interaction with other economic sectors (yet!)
 - Therefore mostly showing a continuation of today's industry, but just one under 'pressure'

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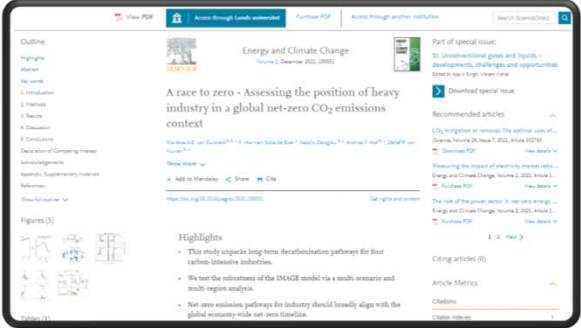


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Thank you for your attention

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READ MORE ABOUT THIS WORK [HERE](#)

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