

Comments on the Book

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UNSW
Water Research
Centre

SUSTAINABILITY
ASSESSMENT PROGRAM

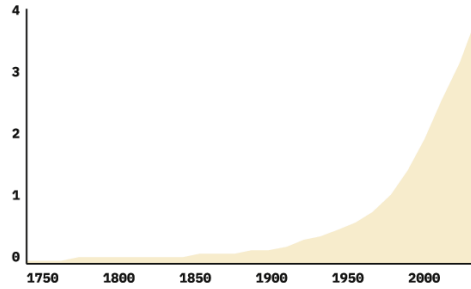


We live in the ANTHROPOCENE (The “Great Acceleration”)

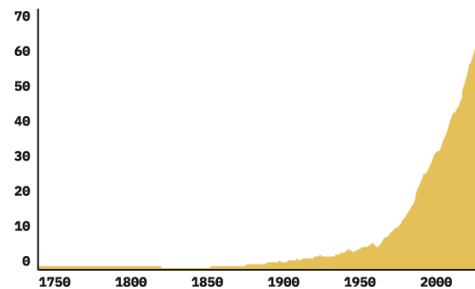
Global
changes
since
1750

SOCIAL

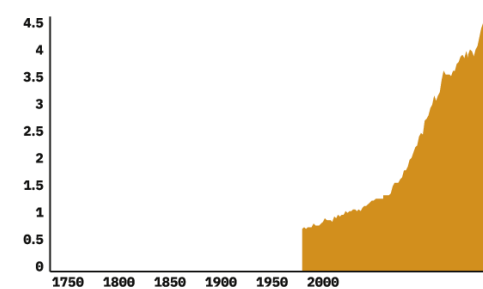
A. URBAN POPULATION
(BILLION)



B. REAL GDP
(TRILLION US \$)

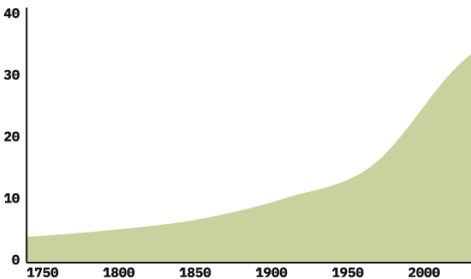


C. GLOBAL WATER USAGE
(THOUSAND KM³)

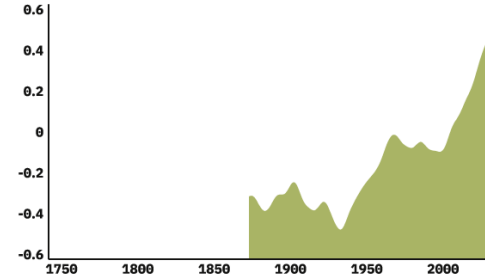


ECOLOGICAL

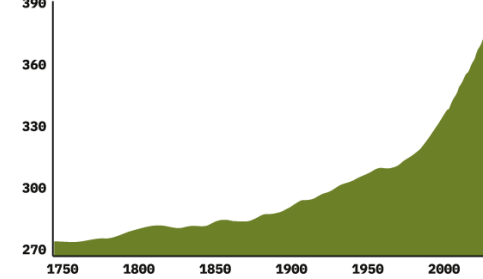
D. TERRESTRIAL BIOSPHERE DEGRADATION
(% DECREASE IN MEAN SPECIES ABUNDANCE)



E. SURFACE TEMPERATURE
(TEMPERATURE ANOMALY, °C)

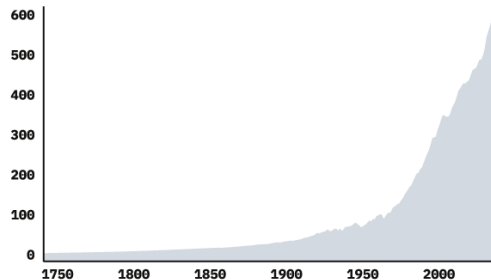


F. CARBON DIOXIDE
(ATMOSPHERIC CONCENTRATION, PPM)

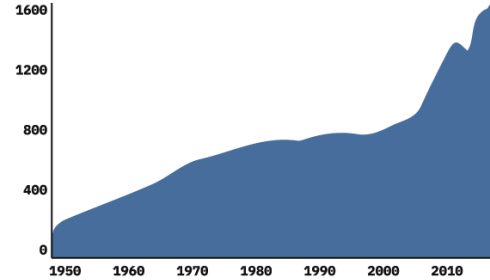


TECHNOLOGICAL

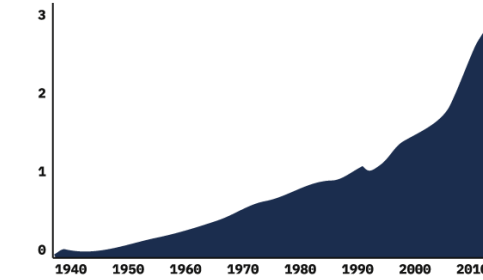
G. PRIMARY ENERGY USAGE
(EXAJOULE, EJ)



H. WORLD CRUDE STEEL PRODUCTION
(MILLION TONS)



I. GLOBAL CEMENT PRODUCTION
(BILLION TONS)



McPhearson et al. (2021)
Radical changes are needed for
transformations to a good
Anthropocene. npj Urban
Sustainability, 1(1), 5.
<https://doi.org/10.1038/s42949-021-00017-x>



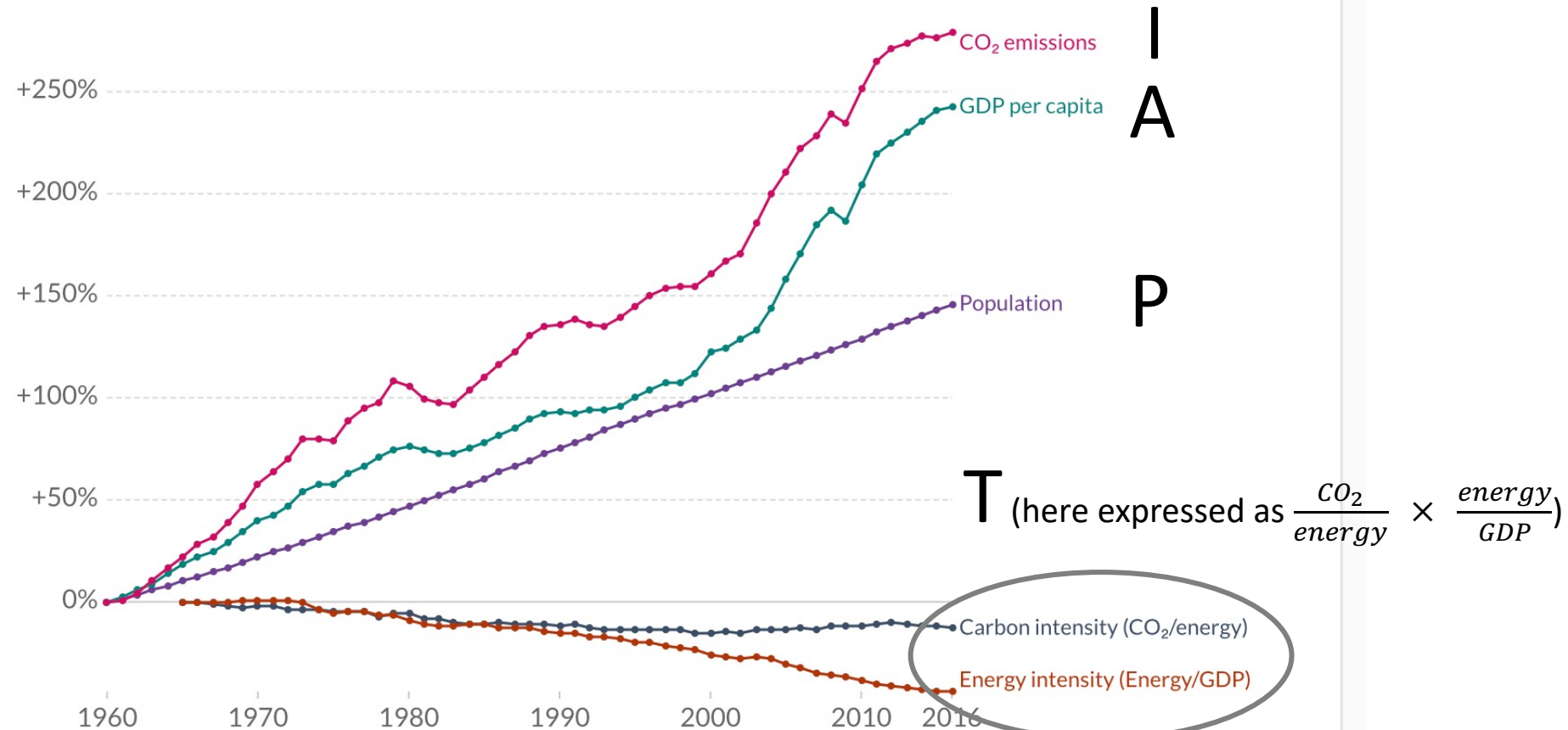
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Technology alone does not solve the problem

Kaya Identity: drivers of CO₂ emissions, World

Percentage change in the four parameters of the Kaya Identity, which determine total CO₂ emissions.

Our World
in Data



Source: Our World in Data based on Global Carbon Project; UN; BP; World Bank; Maddison Project Database
Note: GDP per capita is measured in 2011 international-\$ (PPP). This adjusts for inflation and cross-country price differences.

CC BY

1960 2016

Change country

CHART

TABLE





SOURCES

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Scientists' warning on affluence

Thomas Wiedmann ^{1✉}, Manfred Lenzen ², Lorenz T. Keyßer ³ & Julia K. Steinberger ⁴



THE CONVERSATION

Academic rigour, journalistic flair

Affluence is killing the planet, warn scientists

June 24, 2020 10.30am BST



Lifestyles of the rich and harmful. Midnight Runner / wiki, CC BY-SA

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Wiedmann, T., Steinberger, J. K. and Lenzen, M. (2020) Affluence is killing the planet, warn scientists. The Conversation.





<https://theconversation.com/affluence-is-killing-the-planet-warn-scientists-141017>

Wiedmann, T., Lenzen, M., Keyßer, L. T. and Steinberger, J. K. (2020) Scientists' warning on affluence. Nature Communications, 11(1), 3107.

<https://doi.org/10.1038/s41467-020-16941-y> or <https://rdcu.be/b43Hh>

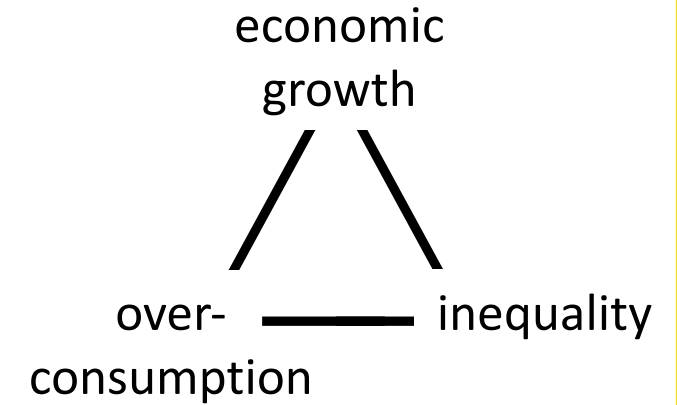


Scientists' warning on affluence





Thomas Wiedmann ^{1✉}, Manfred Lenzen ², Lorenz T. Keyßer ³ & Julia K. Steinberger ⁴



- Overconsumption and affluence, driven by economic growth and positional consumption, increase environmental impacts disproportionately.
- The world's **top** / **bottom** 10% of income earners are responsible for **25-43%** / **3-5%** of environmental impacts. **Half** of all aviation GHG emissions are caused by the **top 1%** of income earners alone.
- No evidence of (sufficient) decoupling. Technology alone cannot overcome environmental degradation. "Green Growth" or "Sustainable Growth" are bound to fail.

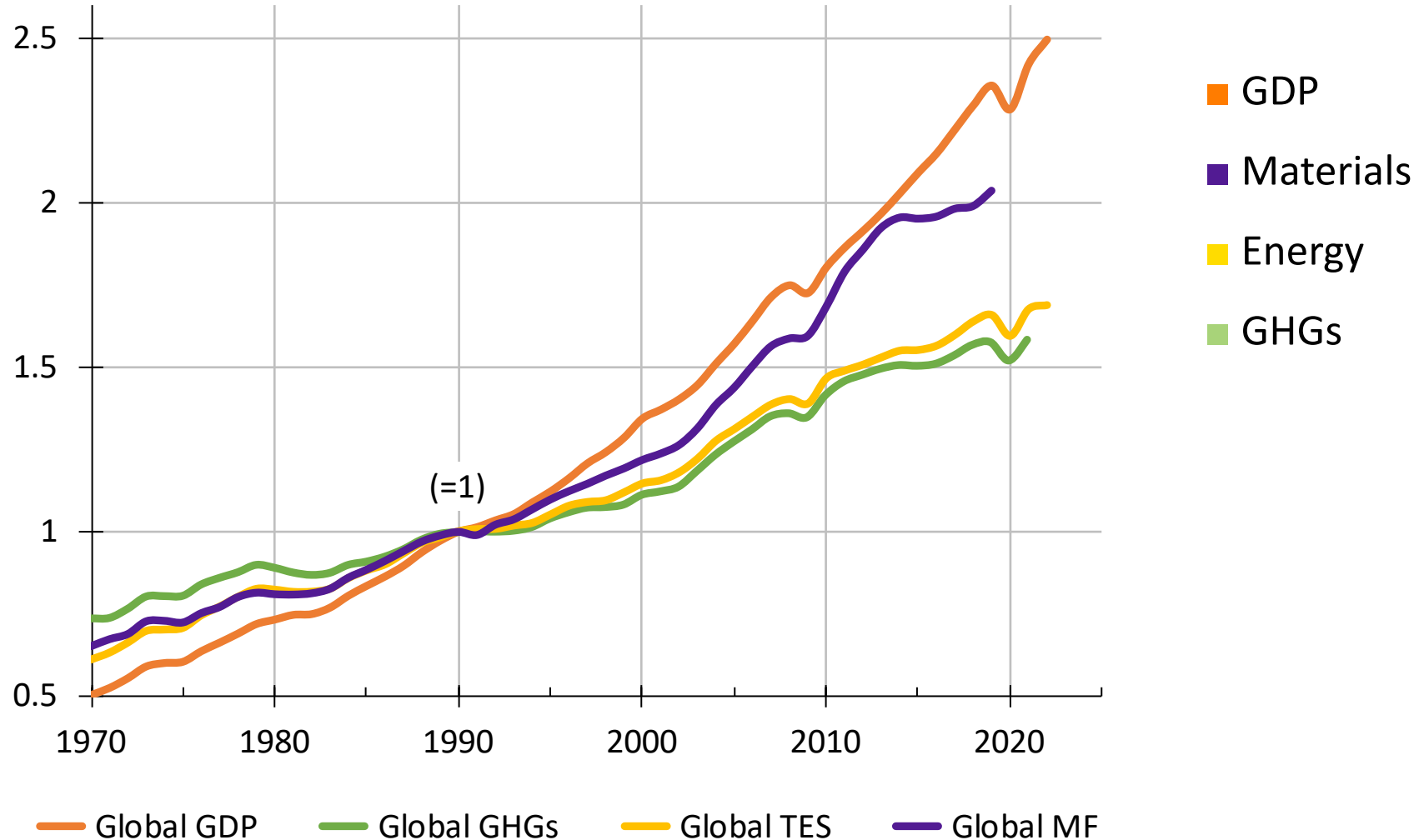


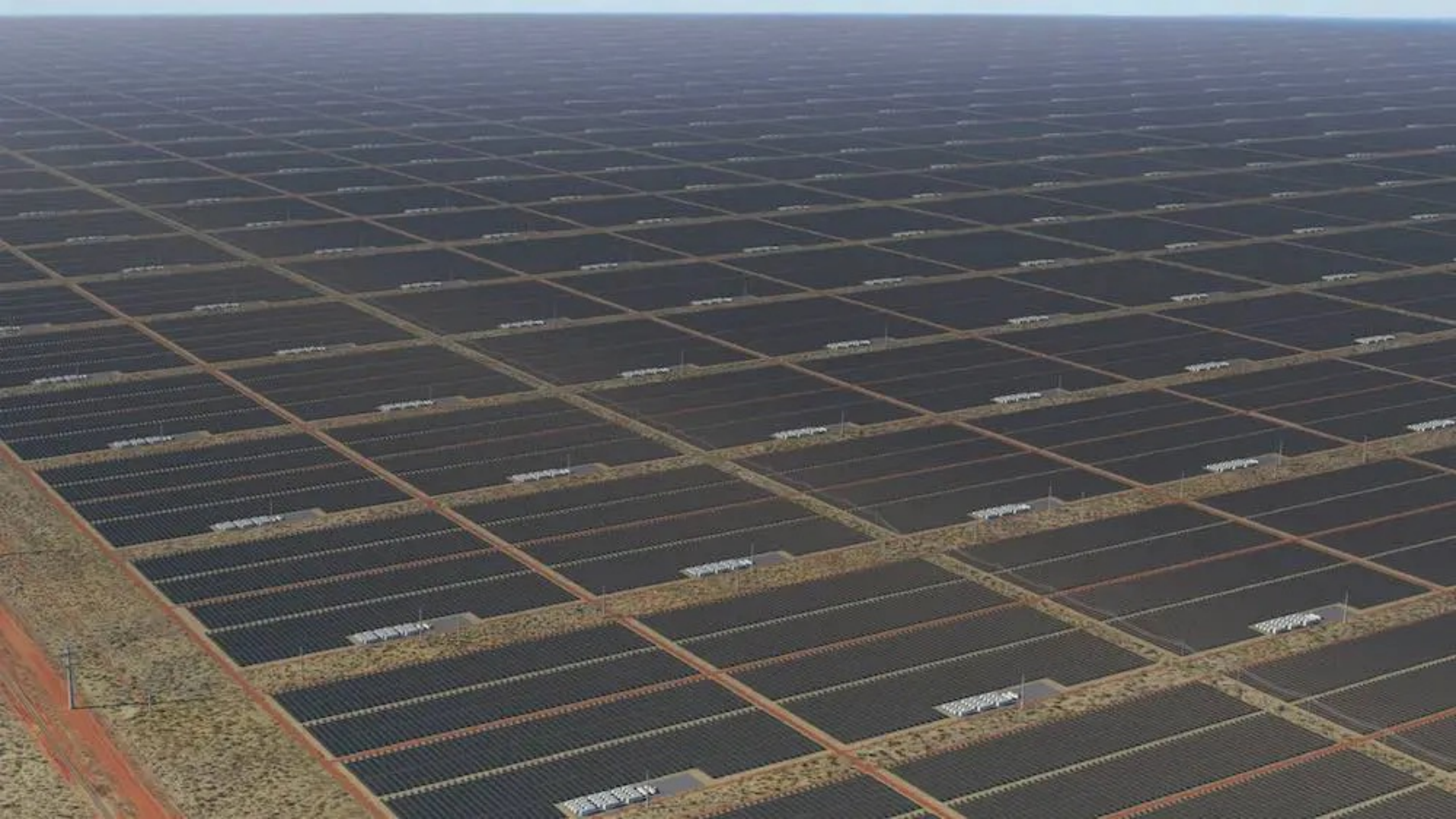
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Update of Fig. 1:
Relative change in main
global economic and
environmental indicators
from 1970 to 2022





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- To address the problem, we need to end over-consumption (and over-production). This also means to get away from our obsession with economic growth.
- Deliberate downscaling of physical throughput (energy and materials) in the wealthiest countries required.
- A-growth, post-growth, managing/prosperity without growth, steady-state economy, degrowth
> all of them 'ignore' GDP.

Demand and services

- potential to **bring down** global **emissions** by **40-70%** by 2050
- walking and cycling, electrified transport, reducing air travel, plant-based diets etc. make large contributions
- **lifestyle changes** require **systemic changes** across all of society



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Meta approaches for post-/de-growth

Reformist approaches:

Compatible with existing centralised states and capitalism and can be achieved with reforms (e.g. through strong environmental and social policies)





- Example: The Wellbeing Economy, Beyond Growth debates in OECD and EU

Radical approaches:

Lead away from capitalism and increase social control over economic processes.

- Eco-socialism: democratic state + grassroots guide the transition and beyond
- Eco-anarchists see grassroots participatory-democratic movements as central
- Examples: individual downshifting, transition towns, citizen assemblies

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Some practical policies that have been suggested or trialled:

- job guarantee / job sharing / shorter working week
- universal basic services (transport, health, care, education, etc.)
- wealth redistribution and/or universal basic income
- investment in 'green' infrastructure
- more local food production and manufacturing
- rationing / personal carbon budget
- role of social movements is pivotal

How to instigate change?

- An alliance of bottom-up **social movements** is necessary to drive the needed socio-ecological transformation.
- Create a sense of collective responsibility and action
- Focus on sufficiency, community and policy change.
- **Re-imagine everything!**
- New **social imaginaries** have the potential to disrupt existing patterns.



More drivers ...

World Scientists' Warning: The Behavioural Crisis Driving Ecological Overshoot

Journal:	<i>Science Progress</i>
Manuscript ID	SCI-23-1000
Manuscript Type:	Mini-Review
Date Submitted by the Author:	26-Jun-2023 <i>accepted 23 August 2023</i>
Complete List of Authors:	Merz, Joseph; Merz Institute, Barnard, Phoebe; University of Washington; Stable Planet Alliance; University of Cape Town Percy FitzPatrick Institute of African Ornithology Rees, William; The University of British Columbia Smith, Dane; Ogilvy Australia Maroni, Mat; Merz Institute Rhodes, Chris; Fresh-lands Environmental Actions, Dederer, Julia; Merz Institute; Stable Planet Alliance; Foundation for Climate Restoration Bajaj, Nandita; Stable Planet Alliance; Antioch University; Population Balance Joy, Michael; Merz Institute; Victoria University of Wellington Wiedmann, Thomas; UNSW, Sustainability Assessment Program, School of Civil and Environmental Engineering Sutherland, Rory; Ogilvy UK



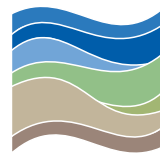


Thank you

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