



Economic Activity and Planetary Limits: how can they be reconciled?

Alessio Terzi

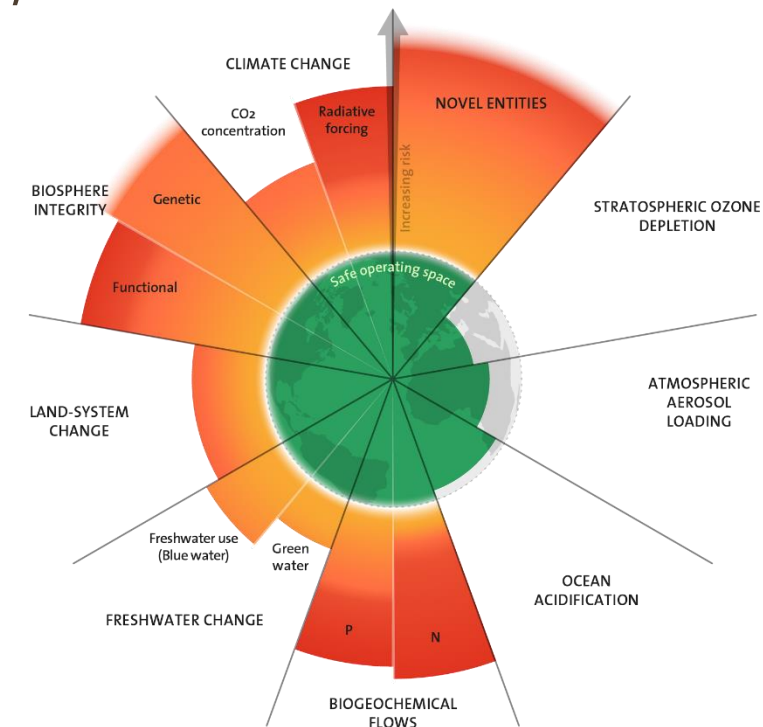


The views expressed here are those of the author alone.

The initial assumptions

We agree on the fact that:

1. Climate change is anthropogenic and due to GHG emissions
2. If left unattended, climate change will imply an increasing probability of extreme weather events (storms, droughts, floods, wildfires, ..), rising sea level, etc.
3. We value human lives
4. In order to avoid the worst, we need to decarbonise our economies completely between now and 2050
5. Climate change is not the only environmental challenge (biodiversity, nitrogen cycle, plastic, etc)



My overarching position

- Avoiding a climate/environmental disaster goes through a restructuring of the whole economy and a switch to green technology
 - Capitalism can be a forceful ally, by fostering the development and deployment of green tech
 - However, this will not happen on its own, and surely not at the speed required (e.g. climate neutral by 2050)
- Actions required by governments (but also pioneering businesses and engaged citizens)

'Whole-of-nation' approach

On Green Growth

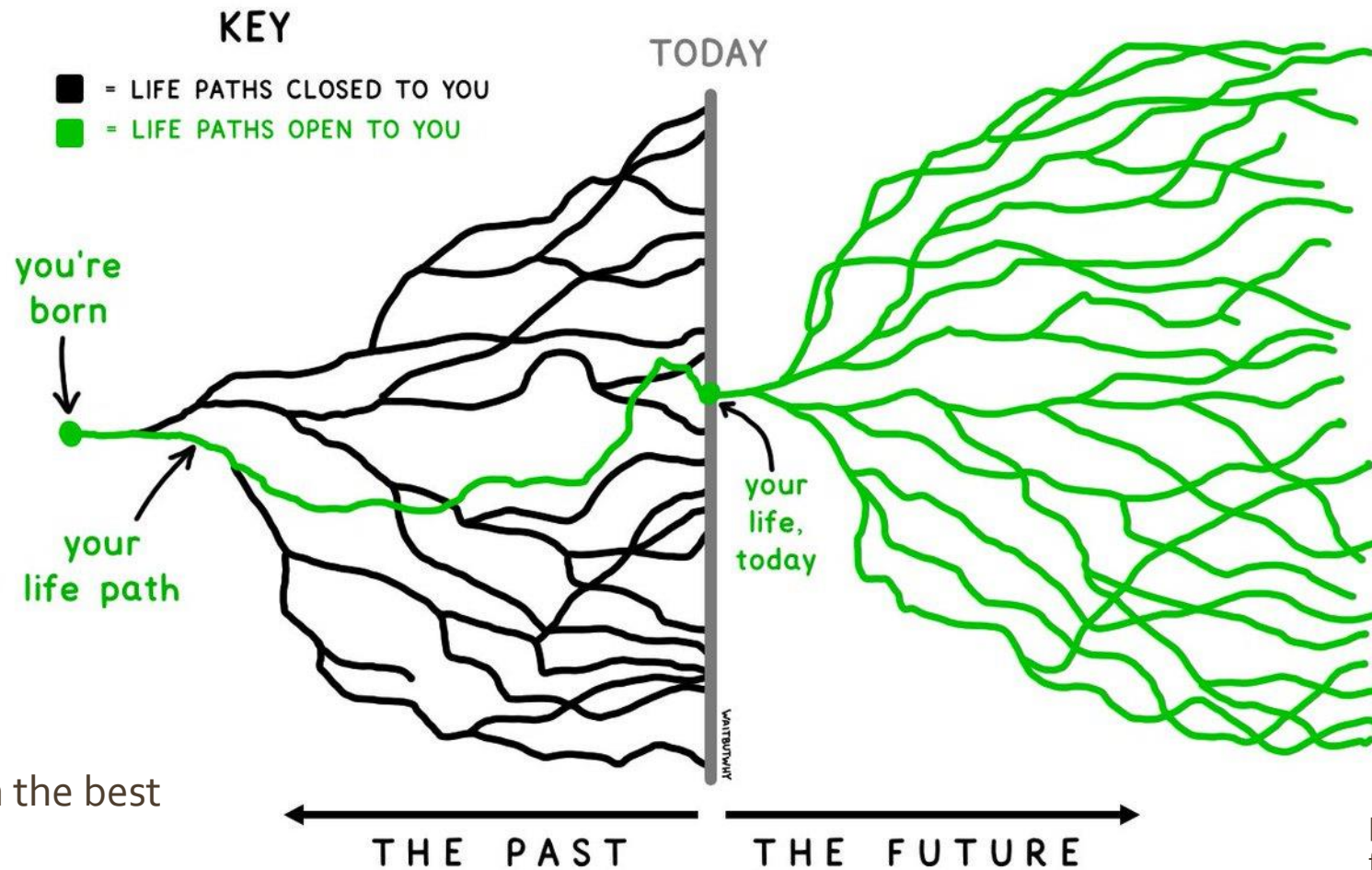
- Economic growth is about the creation of value, making desired things possible for as many as possible
- If value is attached to nature, then people will be ready to pay something for that
- Our drive towards climate neutrality, reverse biodiversity loss, switch to biodegradable products, .. will create value
- Companies that lead this drive, will make profits, and that ain't a bad thing
- Those that don't will rapidly be seen as lower quality, antiquated, eventually facing decline

→ In equilibrium, a complete economic restructuring



Not every sector grows in a growing economy..

Am I the Dr Pangloss of green growth?



It is a local maximization problem, not global

Dr Pangloss: “we live in the best world possible”

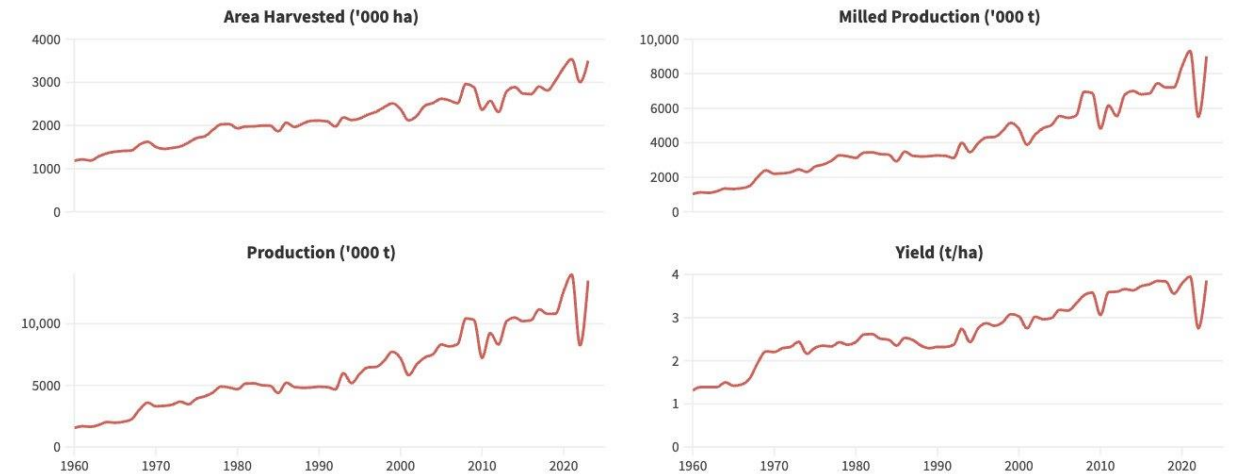
[which incidentally is why we look at flow metric, the Δ , rather than the stock, giving a sense of direction]

One word on the future ahead..



Rice production and yields in Pakistan

There was a significant decline in yields, and production in 2022 as a result of large-scale flooding.

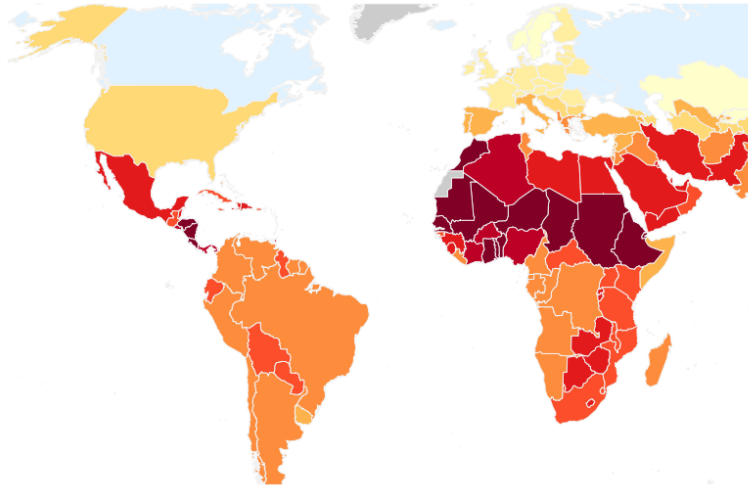


Data Source: US Department of Agriculture (USDA)

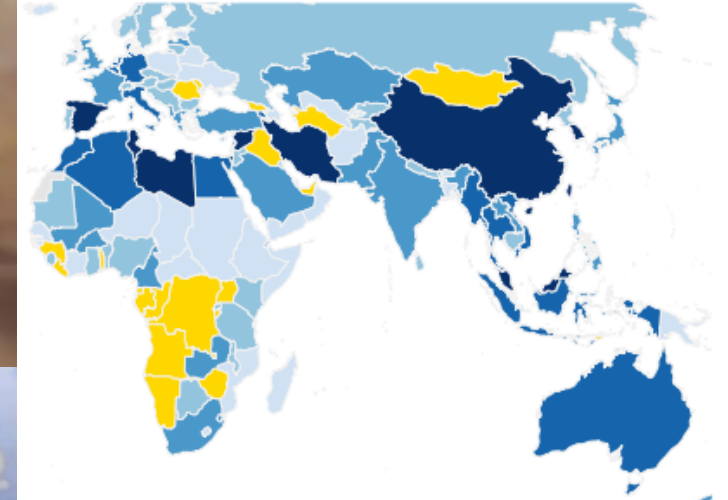
→ You can focus on well-being and non-material rewards rather than GDP all you want, but as sea levels start rising, you'll need material stuff to protect your shores. A strong industrial economy will help in that

The baseline is not steady-state

Impact of 1C warming on agri TFP (1961-2050)



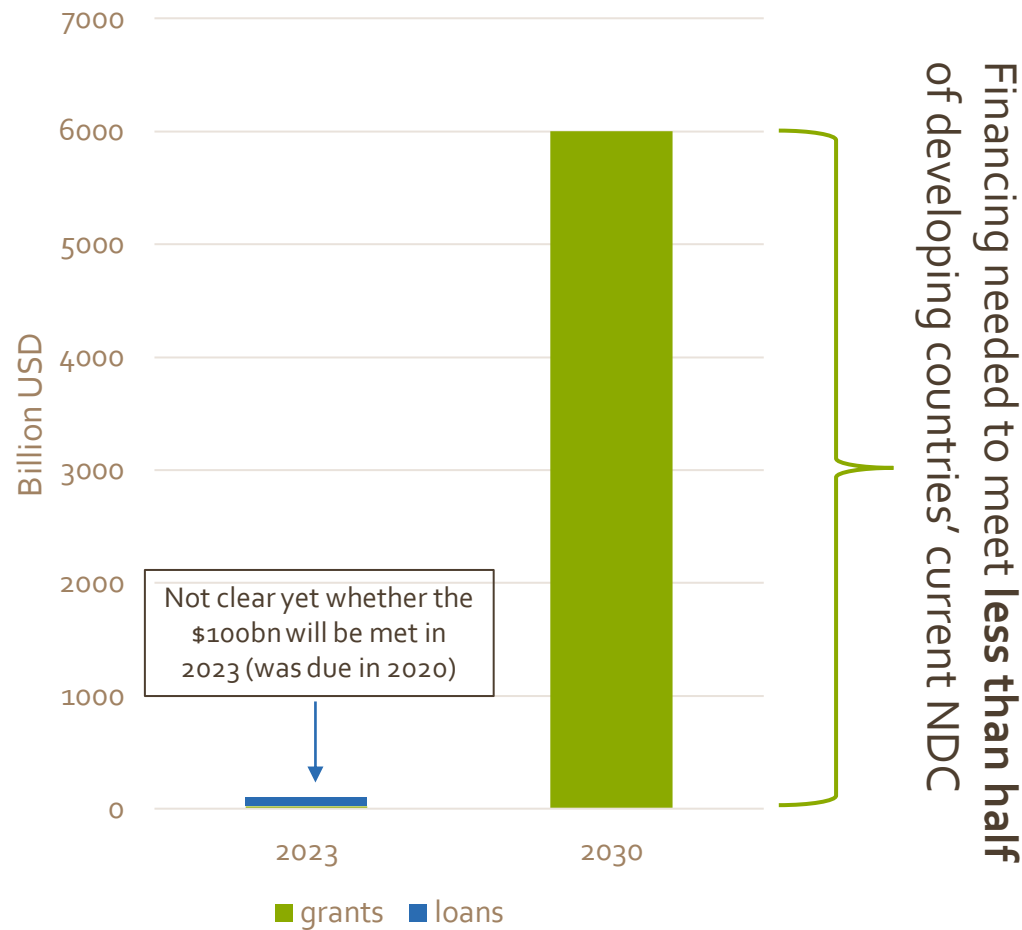
TFP (1961- today)



Carrillo, C.M. et al. Anthropogenic climate change has slowed growth. *Nat. Clim. Chang.* 11, 306–312 (2021)

→ Degrowth is at best a fair-weather construct, that is ill-suited with the climate-unstable world we are entering into

The international dimension

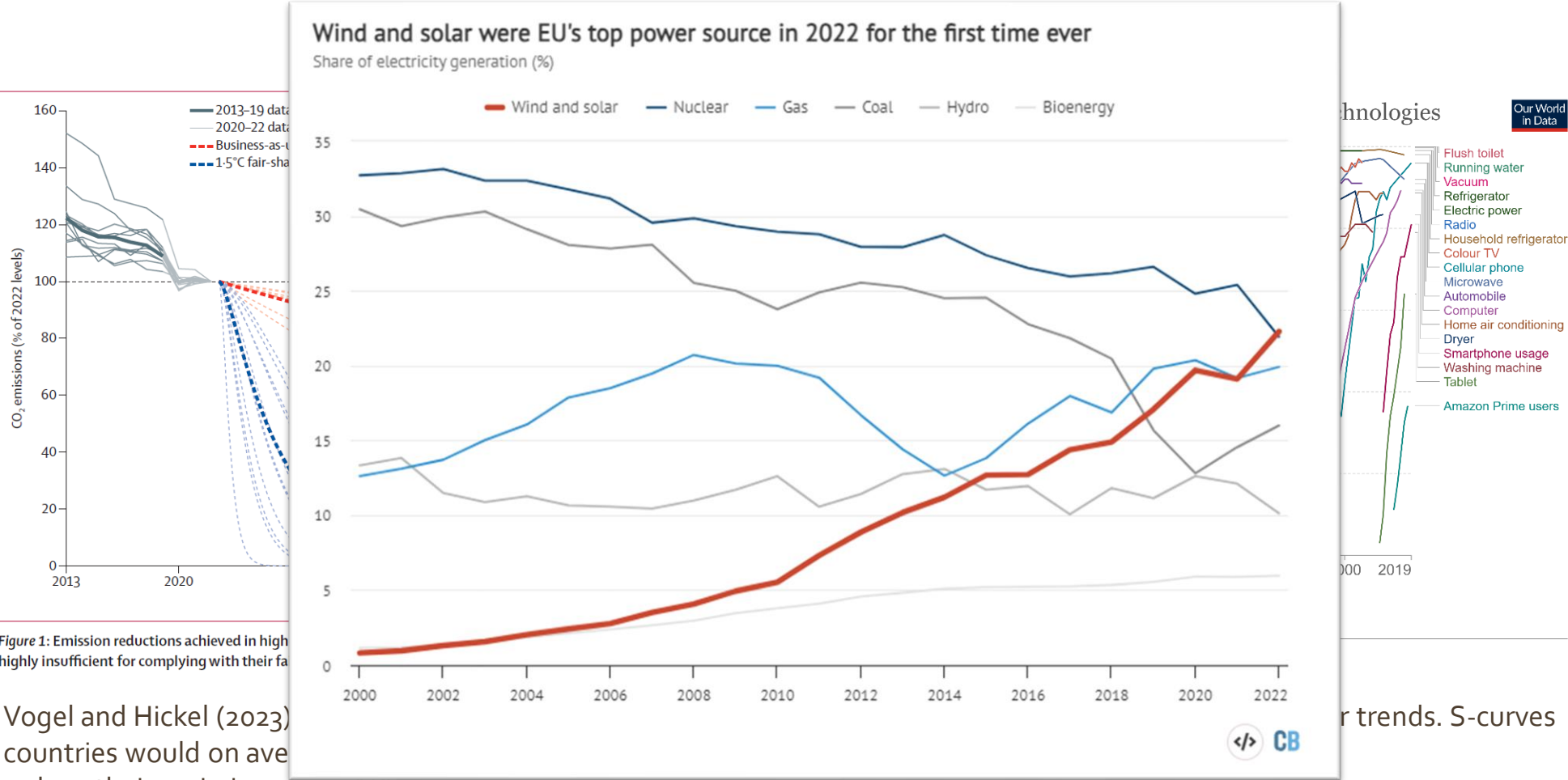


Source: United Nations Framework Convention on Climate Change

- Even if there are clear responsibilities, historical emissions, etc..
- The idea that high-income countries will transfer money on that scale and pay for the transition of others is delusional
- Especially as they will be facing their own increasing challenges with climate change mitigation/adaptation (e.g. Greece, Spain, Italy)

→ A lot of the degrowth literature focuses on what should happen, rather than what realistically can/will

Excessive reliance on technology?



Vogel and Hicckel (2023) countries would on average reduce their emissions by 95%”

Fixing one problem will make the others worse?

'Green mi

**The case
for cutting
EU resour
consump**

EEB
European
Environmental
Bureau

**Friends
the Ear
Europe**



...e just a fraction of what

...year.

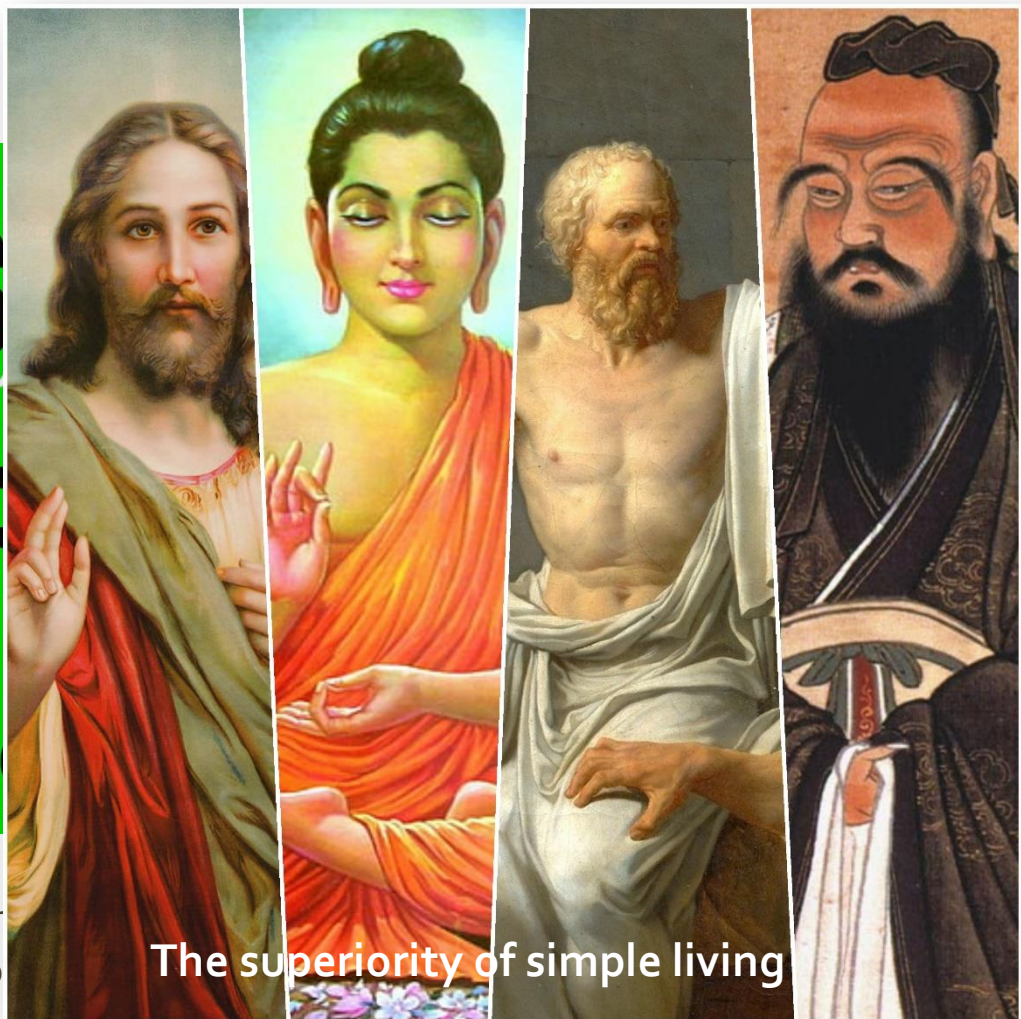
8 billion tonnes

...the IEA's Sustainable Development Scenario,
...in 2040.

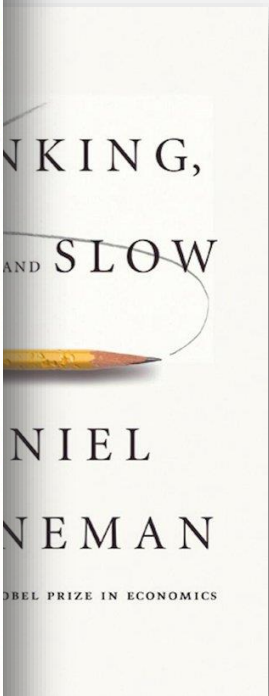
...cles, battery storage, nuclear, and grid networks.
(EIA); BP. **Author: Hannah Ritchie.**

...e planet. The point is

If people embrace sobriety, wouldn't it be faster?



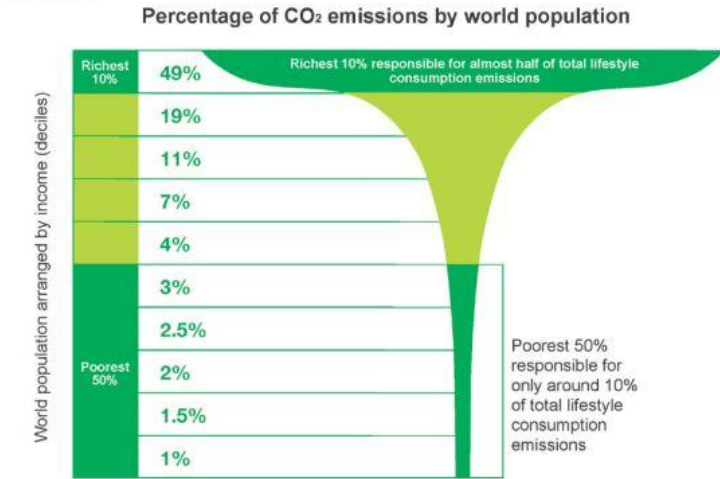
The superiority of simple living



cognitive bias that describes the something individual consider

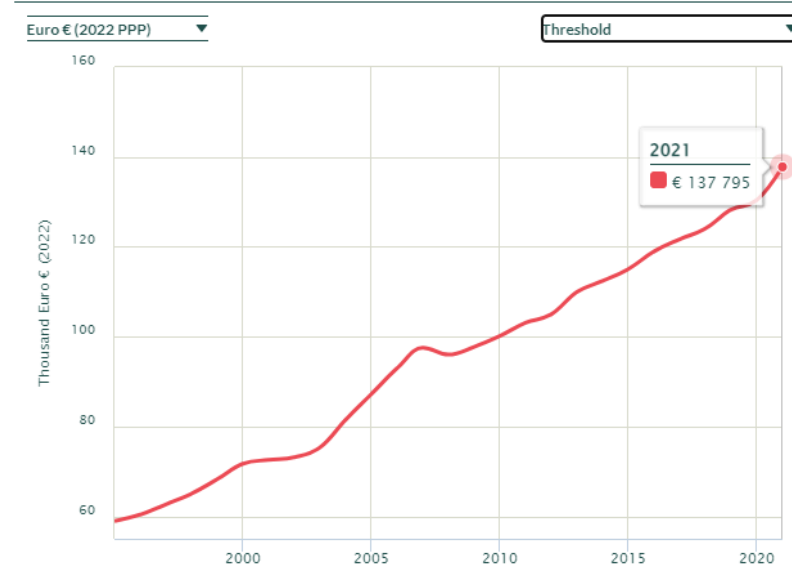
It's only the rich who need to be forced to be sober?

Figure 1: Global income deciles and associated lifestyle consumption emissions



Source: Oxfam

Top 10% net personal wealth threshold, World, 1995-2021



Source: World Inequality Database

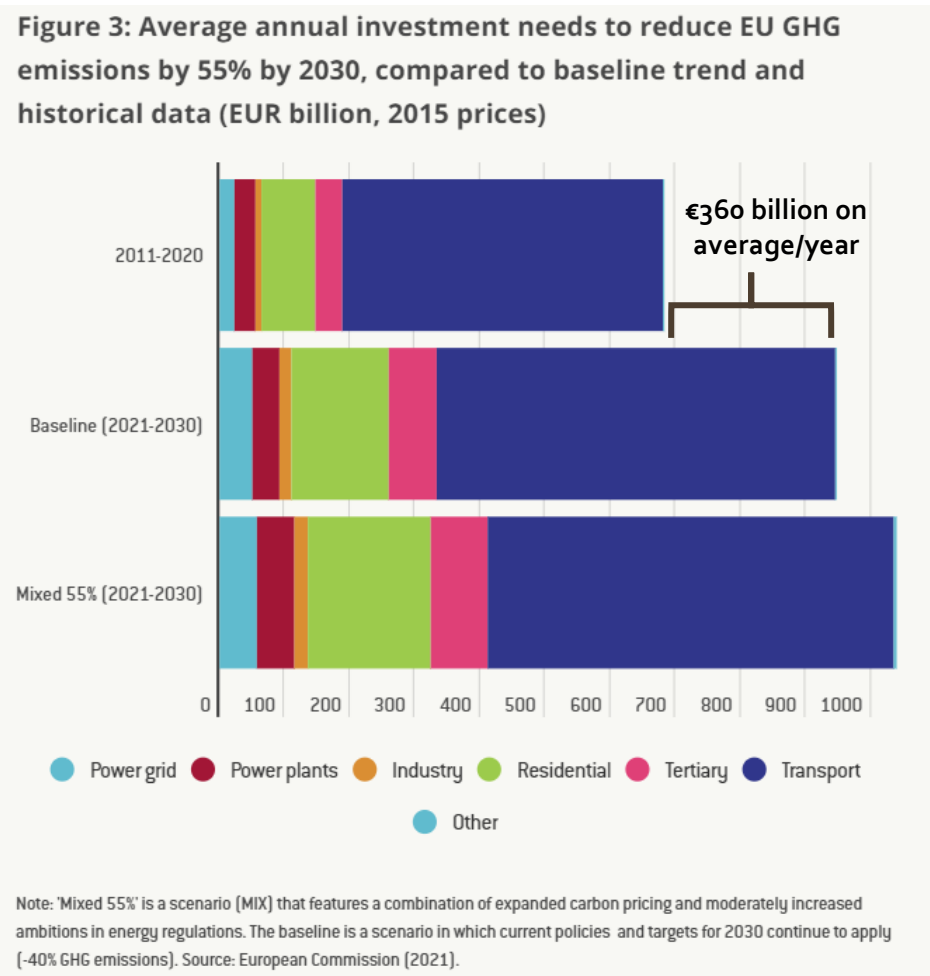
Apartments - most and least expensive municipalities in the Walloon Region:

Most expensive municipalities		Median price	Least expensive municipalities		Median price
1	WATERLOO (23)	370,000	1	CHARLEROI (86)	110,000
2	BRAINE-L'ALLEUD (20)	278,001	2	LA LOUVIERE (41)	123,000
3	OTTIGNIES-LOUVAIN-LA-NEUVE (48)	271,250	3	SERAING (19)	135,000
4	WAVRE (32)	265,000	4	LIÈGE (224)	152,000
5	ARLON (31)	235,000	5	TOURNAI (30)	159,000
6	HUY (23)	228,000		MOUSCRON (17)	159,000
7	NIVELLES (36)	225,000	7	MONS (69)	170,000
8	HERSTAL (20)	203,750	8	VERVIERS (40)	185,000
9	TUBIZE (20)	203,500	9	NAMUR (98)	190,000
10	NAMUR (98)	190,000	10	TUBIZE (20)	203,500

The figure in brackets represents the number of transactions.

Blanchard, Gollier, Tirole (2023): "Almost 90% of French citizens feel that the middle class should not have to pay anything to fight climate change"

But then just expropriate the billionaires?



Europe's Richest people euronews.

		Bernard Arnault	€ 149B
		Francoise Bettencourt Meyers	€ 66B
		Amancio Ortega	€ 50B
		Wertheimer brothers	€ 40B
		Giovanni Ferrero & family	€ 39B
		Francois Pinault	€ 30B
		Klaus-Michael Kuehne	€ 32B

€374 billion

In parallel, growing needs of resources on multiple fronts



→ The pressure on existing resources is getting greater, not smaller

Degrowth: a weapon of mass distraction

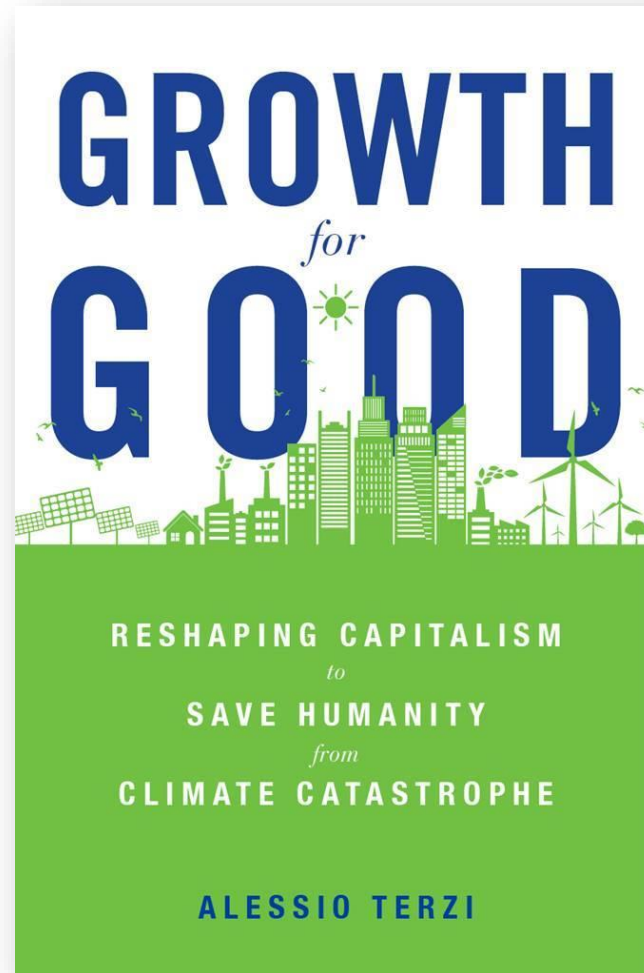


Why I stopped worrying about degrowth..

1. Irrespective of strong intellectual interest, politically the movement is in a dead alley: no theory of change
2. A take-all or lose strategy (no possible marginal improvement)
3. It is not incentive-compatible at international level (no Nash equilibrium)
4. It bets on human moral improvement, which has a long history of marginal success (e.g. superiority of simple living, “workers of the world unite”)
5. Climate change and the broader sense of history pushes in the opposite direction

→ The extent to which it will be successful, i.e. changing at the margins individual preferences, is actually good

The book



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World



Thank you!

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