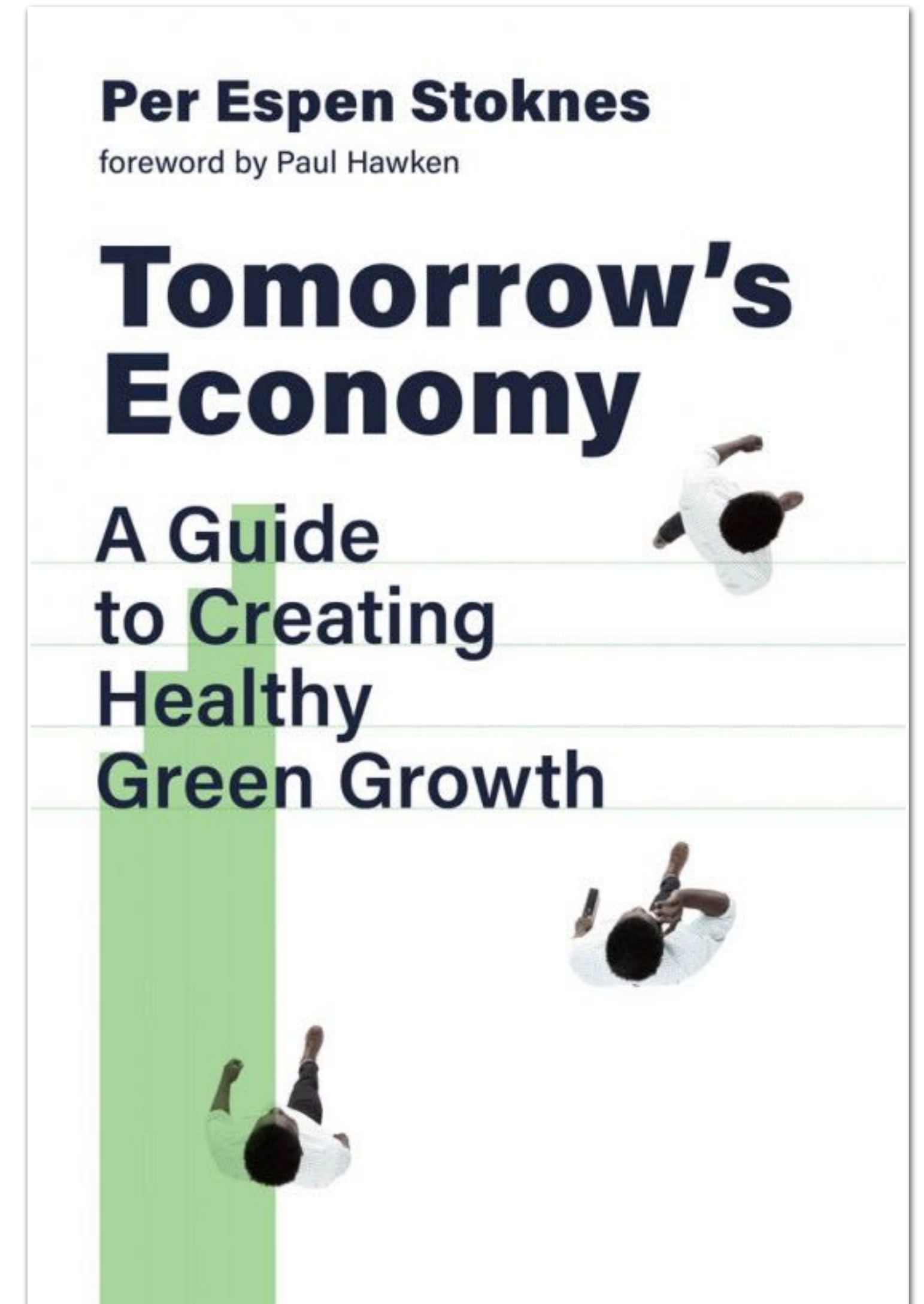


Tomorrow's Economy

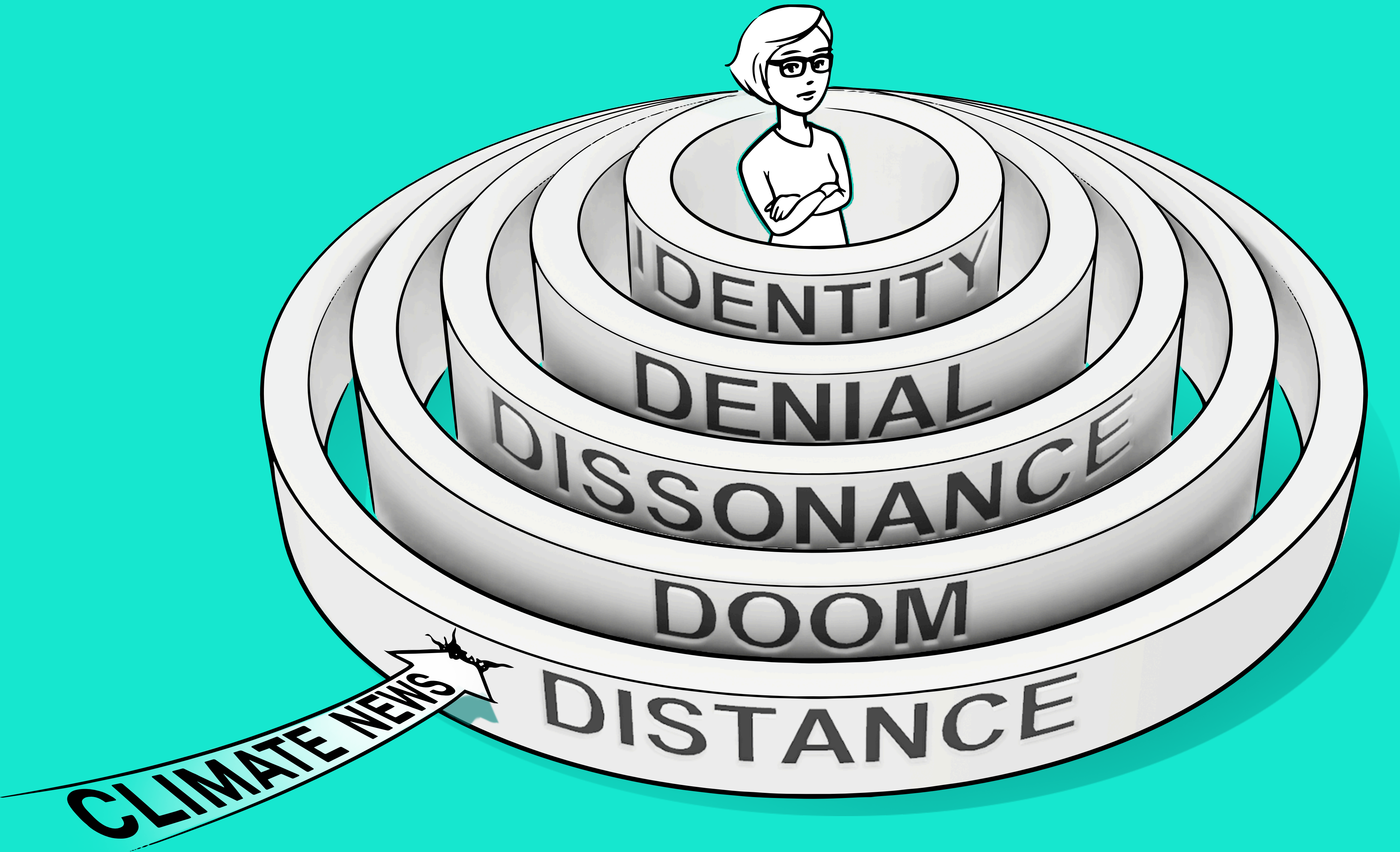
Taking the pulse on the green transformation: Healthy or Manic?

Per Espen Stoknes

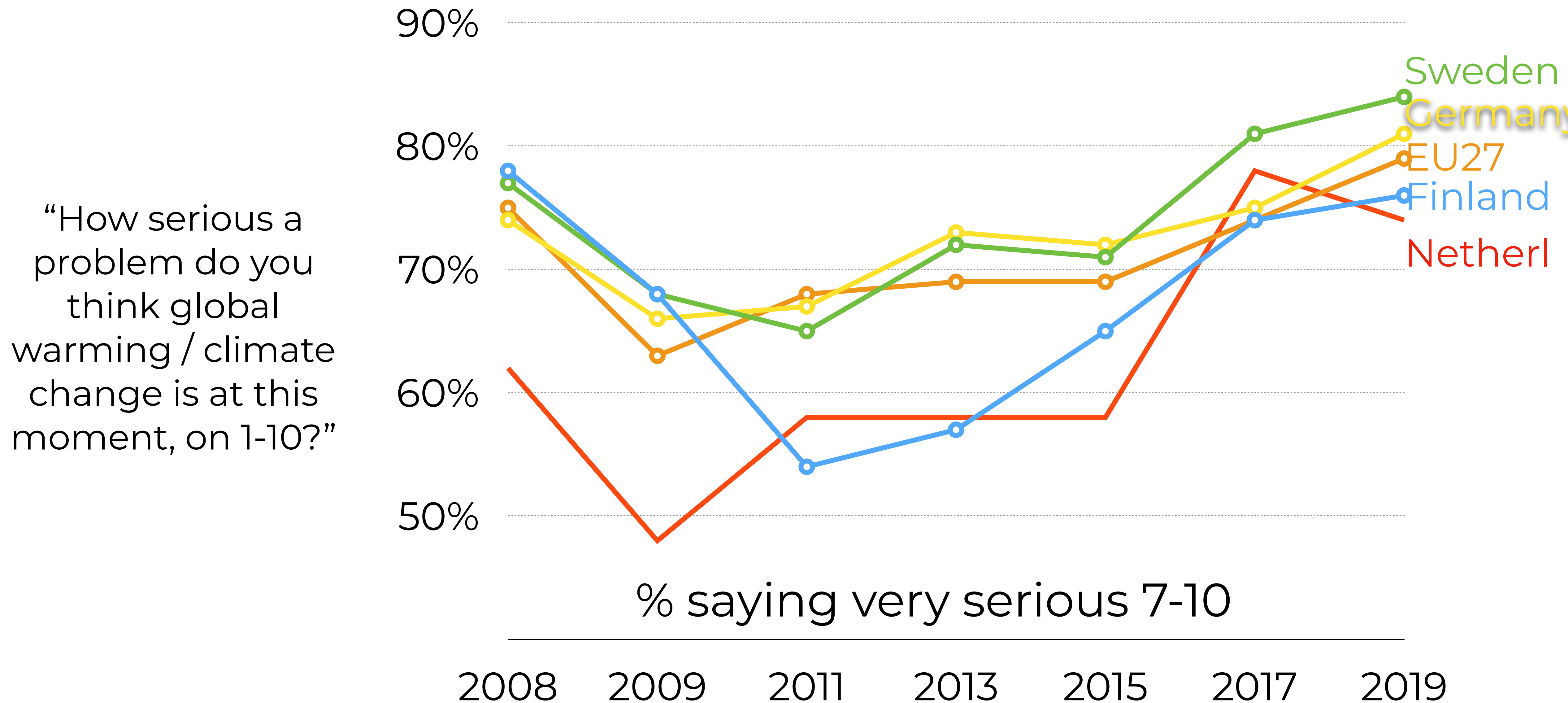
  estoknes



MIT Press, 2021



EU climate attitudes



2019: “Brutal news” & climate strikes

Sign in Search The Guardian International edition

'Brutal news': global carbon emissions jump to all-time high in 2018


Rapid cuts needed to protect billions of people from rising emissions due to increase in use of cars and coal



▲ Almost all countries are contributing to the rise in emissions, with China up 4.7%, the US by 2.5% and India by 6.3% in 2018. Photograph: Michel Euler/AP

Global carbon emissions will jump to a record high in 2018, according to a [report](#), dashing hopes a plateau of recent years would be maintained. It means emissions are heading in the opposite direction to the deep cuts urgently needed, say scientists, to fight climate change.



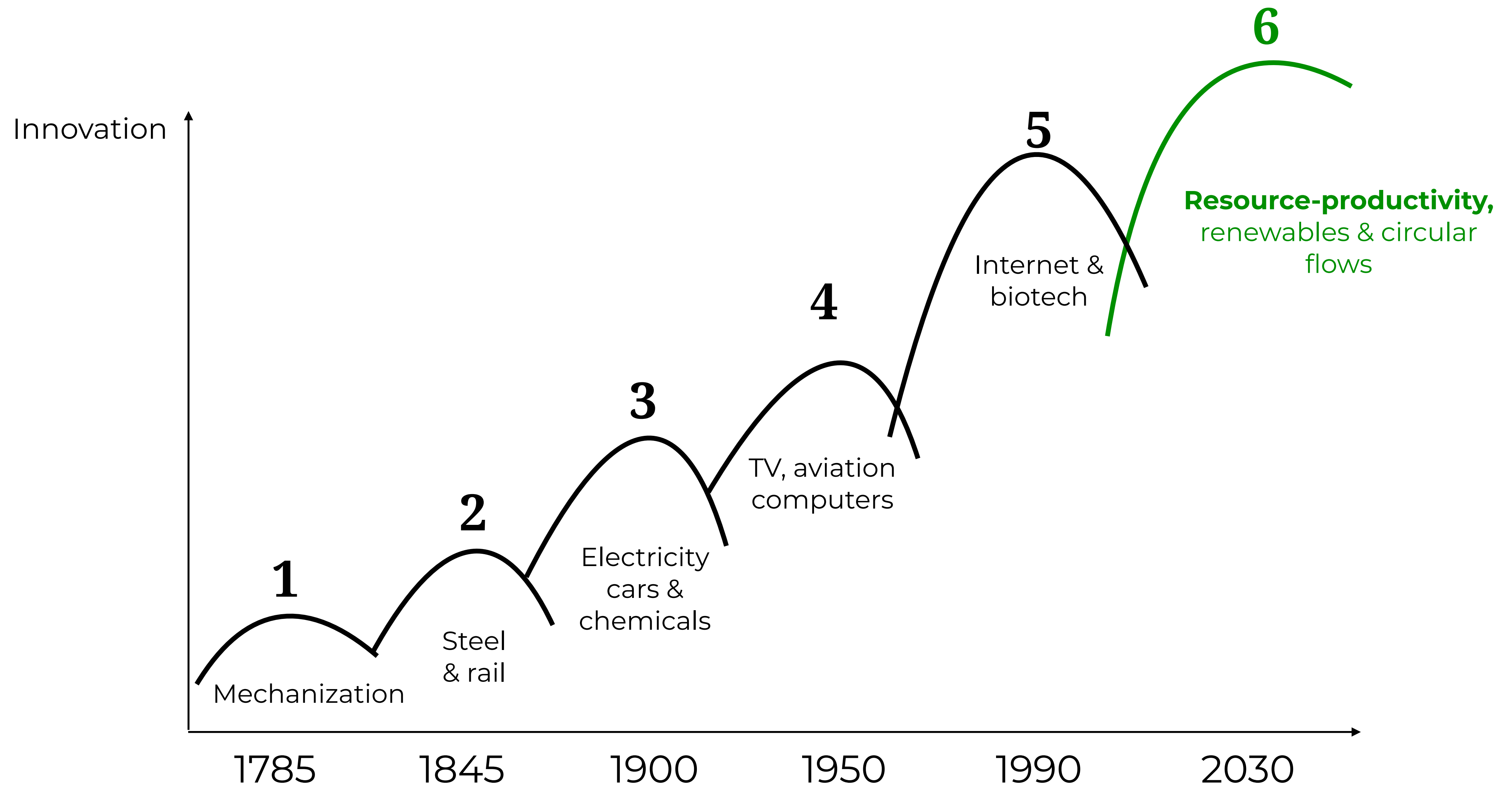
A young woman with brown hair in a braid, wearing a red shirt, is speaking into a microphone. She has a serious expression. The background is a solid blue color. A white text box with a blue border is overlaid on the bottom left of the image.

**“ecosystems are collapsing and
all you can talk about is money, and
fairy tales of eternal economic growth”**

**Eternal growth on a
limited planet?**



Entering the **sixth** wave



What is **green** growth?

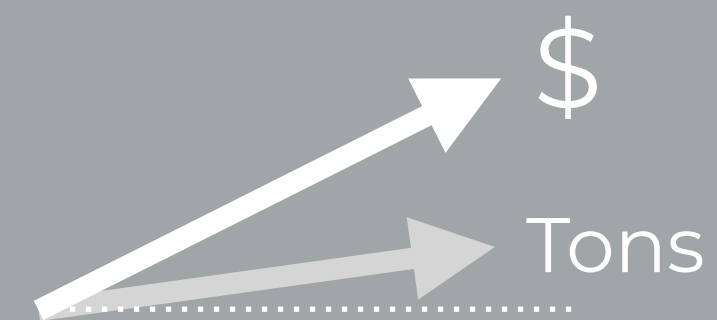
= increase of economic activities
that give lower total
environmental impact



$$rp > g$$

Resource productivity Growth

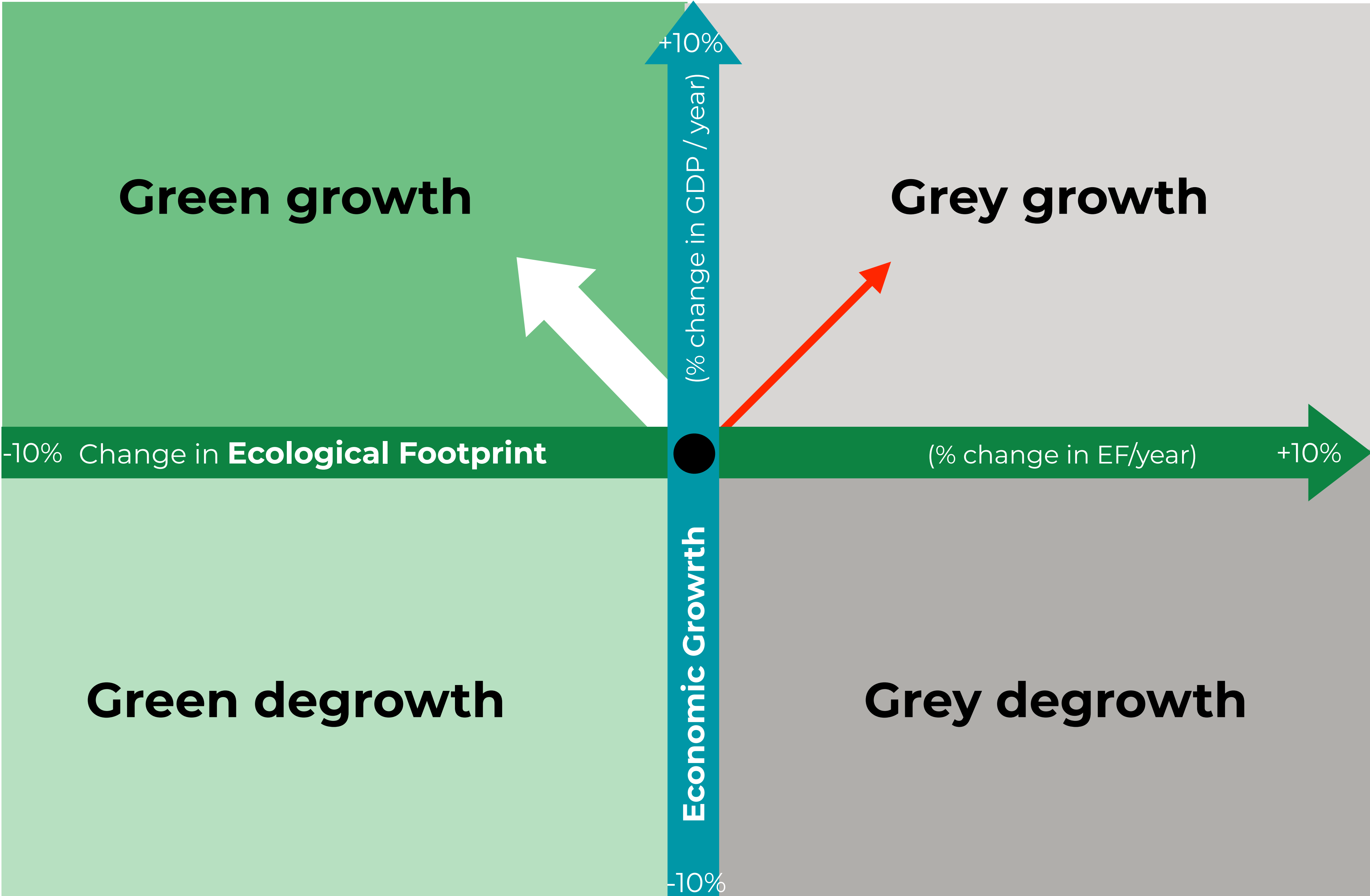
“Grey growth” is productivity
increase where total environmental
impact (footprint) grows in spite of
higher efficiency



$$rp < g$$

Resource productivity Growth

The green growth compass



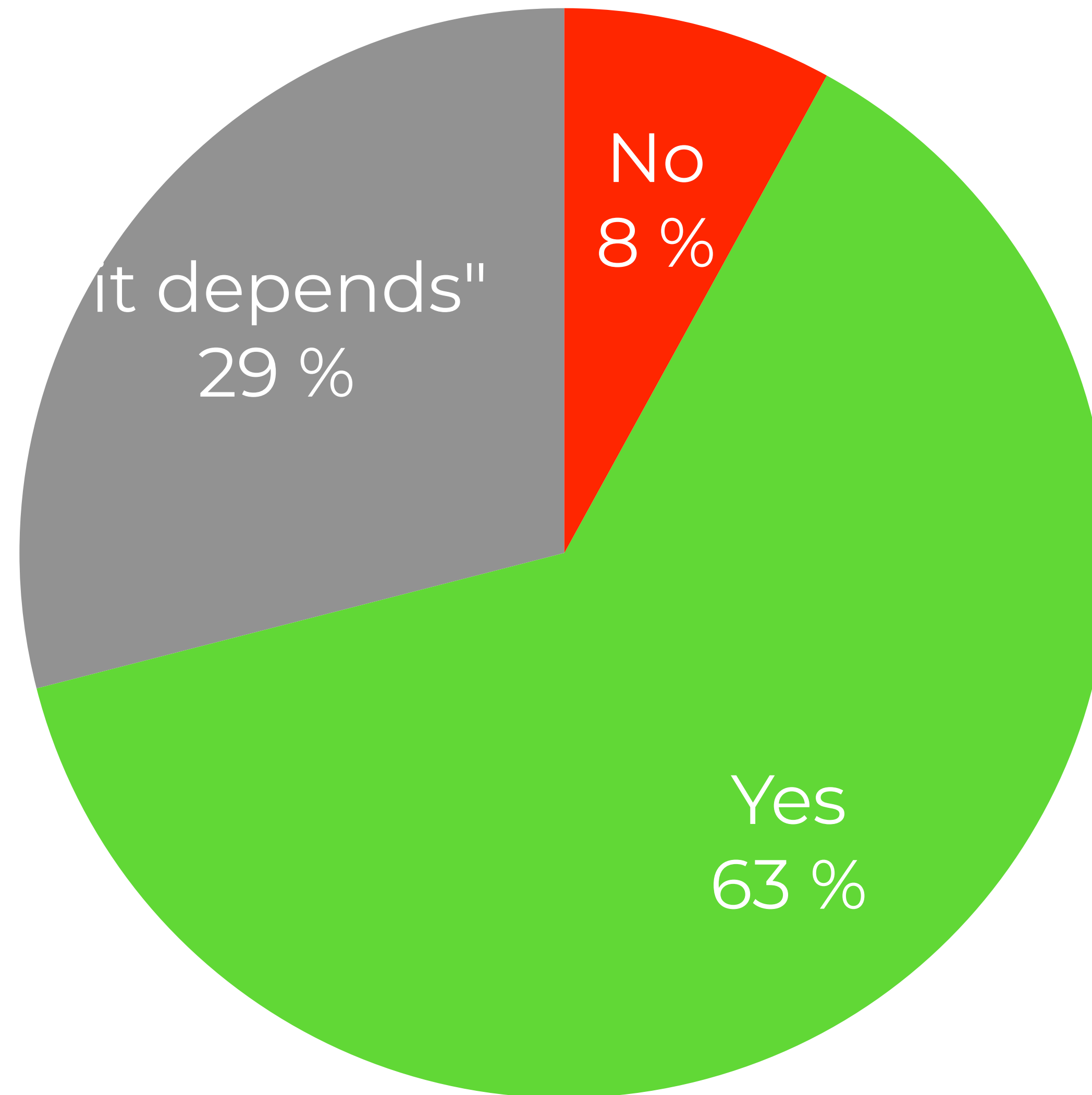
“Investors are increasingly...
recognising that climate risk
is **investment risk**.”

Larry Fink, CEO BlackRock
(9.000 bn\$)



Are sustainable companies more profitable?

**2200 research
studies show:**



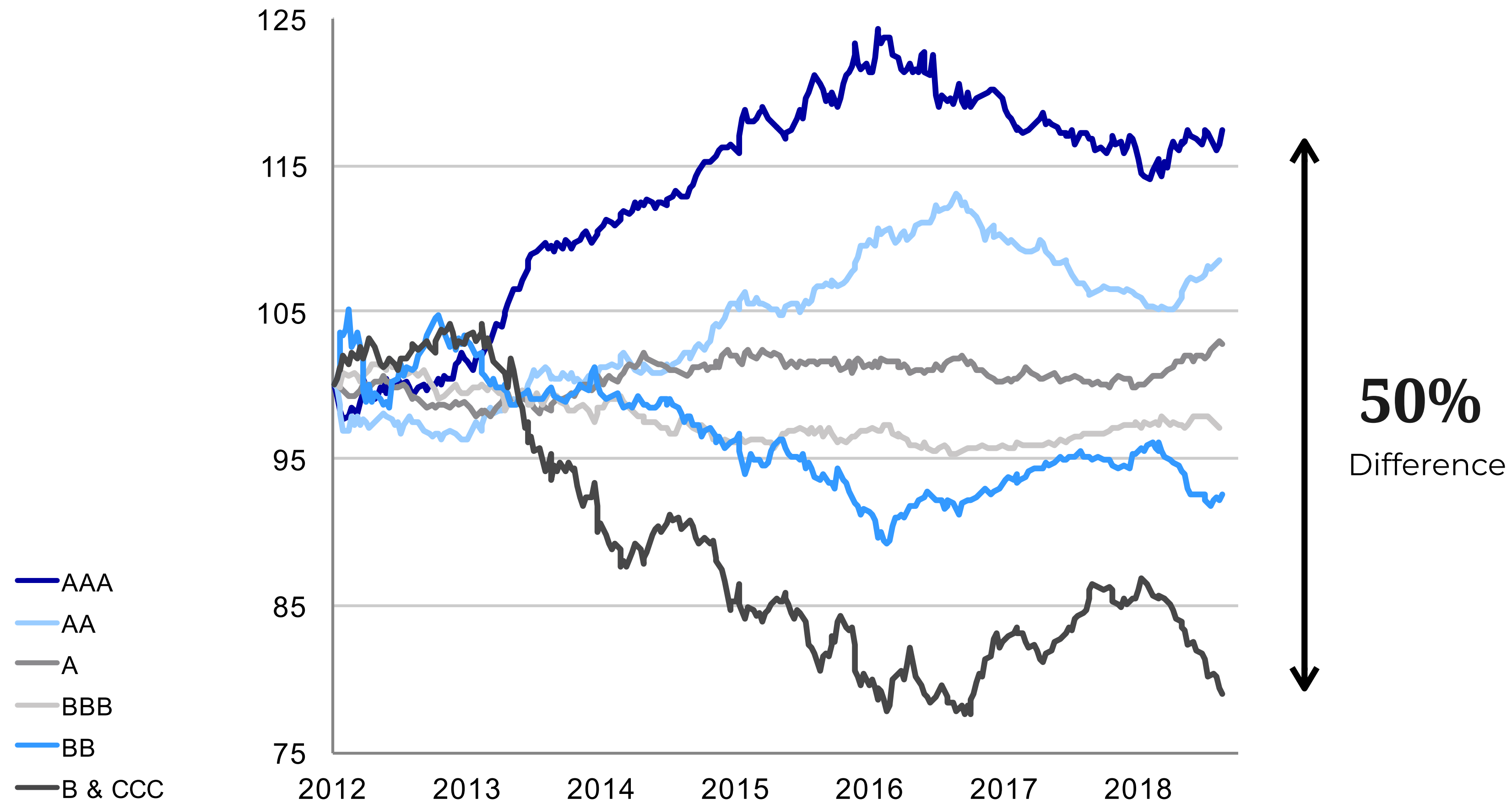
“Meta review” - i.e. a review of the previous 60 reviews.

Conclusion: “Roughly 90% of studies find a non-negative ESG-CFP relation”

Sources: Friede, G., Busch, T., & Bassen, A. (2015). “ESG and financial performance: aggregated evidence” *Journal of Sustainable Finance & Investment*

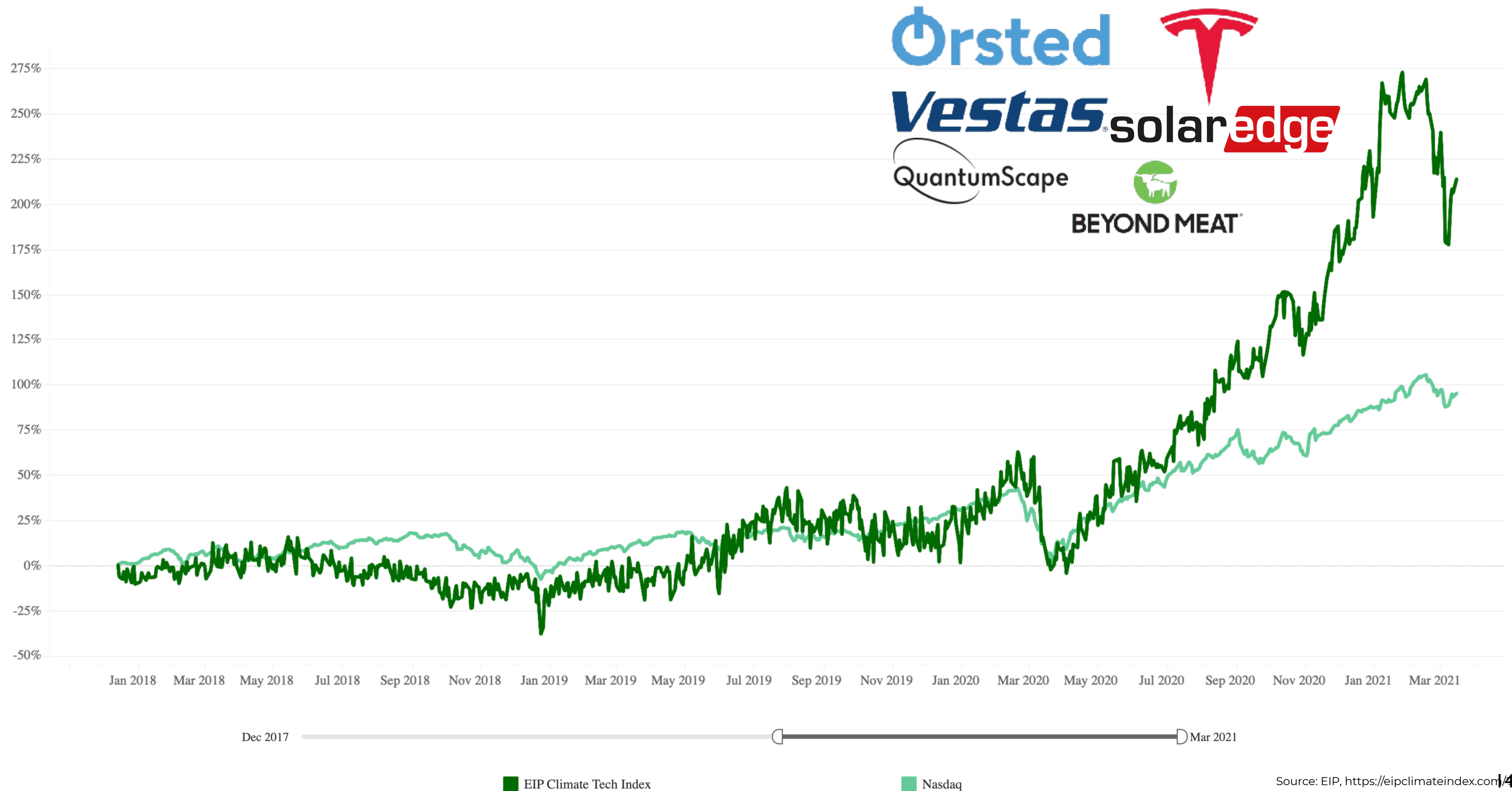
Is it profitable - in general?

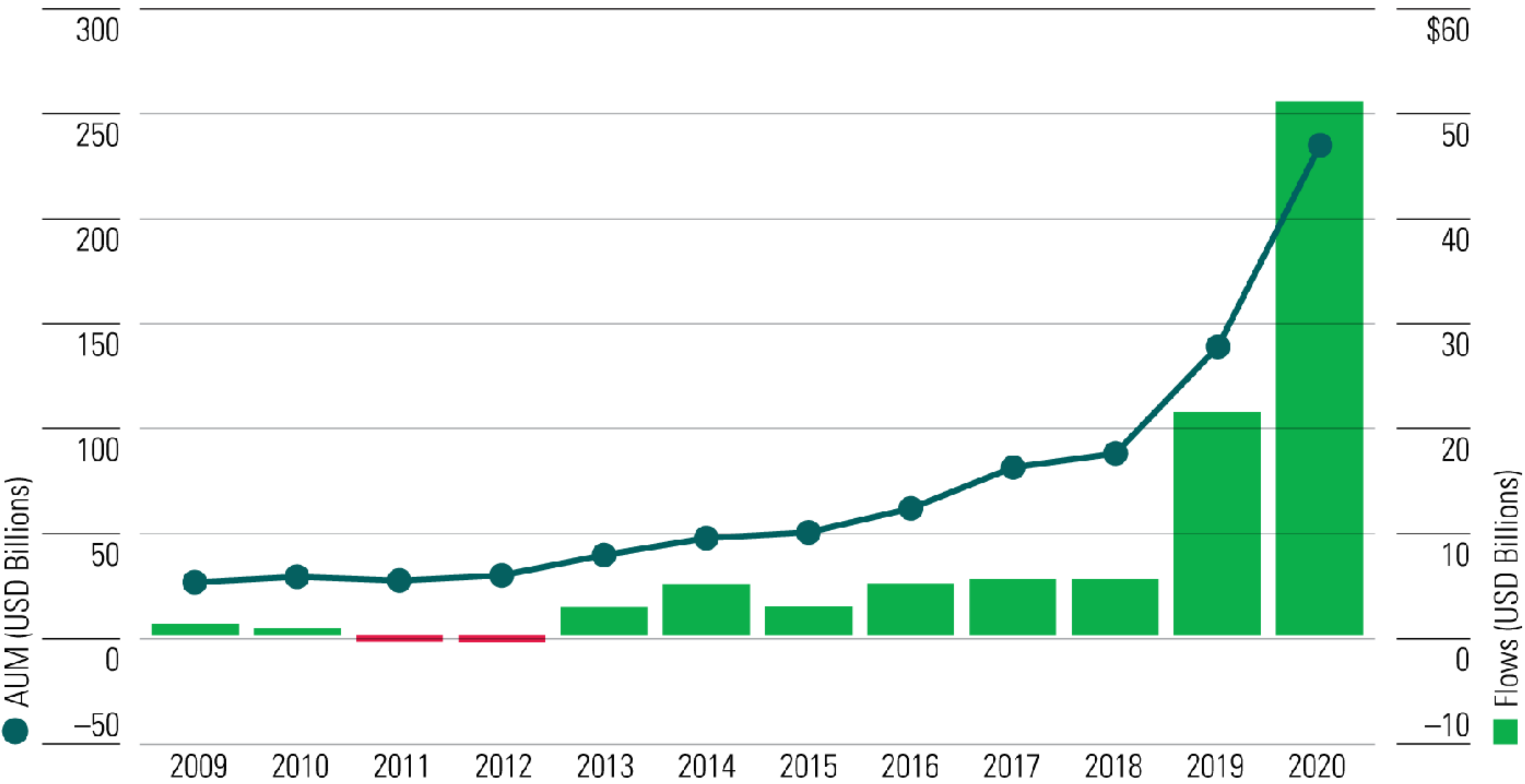
European share price performance by **Environment, social governance (ESG)** rating



Are green growth companies profitable?

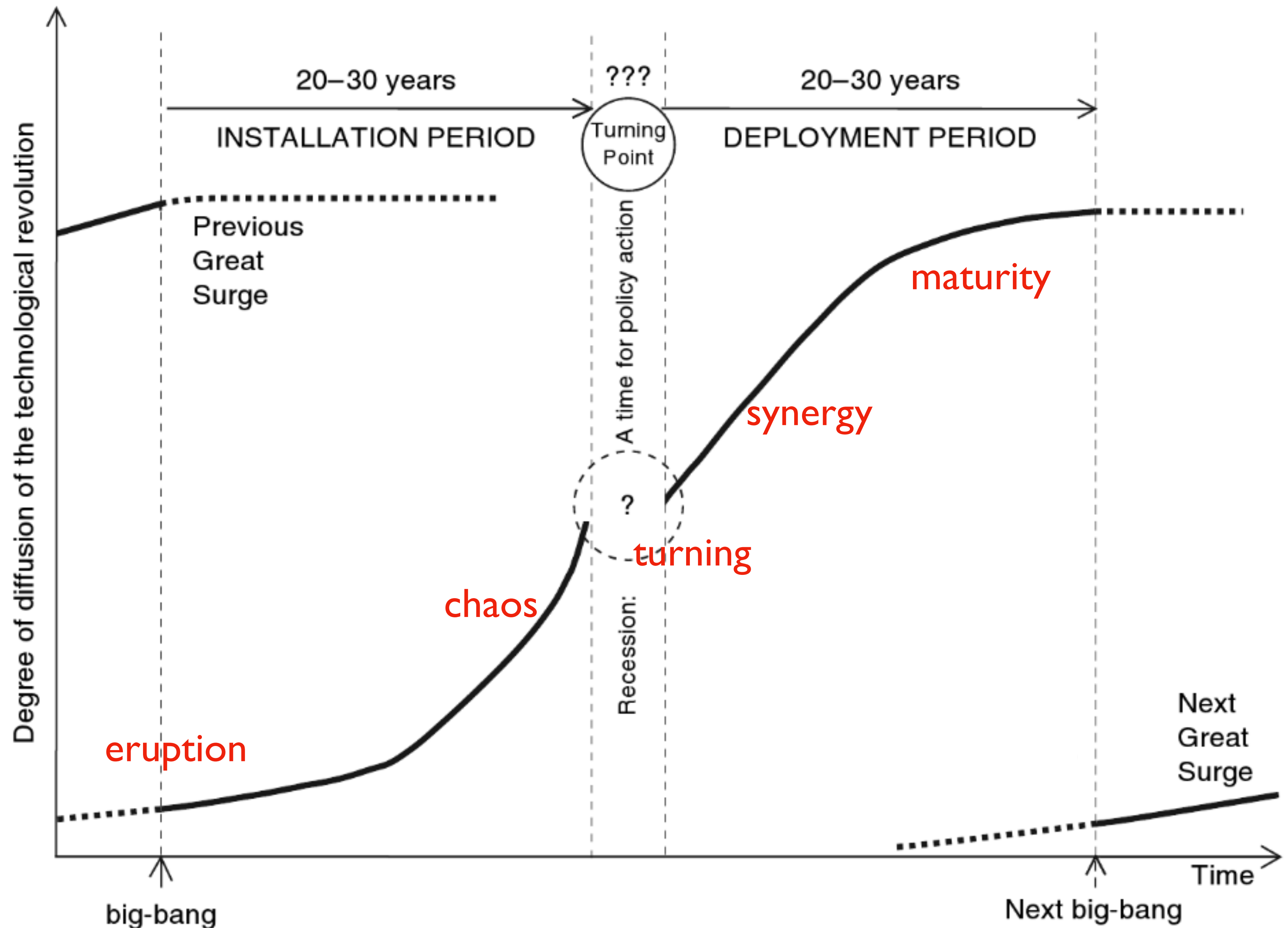
The EIP Climate Tech Index is designed to track the performance of public companies primarily involved in providing technology that supports global decarbonization. The index is updated daily.





Source: Morningstar. Data as of 12/31/2020.
Includes Sustainable Funds as defined in Sustainable Funds U.S. Landscape Report, Feb. 2020.
Includes funds that have been liquidated; does not include funds of funds.

Techno-economic paradigm shifts



Why a green wave *now*? 7 deep drivers:

1. **Renewables** cost-curves
2. **ESG** is suddenly for real
3. **Material flows** go digital and circular
4. Financial **Climate Risk**
5. **SDG** & Paris agreement is humanity's first common plan
6. “**G3**” goes green, net-zero circular + EU taxonomy
7. **Covid-19** has resurrected the active government

Conclusions

1. Problem: Resource wastefulness
2. New wave: Shift in innovation from labor to resource productivity
3. Profitable: Green is the new black!
4. The sixth wave: A deep, accelerating shift, but the timing is unknown

