



# **Beyond ESG: Systems Solutions for Sustainability**

**March 2022**

**Duncan Austin**

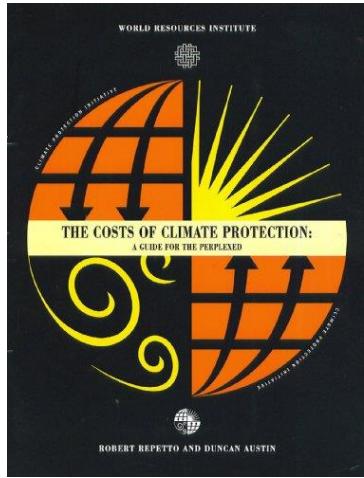
Convened by Thinking Ahead Institute  
Session 1

# Structure of Presentation

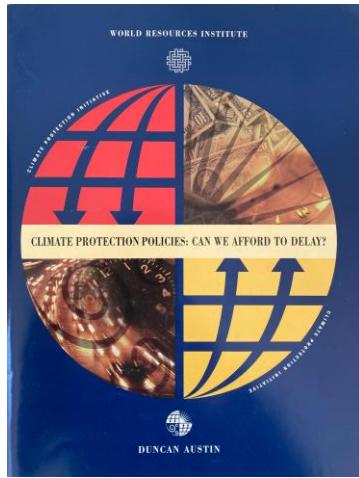
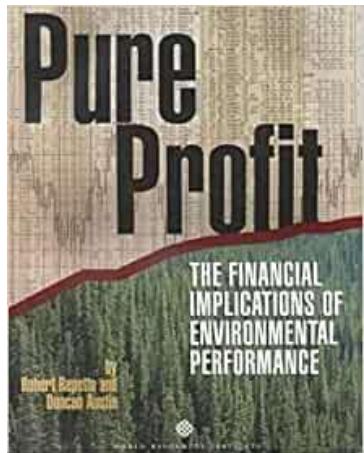
1. Bio and Introduction to Sessions
2. Greenwish and Rising ESG critique
3. The Big Picture
4. The Short History of Voluntary Market-Led Strategies leading to...
5. ... The 'Shock of Net Zero' and...
6. The Recontextualization of Business.
7. Not One, But Two Definitions of Sustainability!
8. The Need for Policy?
9. Final Reflections

# Biographical details

Policy-focused  
(pre-2000)



Market-focused  
(post 2000)



- Degrees in Economics (BA,1994) and Environmental Economics (MSc, 1996)
- Senior Economist at World Resources Institute (1996-2004)
  - Policy-focused economic research to 2000...
  - ... market-targeted research post-2000
- Investment Partner at Generation Investment Management (2004-2018)
  - Public equity analyst for flagship Global Equity Fund
  - Involved with selected private equity deals.
- Independent sustainability researcher and writer since 2019.

# Recent research

## Greenwish: The Wishful Thinking Undermining the Ambition of Sustainable Business

by

Duncan Austin\*

July 2019

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*Bad news for the environment: sustainable business isn't succeeding. I'm frustrated, too. But we can make it succeed.*

---

### FREE Duncan Austin: Milton Friedman's hazardous feedback loop

The economist's statement - 50 years old this week - propels the runaway corporatism that continues to destabilise our society and environment.

### FREE Inside Out Economics: Are Externalities the Main Event?

The question our sustainability crisis poses is whether our economy is more market failure than market? What says economics, then?

### FREE RI long read: Can ESG grasp what ecology says?

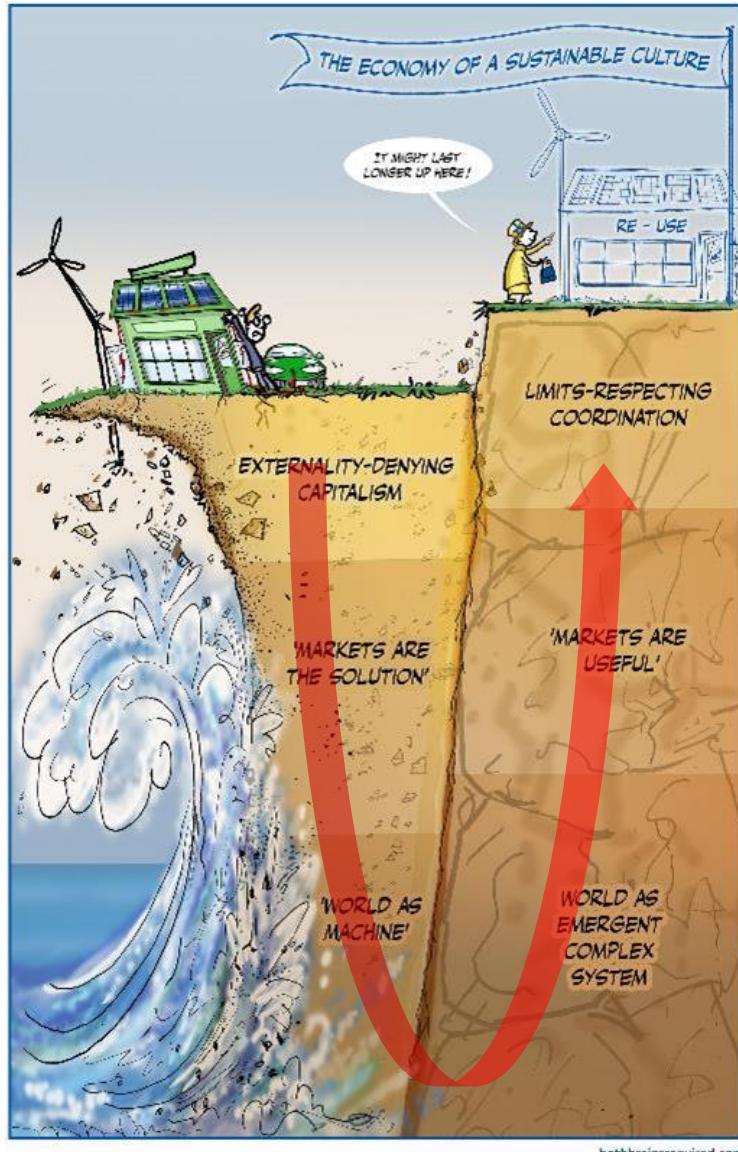
Duncan Austin argues that ESG is caught in the middle of a deep struggle between economics and ecology, but that we may all be 'economist' and 'ecologist'.

### FREE From win-win to net zero: would the real sustainability please stand up?

Duncan Austin argues that the need for net zero reveals there have been two interpretations of sustainability all along.

Long read





# Plan of Sessions

## 1. Taking Stock: ESG and the Risk of Greenwash

- Awakening to sustainability challenges.
- The rise of corporate sustainability and ESG.
- The 'shock of net zero' and the return of limits.
- Rising ESG scepticism.
- Are we suffering from greenwash?

## 4. Building the economy of a sustainable culture

- *Businesspeople* as critical moral actors in a system of market primacy.
- Realigning business and morality to set business free.
- Building not a sustainable economy, but the economy of a sustainable culture.

## 2. The Unintended Trap of Externality-Denying Capitalism

- Is externality-denying capitalism a 'fix that fails'?
- The Invisible Hand and the Unmentionable Foot.
- How we got here? The roads not taken.
- How are we trapped? Friedman's Feedback Loop.

## 3. Systems Thinking Can Rescue the Situation

- The unstoppable rise of systems thinking
- Economy as a sub-system of emergent complex social and ecological systems.
- Deep adaptation and 'fixes that stick'
- Upwards learning (innovation) and sideways learning (unlearning to relearn).

# Rising Critique of ESG

# Rising scepticism about ESG and corporate sustainability

## 25 Years Ago I Coined the Phrase “Triple Bottom Line.” Here’s Why It’s Time to Rethink It.

by John Elkington

## Overselling Sustainability Reporting

We're confusing output with impact. by Kenneth P. Pucker

Tariq Fancy on the failure of green investing and the need for state action

## Impact Investing Won’t Save Capitalism

by Alan Schwartz and Reuben Finighan

The Dangerous Allure of Win-Win Strategies

## The Complicity of Corporate Sustainability



Bloomberg Businessweek

ESG LaLa Land is burning

## The Trillion-Dollar Fantasy

Linking ESG investing to planetary impact.

By Kenneth P. Pucker September 13, 2021

## The fallacy of ESG investing

Win-win arguments promoting both bigger profits and better social returns are illogical

ROBERT ARMSTRONG

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## Morningstar ESG Chief Asks Herself: What Do Those Trillions Do?

# (For Reference)

Jun-18	John Elkington	HBR	25 Years Ago I Coined the Phrase "Triple Bottom Line." Here's Why It's Time to Rethink It.
Jul-19	Duncan Austin	Preventable Surprises	Greenwish: The Wishful Thinking Undermining the Ambition of Sustainable Business
Jul-19	Lorraine Smith	Blog	ESG Data is Like Less Wife-Beating
Apr-20	Lorraine Smith	Blog	Dear Mr. Fink,...
Jul-20	Alan Schwartz & Reuben Finighan	HBR	Impact Investing Won't Save Capitalism
Jul-20	Wal Van Lierop	Forbes	Most ESG Investing Makes A Charade of Fighting Climate Change
Oct-20	Robert Armstrong	FT	The Fallacy of ESG Investing
Nov-20	Ken Pucker & Andrew King	SSIR	The Dangerous Allure of Win Win Strategies
Mar-21	Tariq Fancy	USA Today	Financial world greenwashing the public with deadly distraction in sustainable investing practices
Apr-21	Auden Schendler	SSIR	The Complicity of Corporate Sustainability
May-21	Duncan Austin	Responsible Investor	From Win-win to Net Zero: Would the Real Sustainability Please Now Stand Up?
May-21	Ken Pucker	HBR	Overselling Sustainability Reporting
May-21	Michael Barnett et al.	SSIR	Reorient the Business Case for Corporate Sustainability
Jul-21	Saijel Kishan	Bloomberg	Corporate Climate Efforts Lack Impact, Say Former Sustainability Executives
Jul-21	Hans Taparia	SSIR	The World May Be Better Off Without ESG Investing
Aug-21	Saijel Kishan	Bloomberg Law	Columbia's Sachs Confronts the Limits of the ESG Investing Boom
Aug-21	Ralph Thurm	Linked In series	ESG LaLa Land is burning - how to leave and where to go!
Aug-21	Patricia Kowsmann et al.	WSJ	Fired Executive Says Deutsche Bank's DWS Overstated Sustainable Investing Efforts
Sep-21	Alan Schwartz & Reuben Finighan	SSIR	Why Sustainable Investing Means Investing in Advocacy
Sep-21	Ken Pucker	Institutional Investor	Trillion Dollar Fantasy
Sep-21	Andrew King & Ken Pucker	SSIR	Heroic Accounting
Oct-21	Duncan Austin	Responsible Investor	Market-led Sustainability is a 'Fix that Fails'...
Nov-21	Tariq Fancy	Economist	Tariq Fancy on the failure of green investing and the need for state action
Nov-21	William Power	WSJ	Does Sustainable Investing Really Help the Environment?
Dec-21	Cam Simpson et al.	Bloomberg	The ESG Mirage
Dec-21	Frances Schwartzkopff et al.	Bloomberg	Morningstar ESG Chief Asks Herself: What Do Those Trillions Do?
Jan-22	Bill Baue	Linked In series	ESG as a Reverse Trojan Horse
Jan-22	Martin Wolf	FT	Business leaders have to play a better political role
Jan-22	James Mackintosh	WSJ Series	Why the Sustainable Investment Craze is Flawed

# Simple Summary of New Critique of ESG

**NOT** the original ‘finance-first’ argument:

ESG can never be a source of profits or excess returns.

**BUT** a new ‘sustainability-first’ argument:

1. The form of response for which ‘ESG’ has become the convenient shorthand is **insufficient**;  
and, more difficult,
2. Enthusiastic pursuit of ESG-type strategies has an **increasing opportunity cost of distracting us** from more effective, if difficult, strategies.

# (For Reference)

Jun-18	John Elkington	HBR	25 Years Ago I Coined the Phrase "Triple Bottom Line." Here's Why It's Time to Rethink It.
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# The Big Picture

# The Wood for the Trees

**“ESG burnout is real. I know because I have it.”**

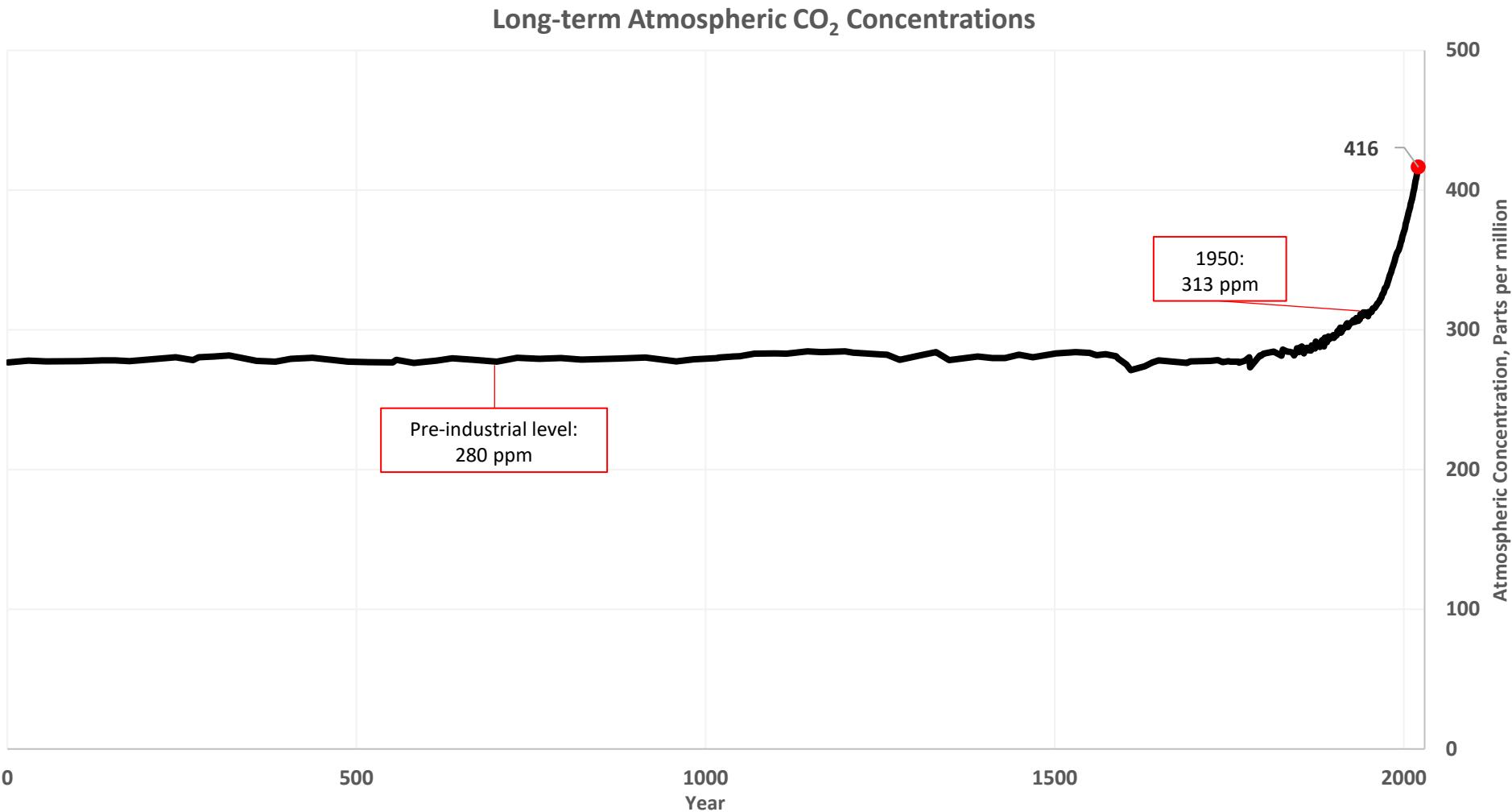
“...Is what I do now SRI or RI, or is it ESG? I think I need more data, but do I use GRI, CDP, CRREM and/or BREEAM, UNGC, GIIN, TPI, WBA or SASB? We require ambitious NDCs to lower GHGs, along with corporates committing to SBTs. Find me investments supporting the SDGs that DNSH. Keep a check of the SEC, IIGCC, IGCC, Ceres, UNEPFI, NZAOA, NZAM, CDSB and any of the SIFs, as well as ASCOR, TEG, GTAG, GFANZ, TNFD, IFRS/ISSB, PCAF. Fall behind at your peril. Most importantly, write an award-winning report in line with TCFD, PAII, SFDR and NFRD, which can also be used for PRI...”

“Don't get involved in partial problems, but always take flight to where there is a free view over the whole single great problem, even if this view is still not a clear one.”

**Ludwig Wittgenstein**

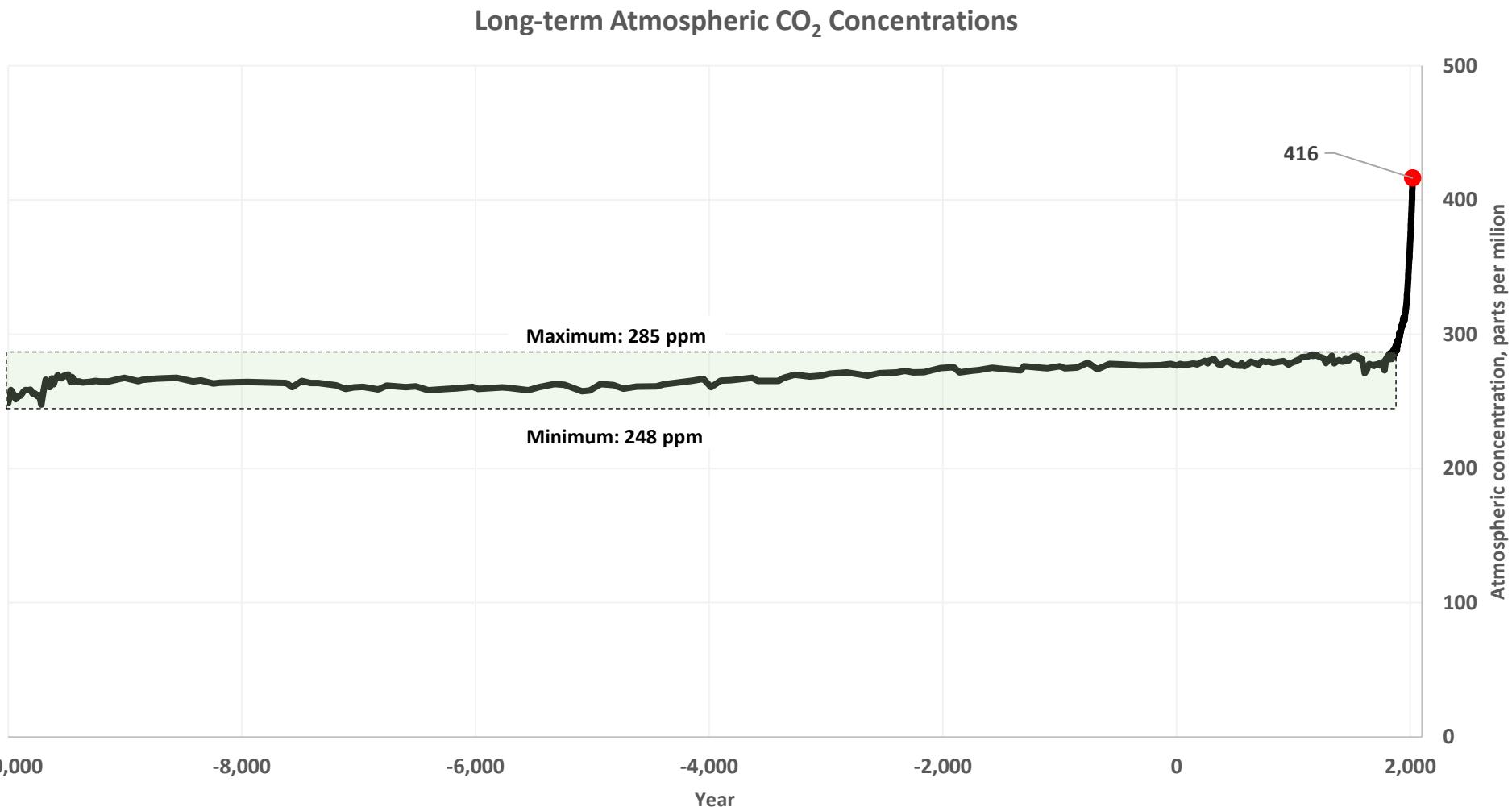
**Anonymous, December 2021, Responsible Investor**

# Atmospheric CO<sub>2</sub> Concentrations



EPICA DOME C Data, Jouzel et al, 2009 (NOAA/WDS)

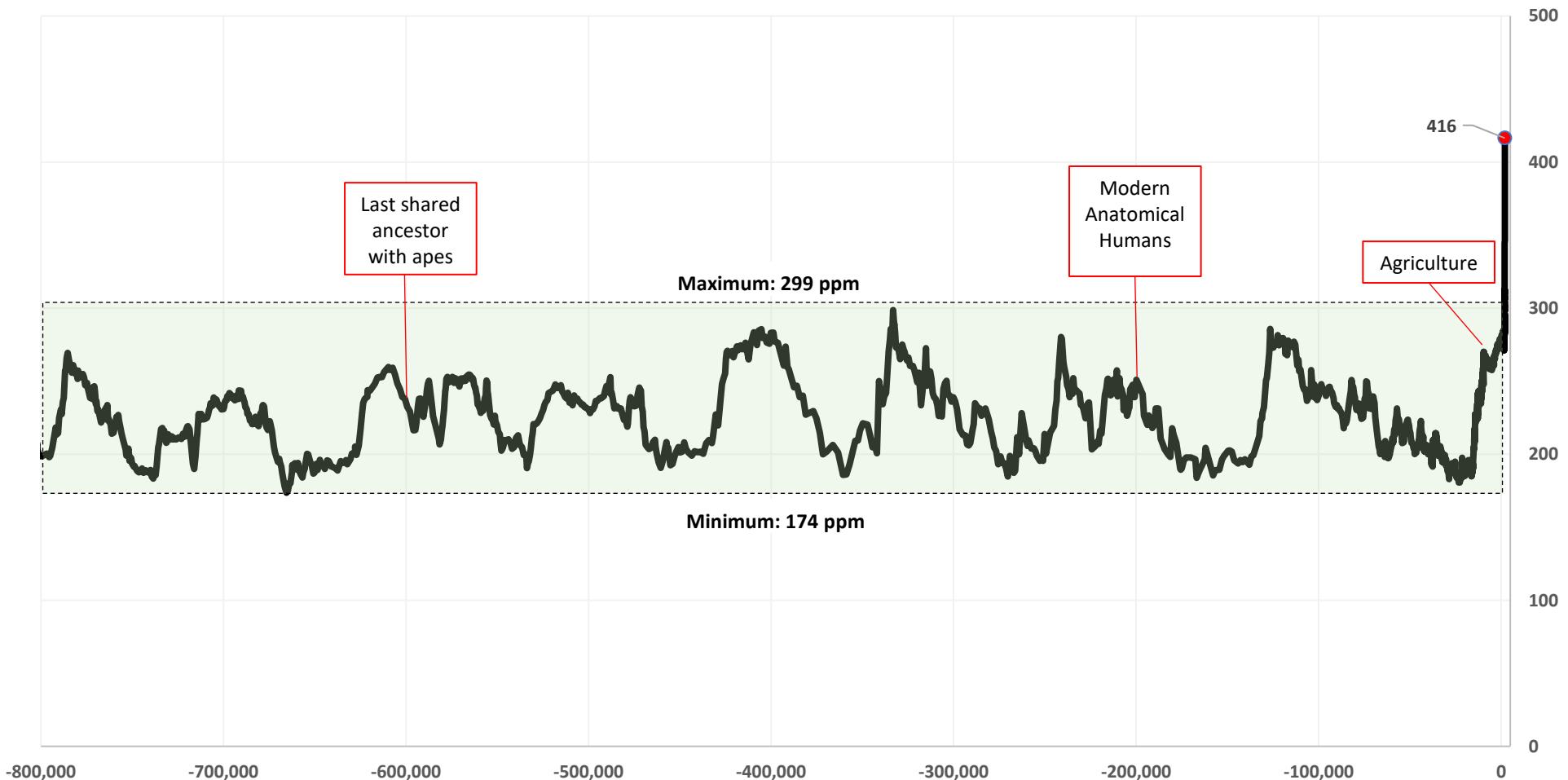
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EPICA DOME C Data, Jouzel et al, 2009 (NOAA/WDS)

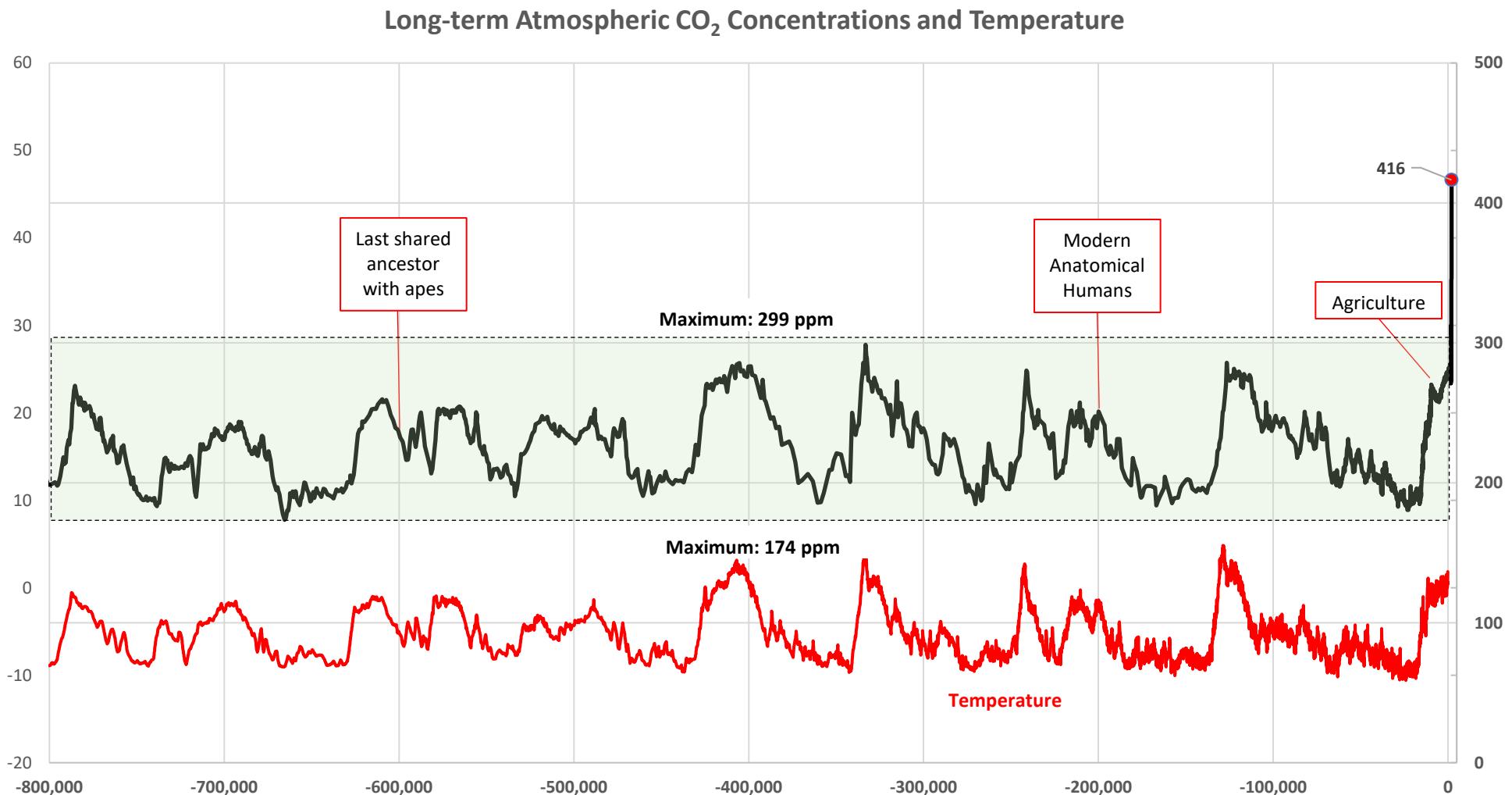
# Atmospheric CO<sub>2</sub> Concentrations

Long-term Atmospheric CO<sub>2</sub> Concentrations



EPICA DOME C Data, Jouzel et al, 2009 (NOAA/WDS)

# Atmospheric CO<sub>2</sub> Concentrations and Temperature

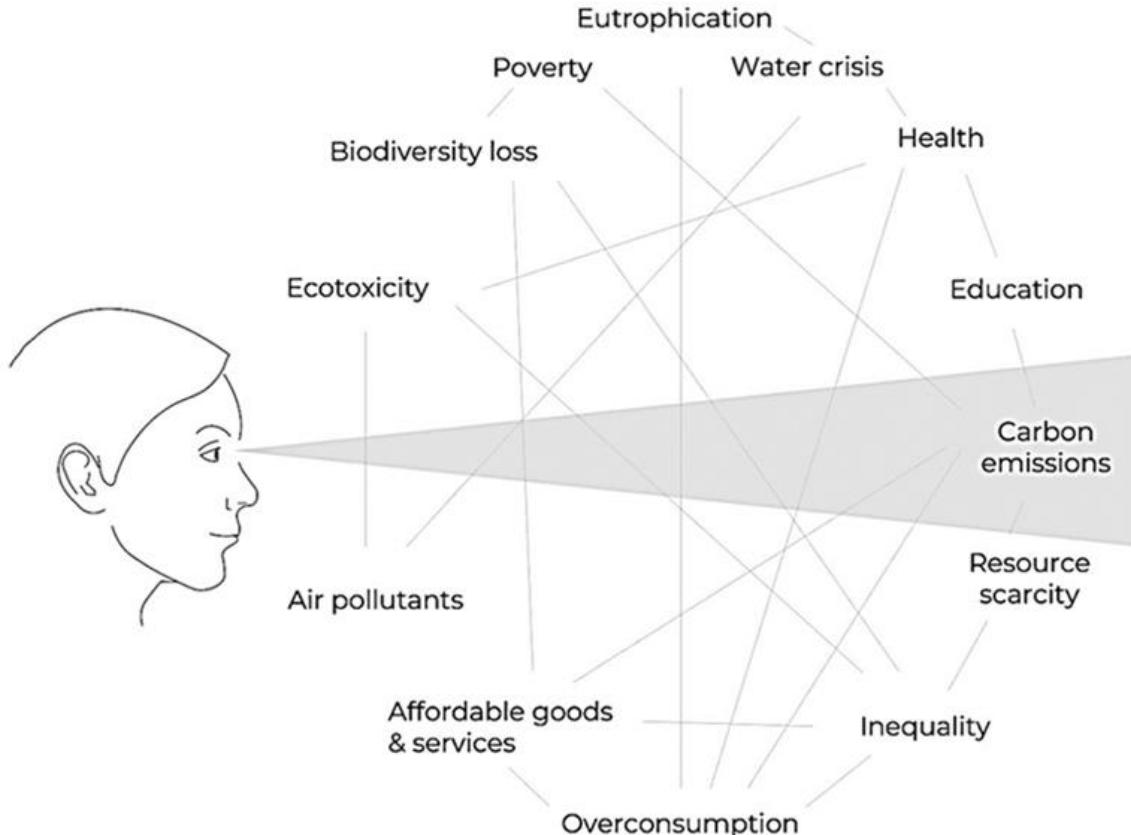


EPICA DOME C Data, Jouzel et al, 2009 (NOAA/WDS)

# Not just Decarbonize, but Ecologize

Sustainability transition

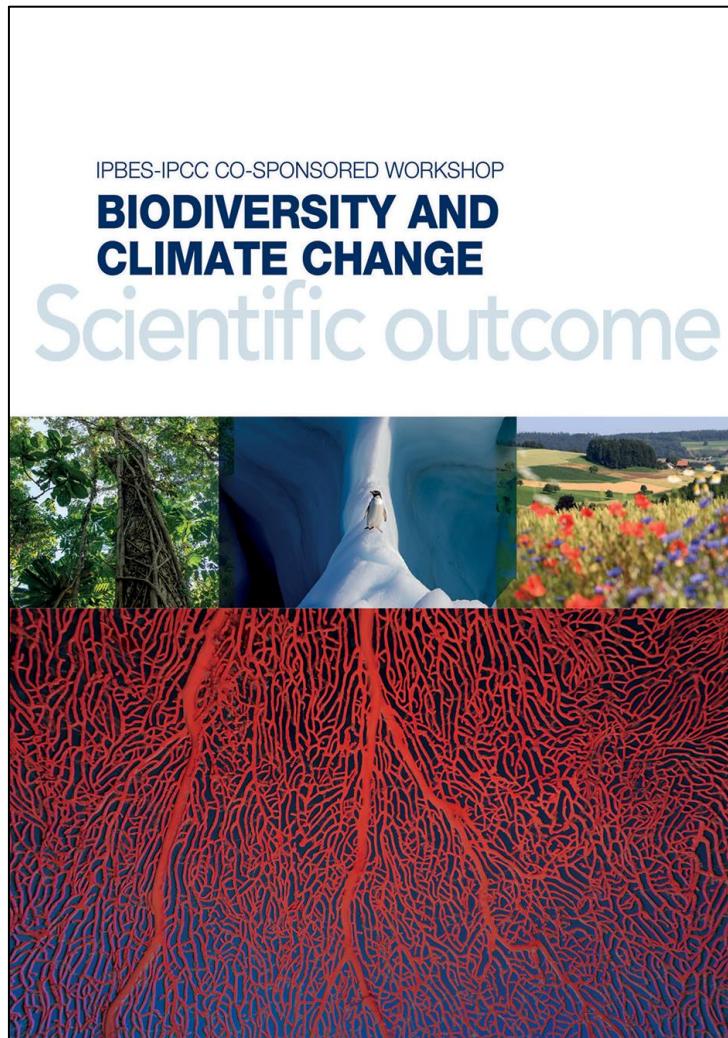
## Carbon Tunnel Vision



Graphic by Jan Konietzko

Jan Konietzko

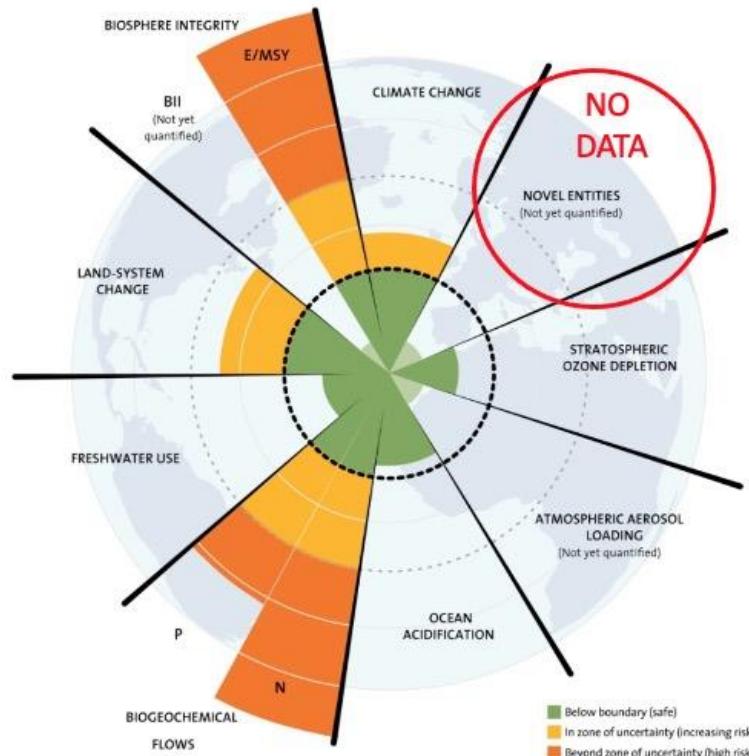
# IPBES-IPCC First Joint Workshop and Statement



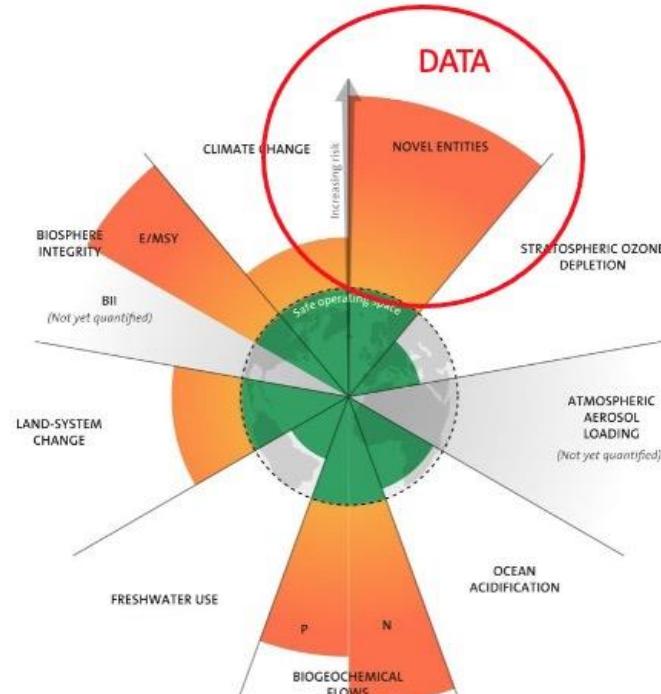
IPBES-IPCC Co-Sponsored Workshop Report on Biodiversity and Climate Change, 2021

# Multiple Ecological Transgressions

Until now the planetary boundary for chemical pollution had not been quantified



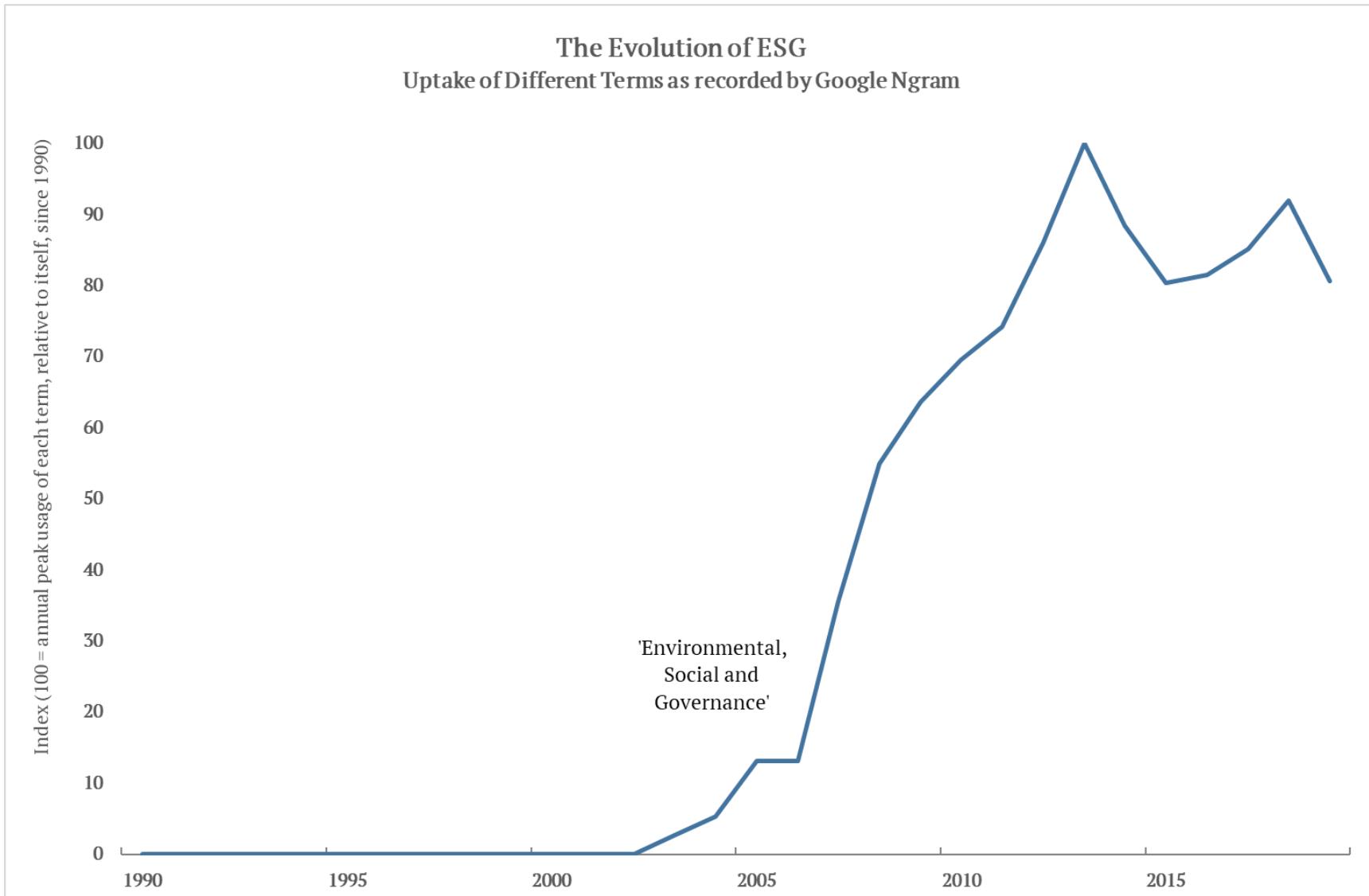
Now it has been – and the news is devastating



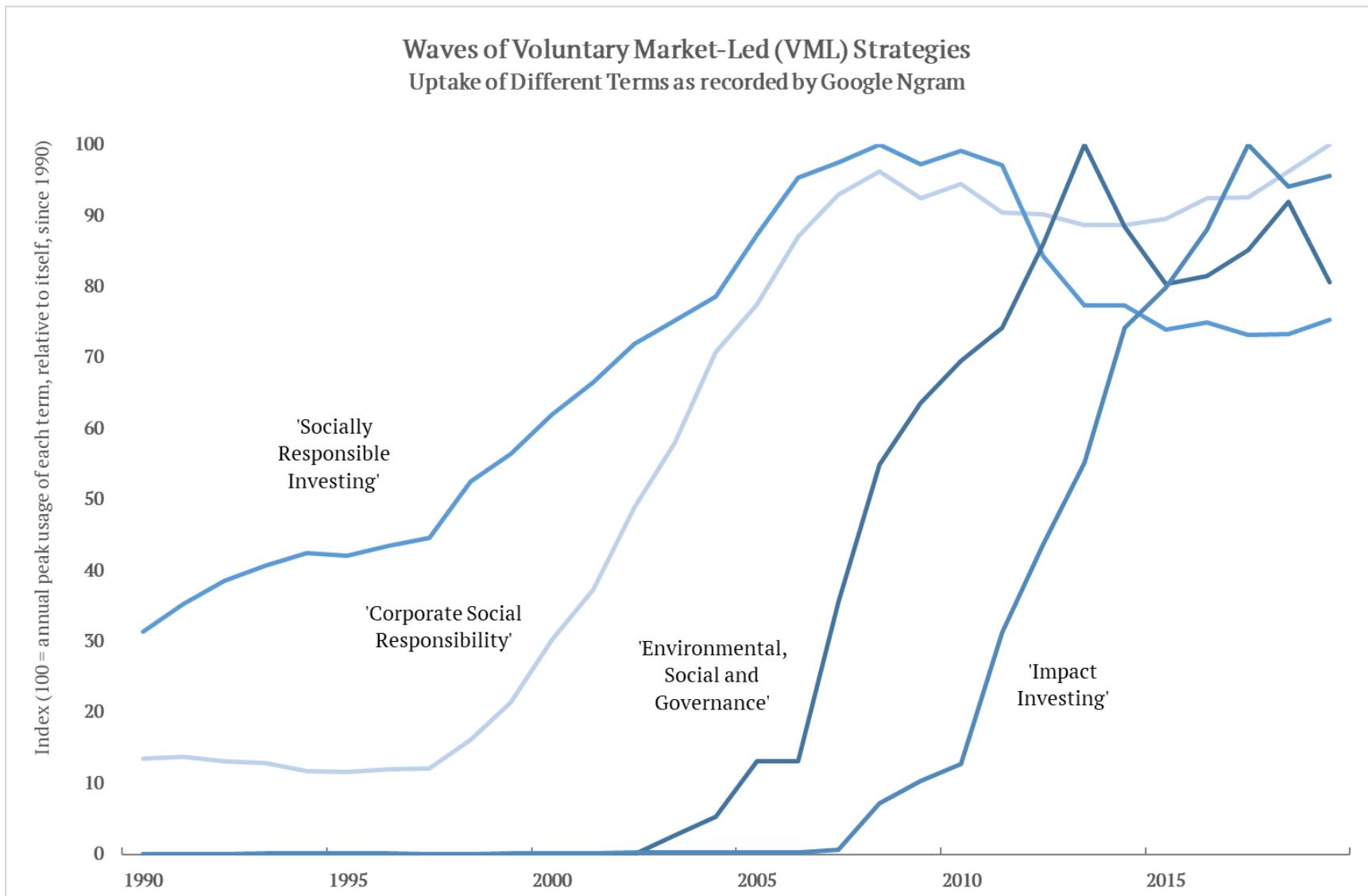
The updated Planetary Boundaries framework (2022) showing 5 boundaries transgressed, now including "novel entities."  
Credit: Stockholm Resilience Centre/Azote

J. Lokrantz/Azote based on Steffen et al. 2015.; Designed by Azote for Stockholm Resilience Centre, based on analysis in Persson et al 2022; Kate Raworth

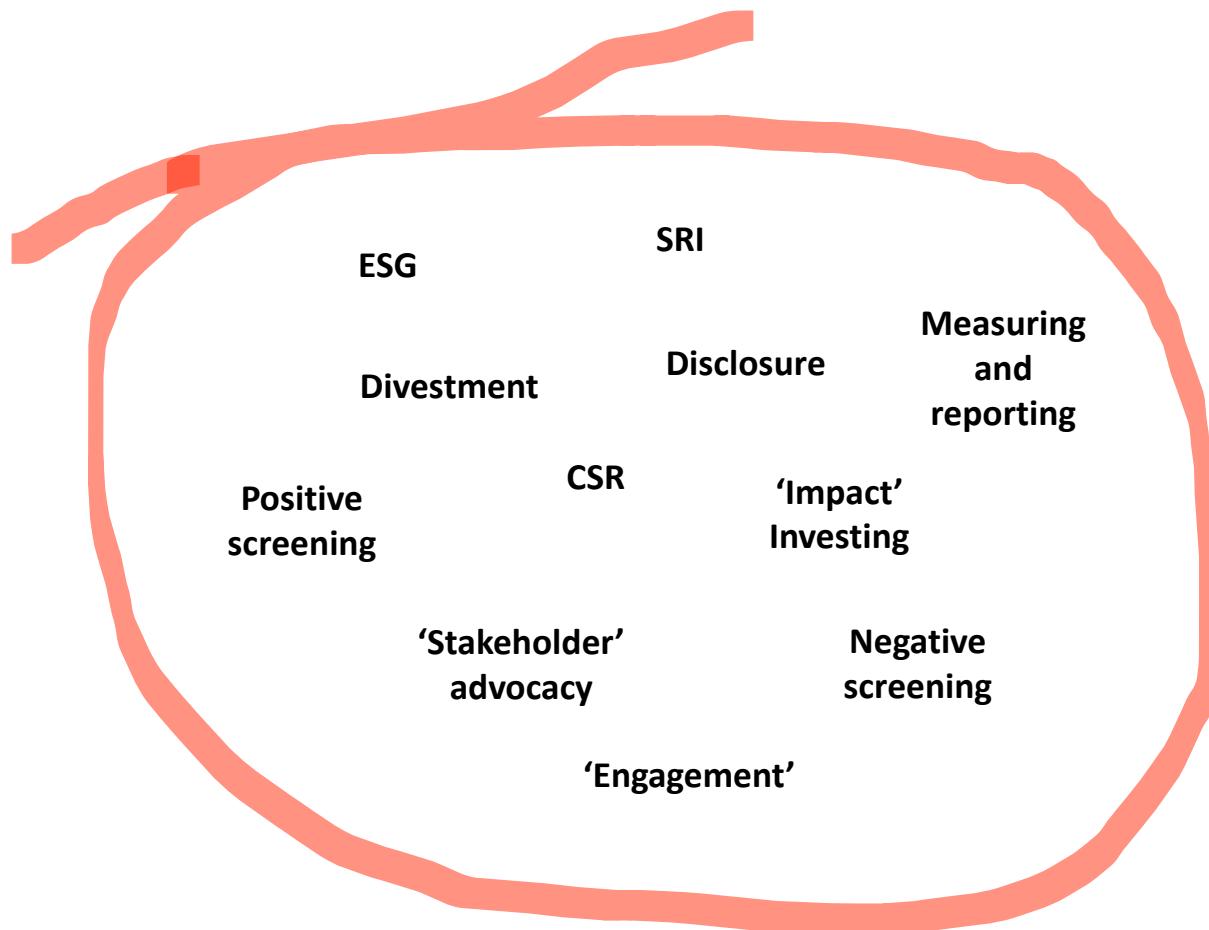
# Rise of 'ESG'



# Rise of 'ESG' 'VML': Voluntary Market-Led Meta-Strategy



# Voluntary Market-Led Response



All sub-strategies of a meta-strategy that might be termed:  
**Voluntary Market-Led (VML) Environmentalism**

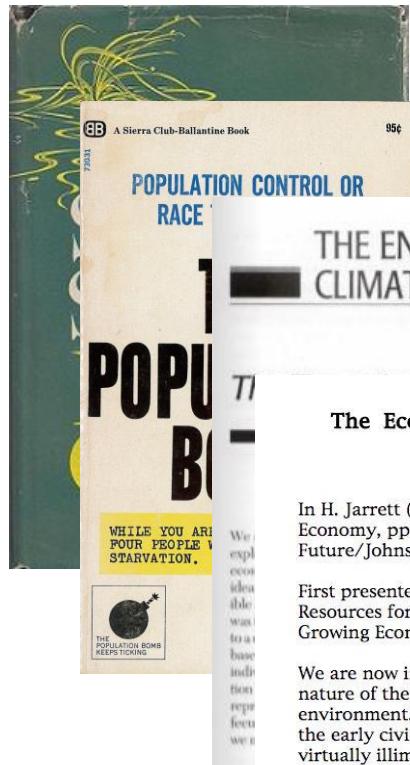


# The Short History of Voluntary Market-Led Environmentalism

# “Earthrise” (1960s)



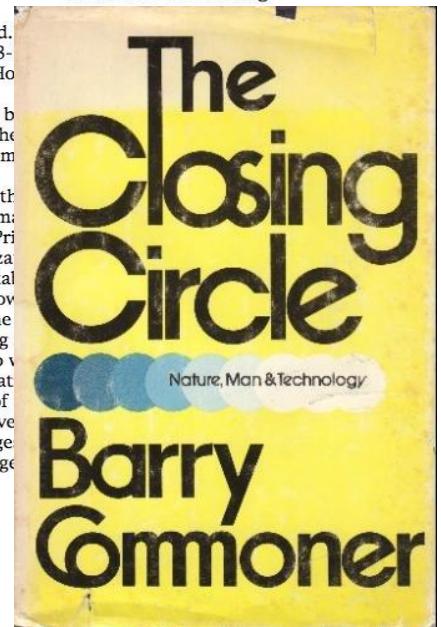
# Earthrise (1960s)



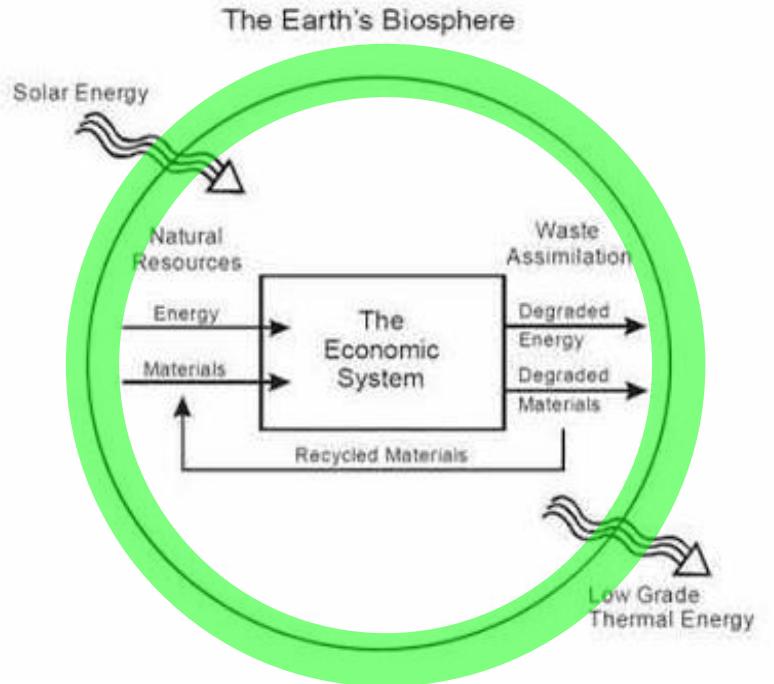
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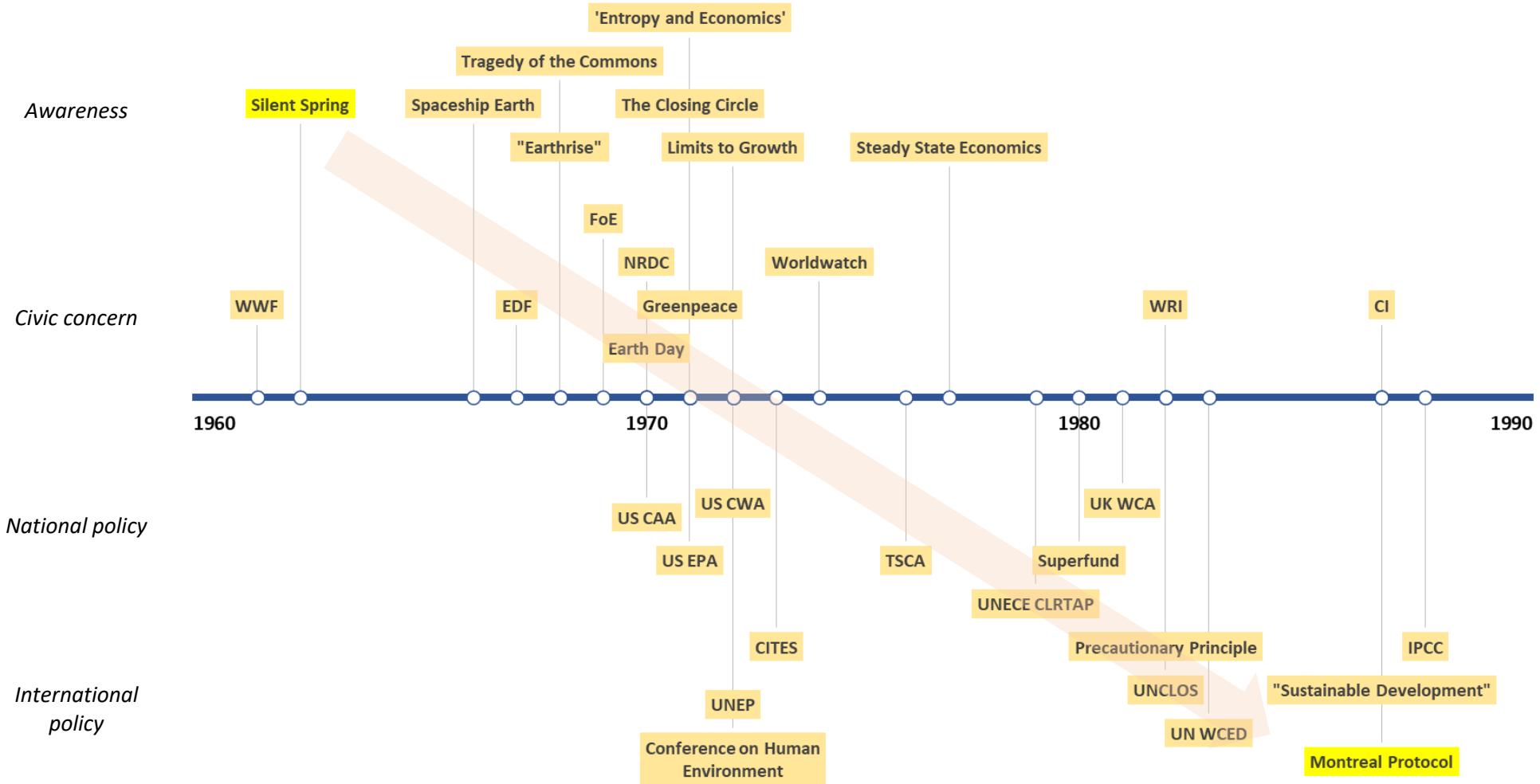


# The 'Closing Circle'

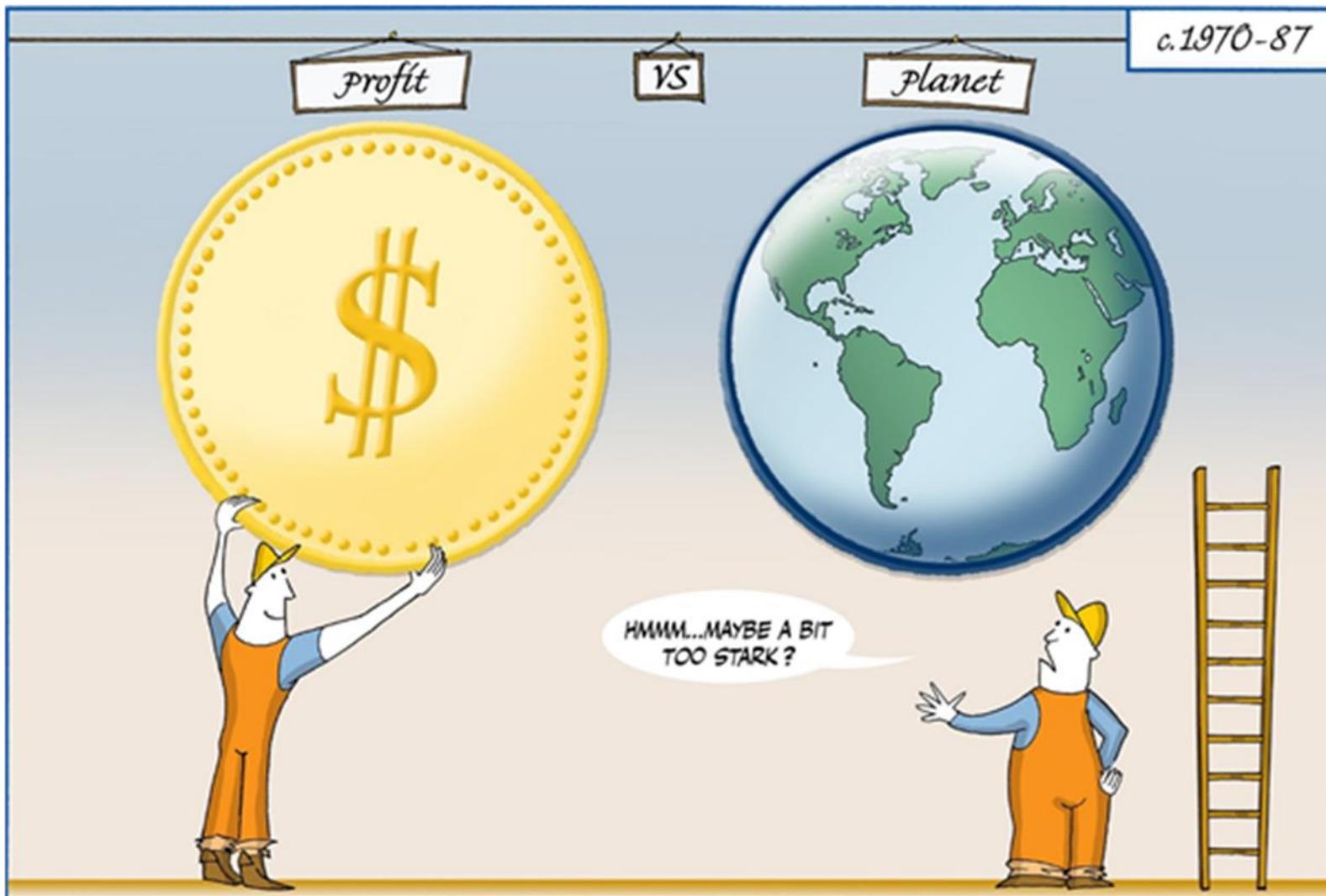


*The Economics of Coming Spaceship Earth,  
Ken Boulding, 1966*

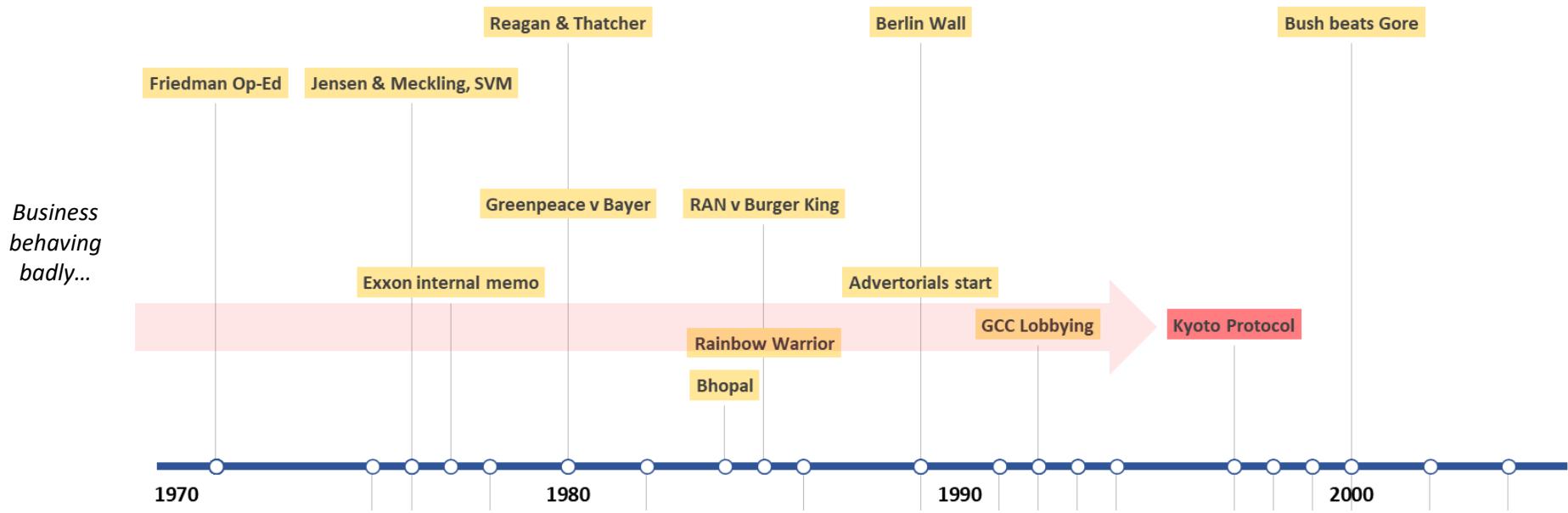
# From Silent Spring to the Montreal Protocol



# "Profit versus Planet" (1970-87)



# The Pivot to 'Win-Win'



## 1990s advertisements

# If the Earth is getting warmer, why is Kentucky getting colder?



Some scientists say the Earth's temperature is rising. They say that catastrophic global warming will take place in the years ahead.

Yet, average temperature records show temperatures have been cooling in the U.S. over the past 70 years. And there's also a cooling trend in Albany, New York—the U.S. city with the longest history (over 160 years) of continuous daily temperature records.

Now, most of us aren't climatologists. But facts like these simply don't jibe with the theory that causes of global warming is taken for granted. Which seems to call for more research. And more evidence about this environmental phenomenon before we take any action.

If you care about the Earth—but want to keep a cool head about it—now is your chance to get more facts.

Call the Information Council for the Environment, 1-800-346-6269 extension 514. We'll send you a free packet of information on global climate change. Or just mail us the coupon below.

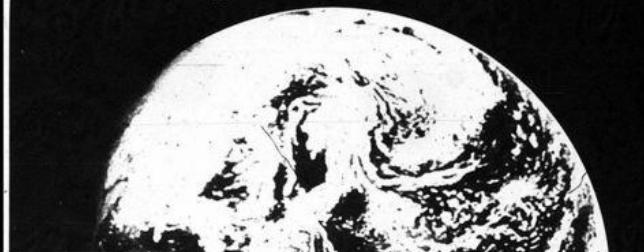
Because the best environmental policy is a policy based on facts.

Please send me your FREE information packet on global climate change.

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ADDRESS \_\_\_\_\_  
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Mail to:  
Information Council for the Environment  
P.O. Box 610998 / Kansas City, MO 64141-4998

Information Council for the Environment  
1-800-346-6269 / extension 510  
Funding provided by a group of  
major energy and utility companies

# The most serious problem with catastrophic global warming is—it may not be true.



Some forecasters say the Earth's temperature is rising. They say that catastrophic global warming will take place in the years ahead.

But the U.S. Department of Agriculture—in the first update in 25 years of its Crop Progress Report—determined that on both coasts of this country, winter temperatures are 5 to 10 degrees colder than previously reported.

The evidence can be seen in the increase in cold damage to Florida orange groves and California eucalyptus. And a moving frost line has led to a shorter growing season in some parts of the South.

Now, most of us aren't climatologists. But facts like

If you care about the Earth—but want to keep a cool head about it—now is your chance to get more facts.

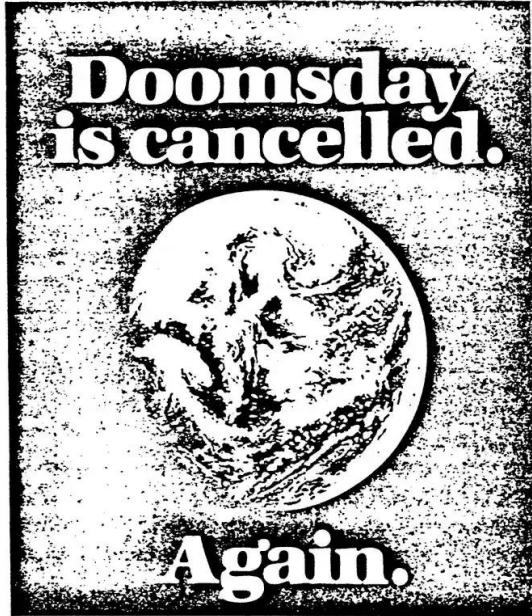
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# 1990s advertisements



The twentieth century has seen many predictions of global destruction. In the 1930's, some scientists claimed we were in the middle of a disastrous warming trend. In the mid 1970's, others were sure we were entering a new Ice Age. And so on. It's the same with global warming. There's no hard evidence it is occurring. In fact, evidence the Earth is warming is weak. Proof that carbon dioxide has been the primary cause is non-existent. Climate models cannot accurately

predict far-future global change. And the underlying physics of the climatic change are still wide open to debate. If you care about the environment, but don't care to be pressured into spending money on problems that don't exist, make sure you get the facts.

Write: Informed Citizens for the Environment, P.O. Box 1513, Grand Forks, North Dakota 58206 or call (701) 746-4573. We'll send you the facts about global warming.



Display Ad 31 -- No Title  
New York Times ; Nov 20, 1997; pg. B7



The Only Thing  
This Treaty Cools Down Is  
America's Economy.

## Science: what we know and don't know

As the debate over climate change heats up, science is being upgraded by the call for solutions. At stake is a complex issue with many questions. Some things we know for certain. Others are far from certain.

First, we know greenhouse gases account for less than one percent of Earth's atmosphere. The ability of these gases to trap heat and warm Earth is an important part of the climate system because it makes our planet habitable. Greenhouse gases consist of the largest amounts of water vapor, with smaller amounts of carbon dioxide (CO<sub>2</sub>), methane and nitrous oxide and traces of chlorofluorocarbons (CFCs).

The focus of concern is CO<sub>2</sub>. While most of the CO<sub>2</sub> emitted is from the result of natural phenomena—namely respiration and decomposition, most attention has centered on the three to four percent related to the burning of fossil fuels and deforestation. The amount of carbon dioxide in the atmosphere has risen in the last 100 years, leading scientists to conclude that the increase is a result of man-made activities.

Although the amount of greenhouse gases and global warming is one factor, other variables could be much more important in the climate system than emissions produced by man.

The UN-sponsored Intergovernmental Panel on Climate Change (IPCC) thought it had found the magic bullet when it concluded that the one-degree Fahrenheit rise in global temperatures over

the past century may bear a "fingerprint" of human activity. This fingerprint soon blurred when an IPCC lead author conceded to the "uncertainty inherent in computer climate modeling."

Nonetheless, nations at Kyoto are being asked to embrace proposals that could have profound effects on their economies and lifestyles. Nations are being urged to cut emissions without knowing either the severity of the problem—that is, will Earth's temperature increase over the next 50-100 years? And the proposed solution—will cutting CO<sub>2</sub> emissions reduce the problem?

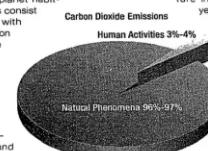
Within a decade, science is likely to provide more answers on what factors affect global warming, thereby improving our decision-making. We just don't have this information today.

Answers to questions on climate change will require more reliable measurements of temperature on many places on Earth, better understanding of ocean currents along with greater computer power.

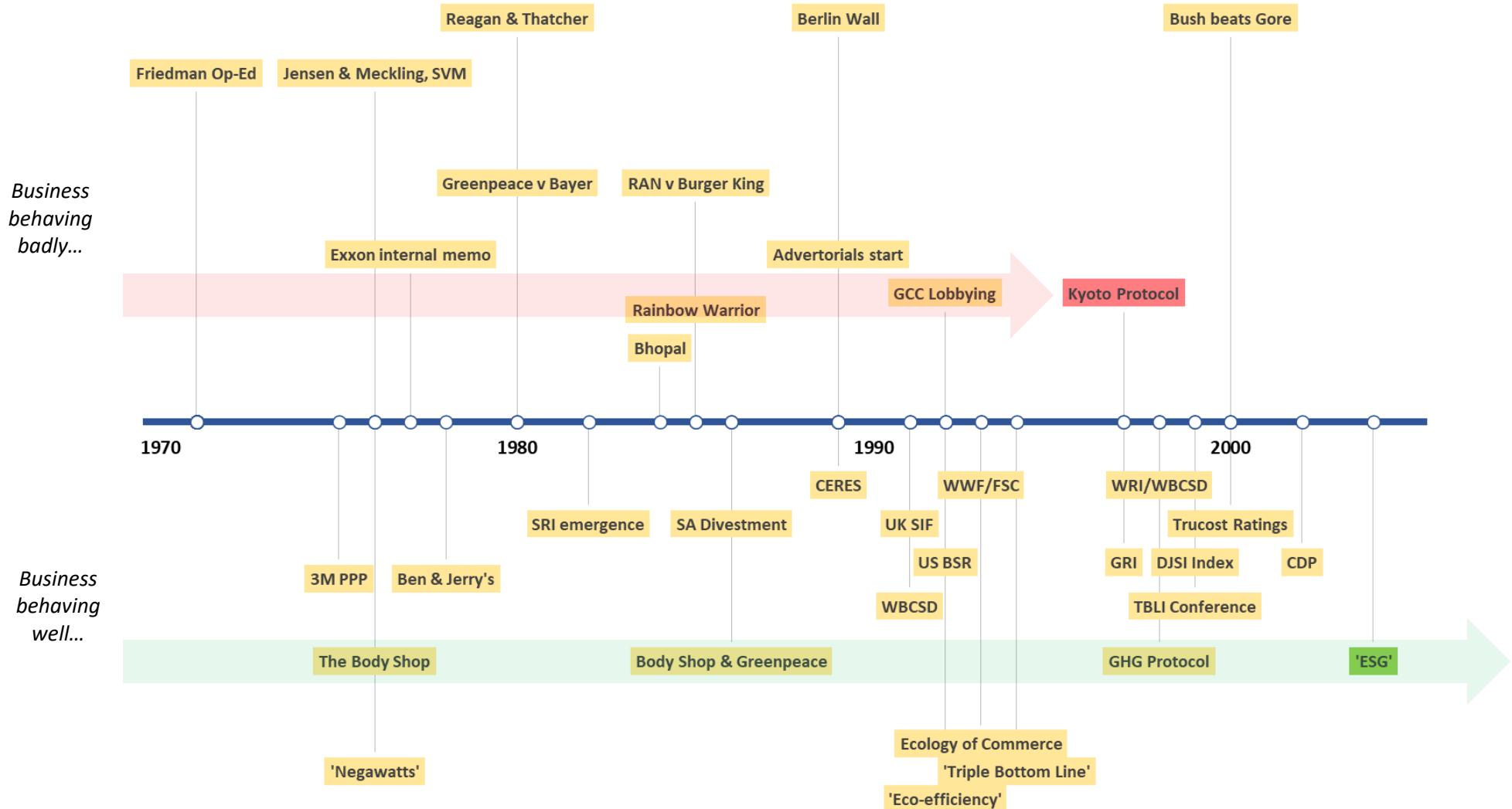
This process shouldn't be short-circuited to satisfy political demands like the conclusion at Kyoto. What's needed instead is a reexamination of man-made gases may have, it will develop slowly over decades. Thus, there is time for scientists to refine their understanding of the climate system, what interventions, if any, and the public can best find practical means to combat greenhouse gases, if such measures are called for.

Adopting quick-fix measures at this point could pose grave economic risks for the world.

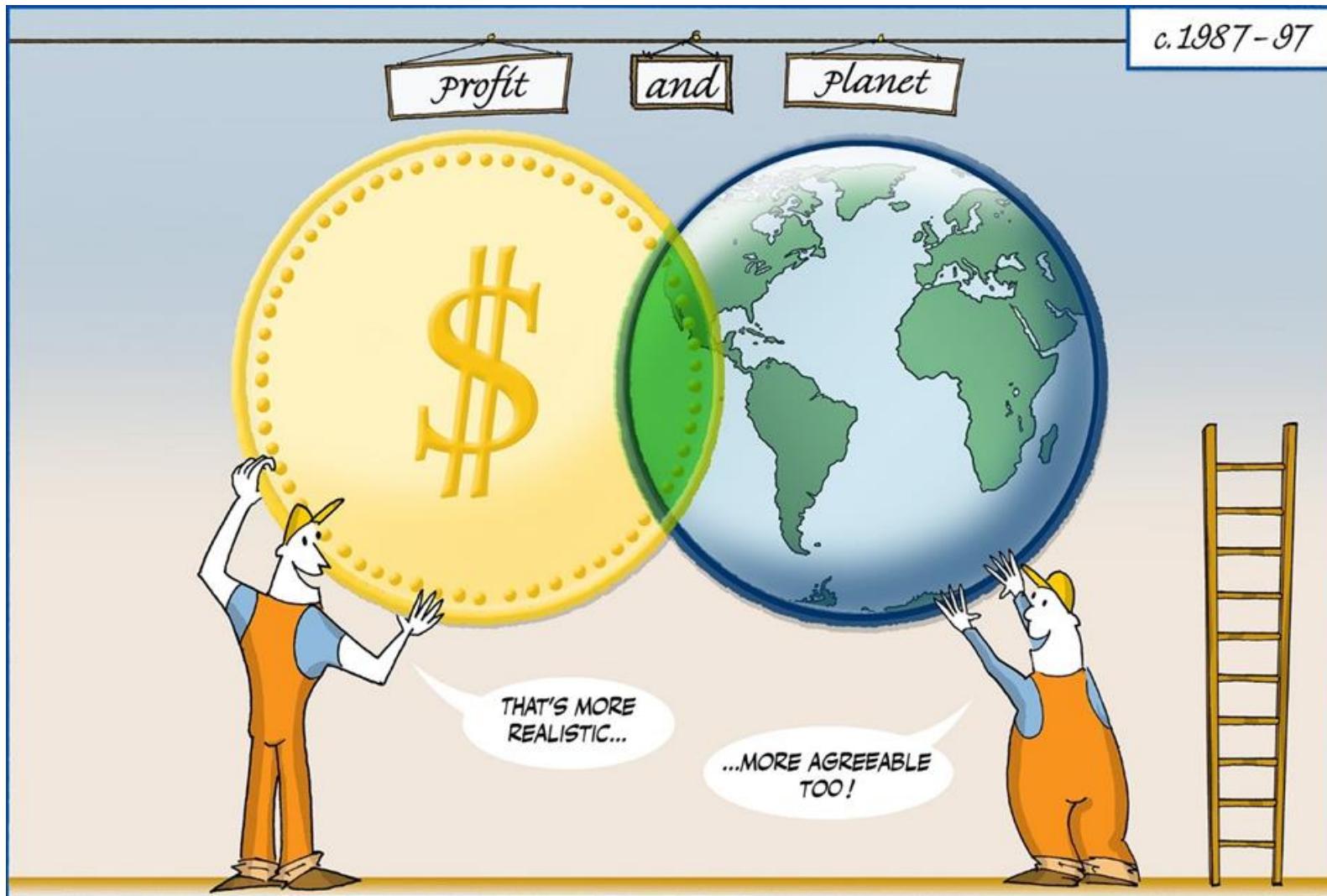
**Mobil** The energy  
to make a difference.



# The Pivot to 'Win-Win'



# "Environmentalism Became Sustainability" (1987-97)

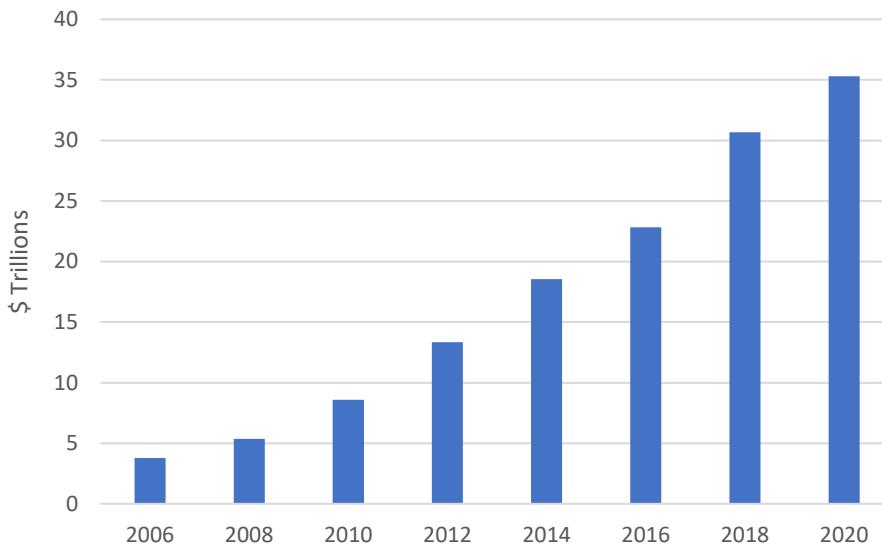


# Building the ‘Win-Win’ Discourse

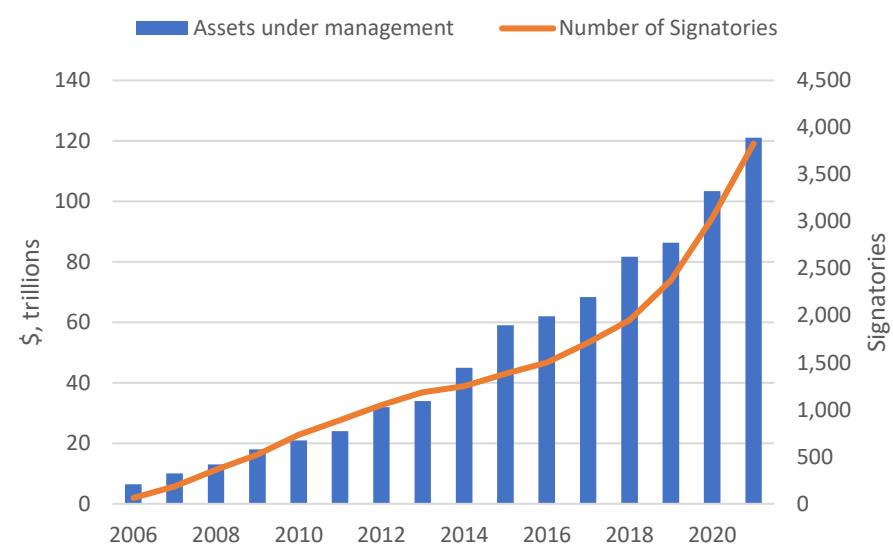


- New concepts
  - Eco-efficiency
  - Negawatts
  - Triple bottom line
  - Win-win
  - People, plant and profit
  - Doing well by doing good
  - Creating shared value
  - Sustainable capitalism
  - Green growth
  - Sustainable alpha
  - Etc...
- Embraced beyond business!
  - Civil society and NGOs
  - Governments

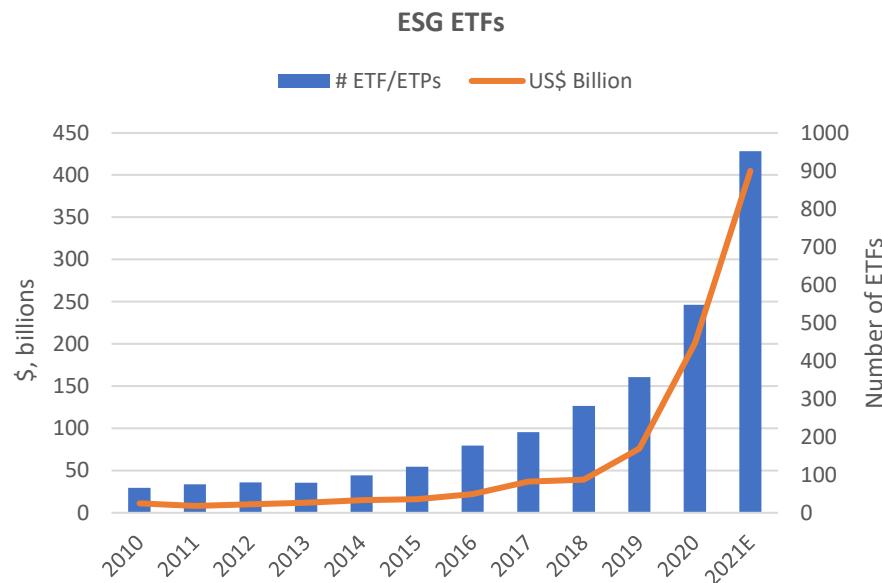
### Global Sustainable Investment Assets



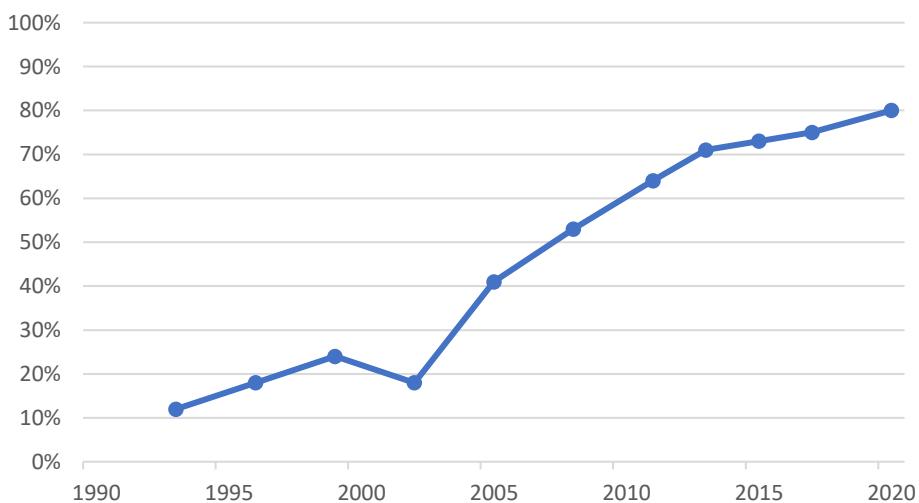
### Uptake of UN PRI



### ESG ETFs

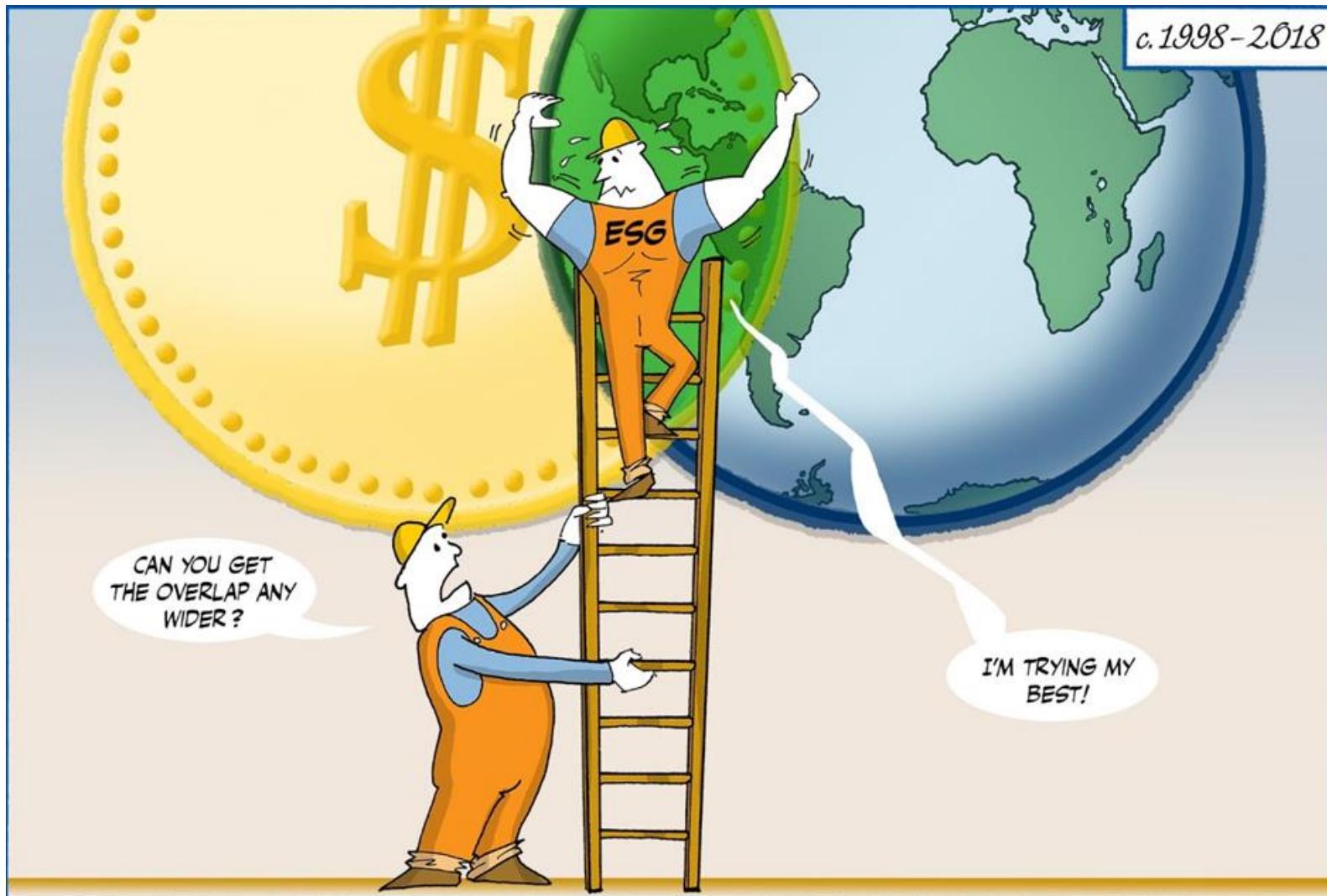


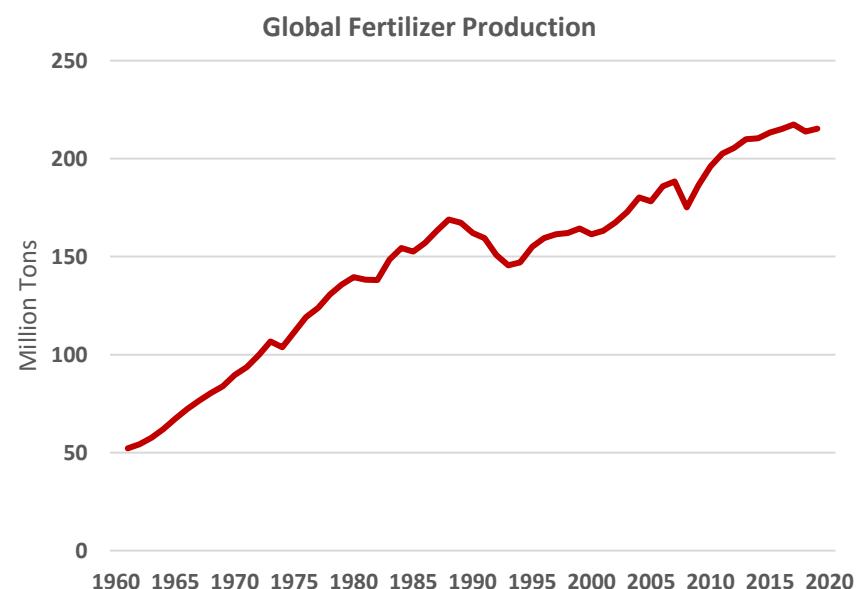
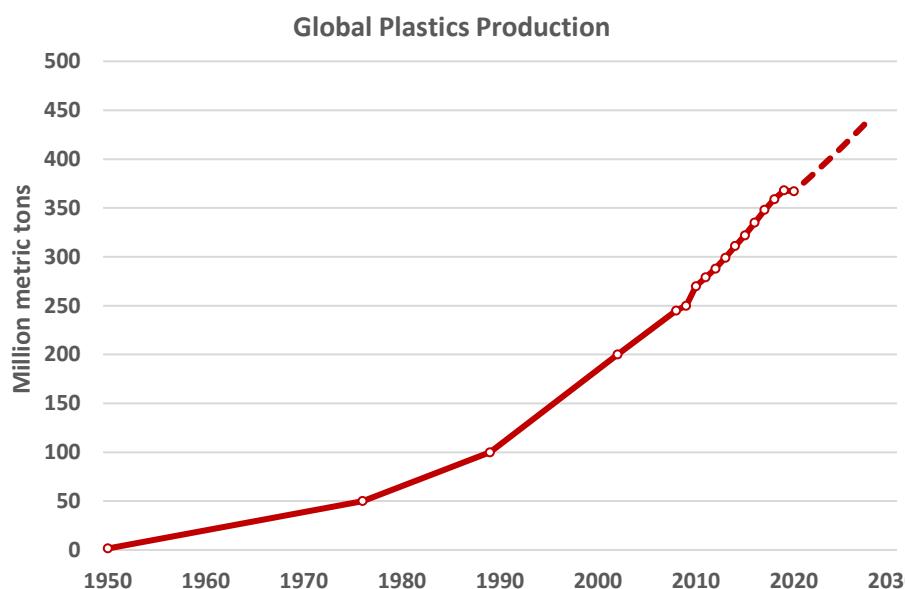
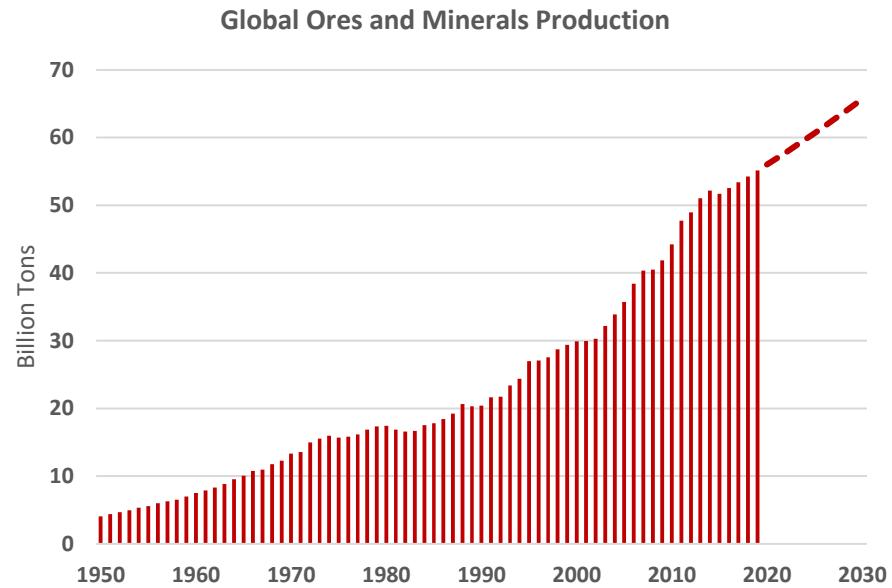
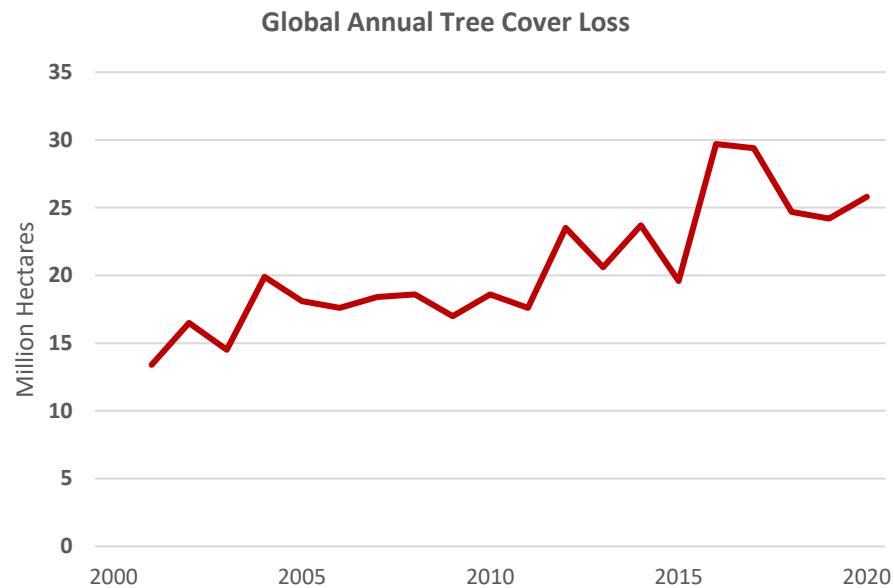
### Global Sustainability Reporting Rates (KPMG survey of 5,200 companies)



Data from: UN PRI; KPMG; ETFGI; GSIA

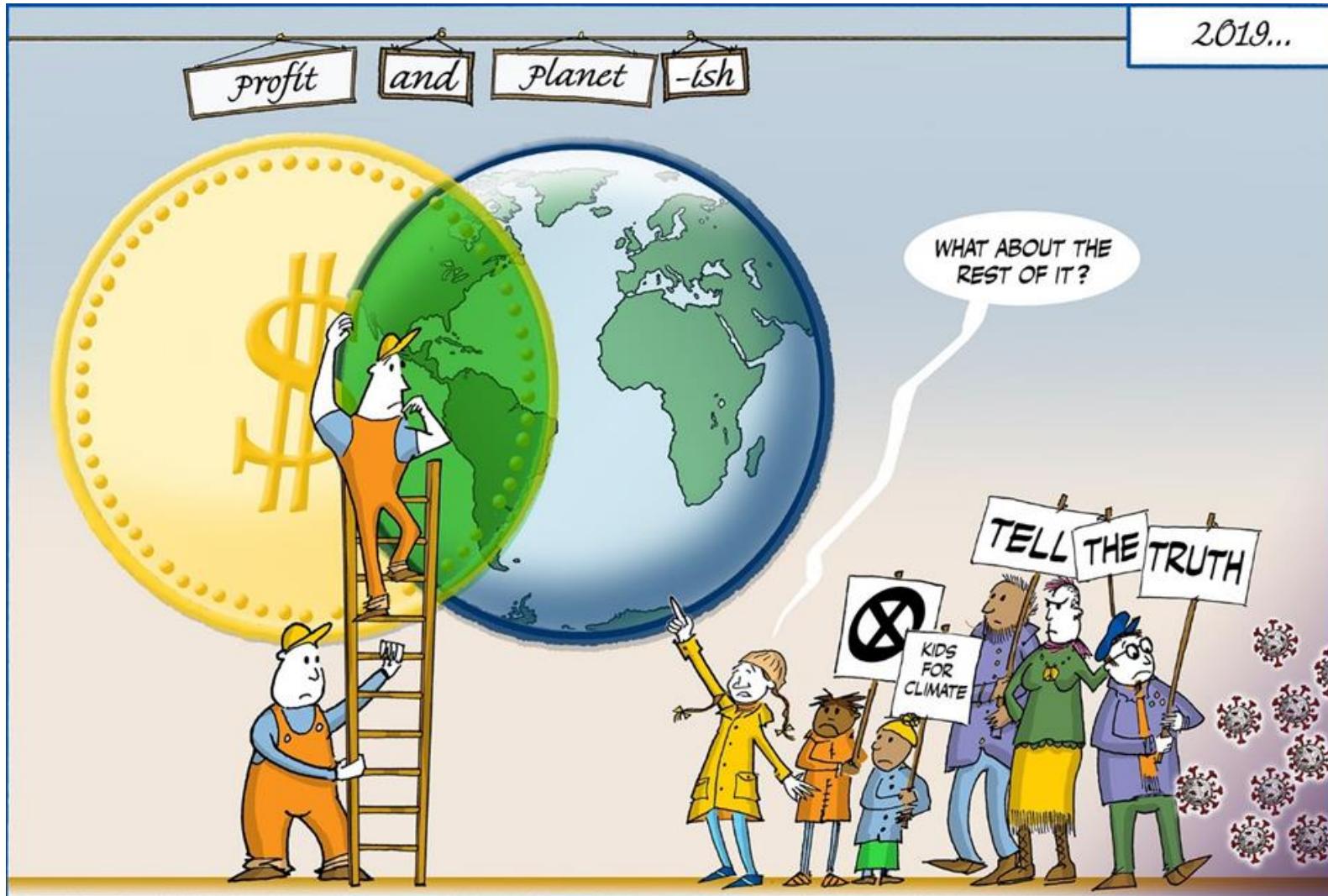
# “Voluntary Market-Led Environmentalism” (1998-2018)





Data from: Global Forest Watch, Circularity Gap Report, Statista, Grandview Research, Our World in Data

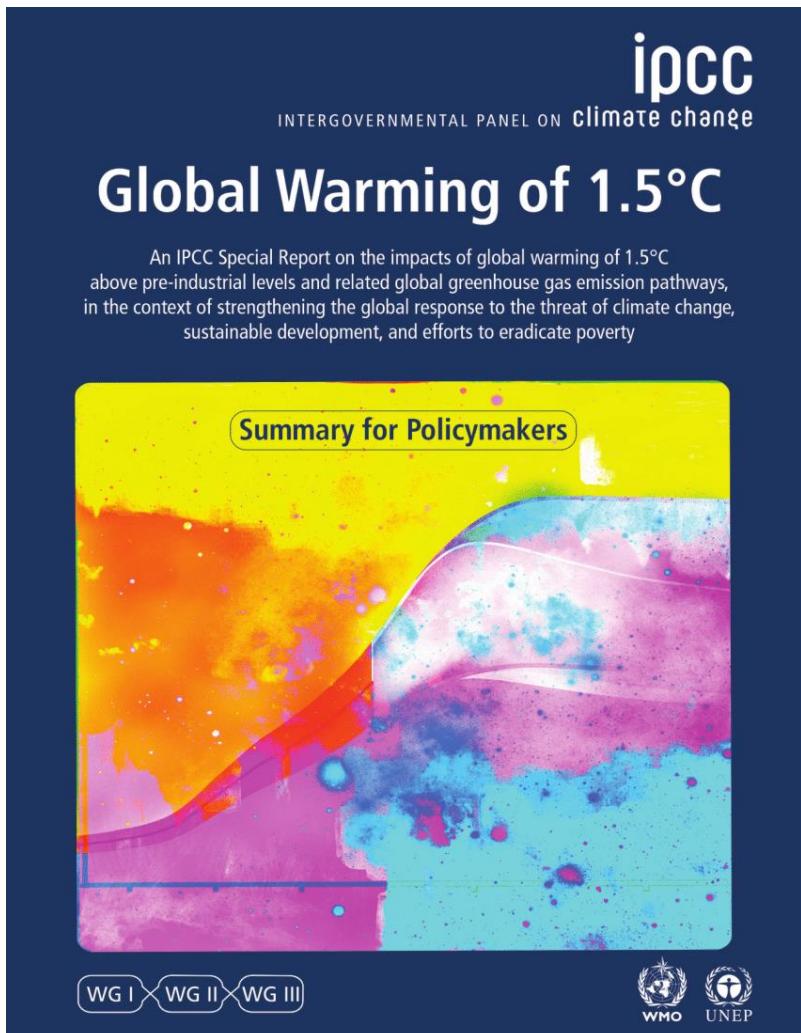
# "Greta and the Shock of Net Zero... (but then COVID)" (2018-20)





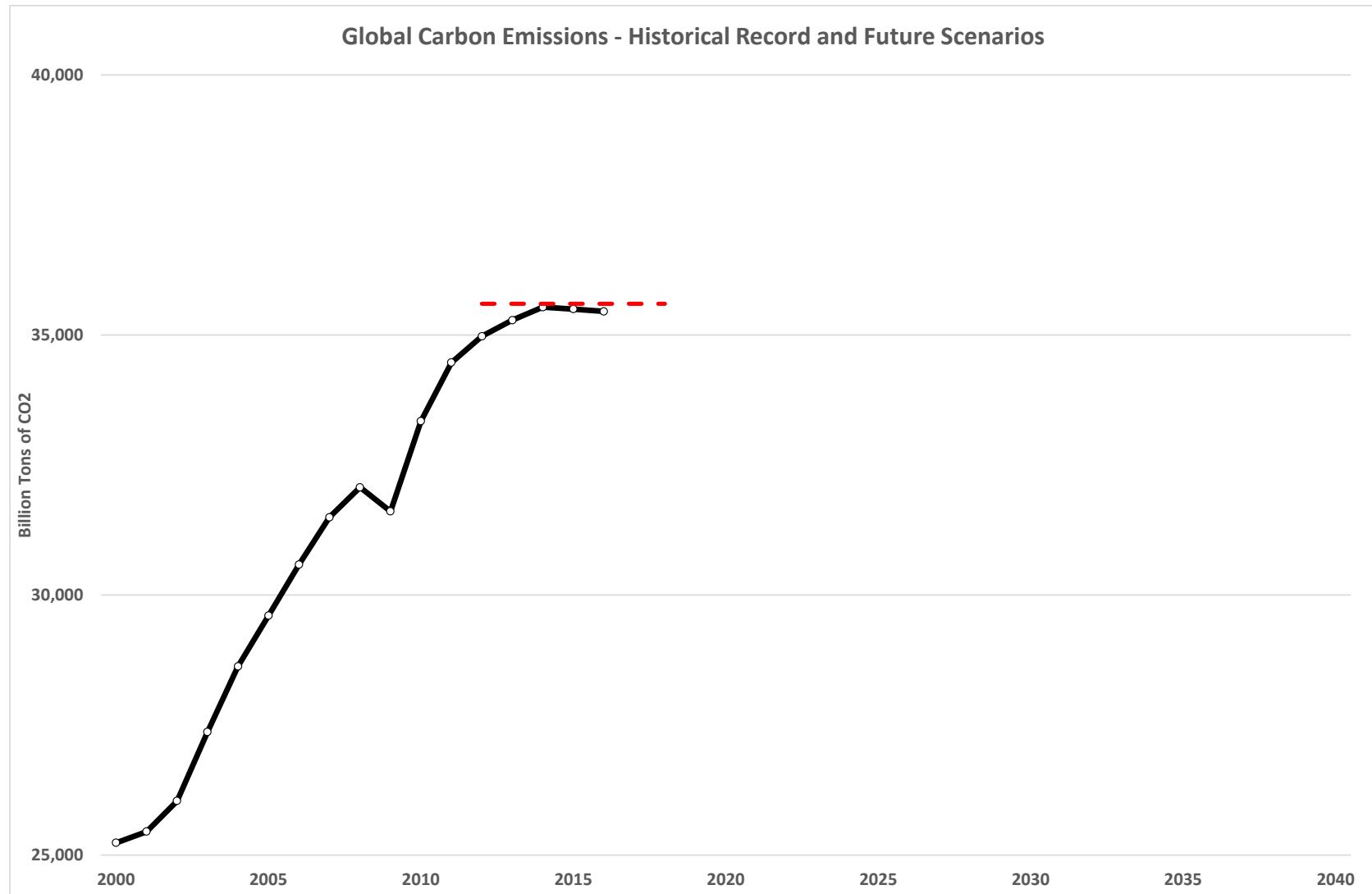
# The Shock of Net Zero

# Where did 'Net Zero' - or 'Zero' - come from?



- Earlier COP meetings had focused on fairly arbitrary emissions reductions goals.
  - E.g. Kyoto Protocol, 1997: Annex I countries excluding the US: reduce their GHG emissions by 4.2% on average for the period 2008–2012 relative to the base year, which in most cases is 1990.
- From 2008, Alliance of Small Island States (AOSIS) lobbied for explicit global temperature target.
  - Copenhagen Accord (2009) agreed that preventing a 2C rise should be the central goal of international effort.
  - Paris Agreement (2015) lowered that to 1.5C, after a 2015 UN report concluded that 2C was inadequate
- Scientists and activists backed into the emissions trajectory that would be required
  - 'Net zero' rubric emerged in 2013 'Glen House meeting'
  - Jim Kim, Head of World Bank, publicly endorsed the idea in 2014
  - Early corporate adoption of net zero targets in 2015 and 2016 (including Astra Zeneca and Walmart)
  - Sweden: first country to set a national net zero target (2045) in 2017
  - IPCC Special Report on 1.5C (2018) established we would need net zero by mid-century.

# A Brief Moment of Hope Not So Long Ago



# Peak Emissions?!

## Have global CO2 emissions peaked?

Three years with very little growth in fossil fuel emissions have [raised hopes](#) that we're seeing a peak. But scientists are being cautious about overinterpreting a few years of data. [Dr Glen Peters](#), senior researcher at the Centre for International Climate and Environmental Research in Oslo ([CICERO](#)) and project manager of the [Global Carbon Project](#), tells Carbon Brief:

“Emissions have levelled out, but it's too early to say whether that's a peak in global emissions. First of all, we'd need to see emissions going down...Then after that, we'd need several years, maybe even a decade, to be confident that it was actually a peak.”

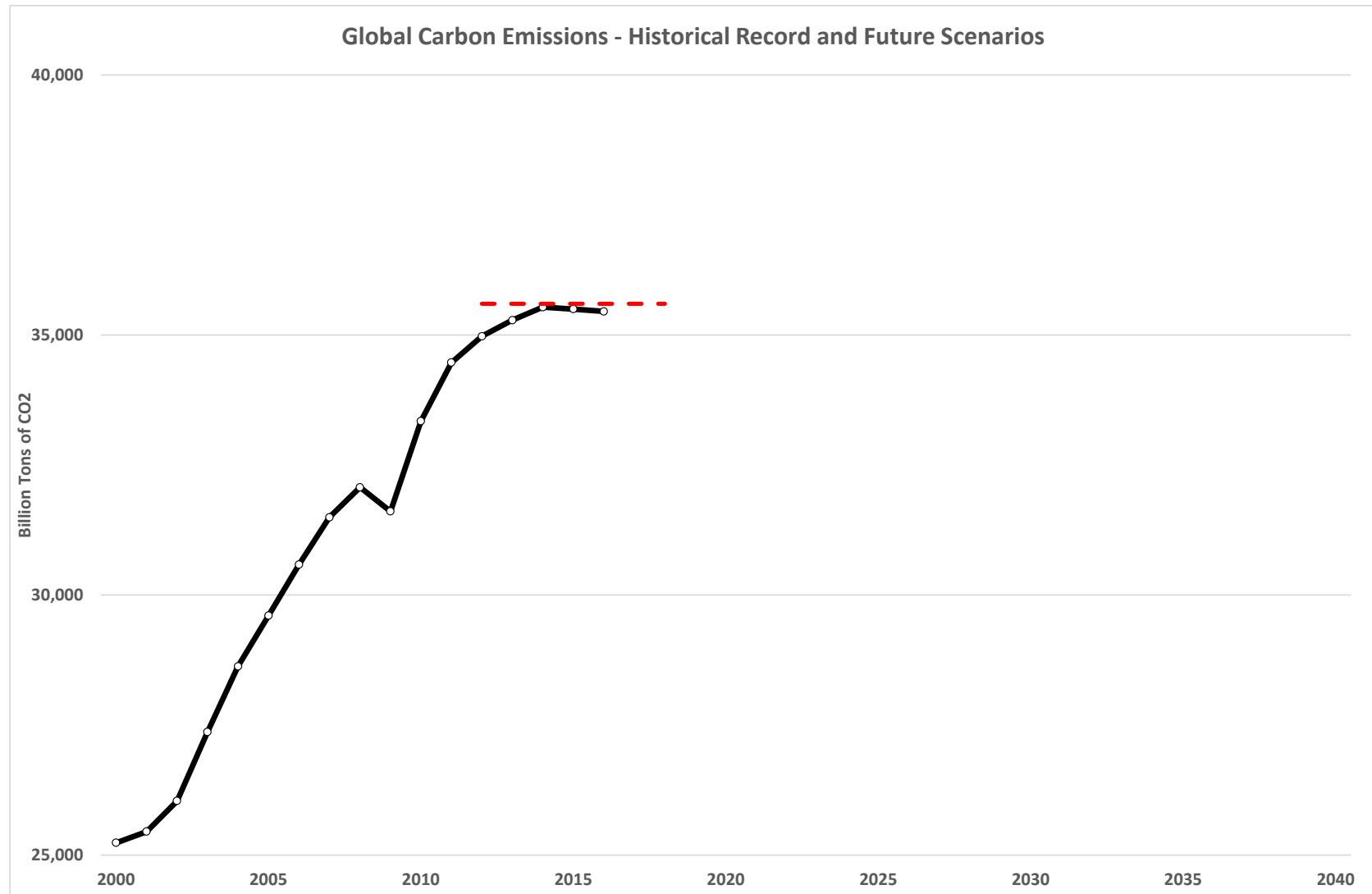
*Carbon Brief, 2016*

## China's CO2 emissions likely fell 3% in 2015 — and that trend looks set to continue

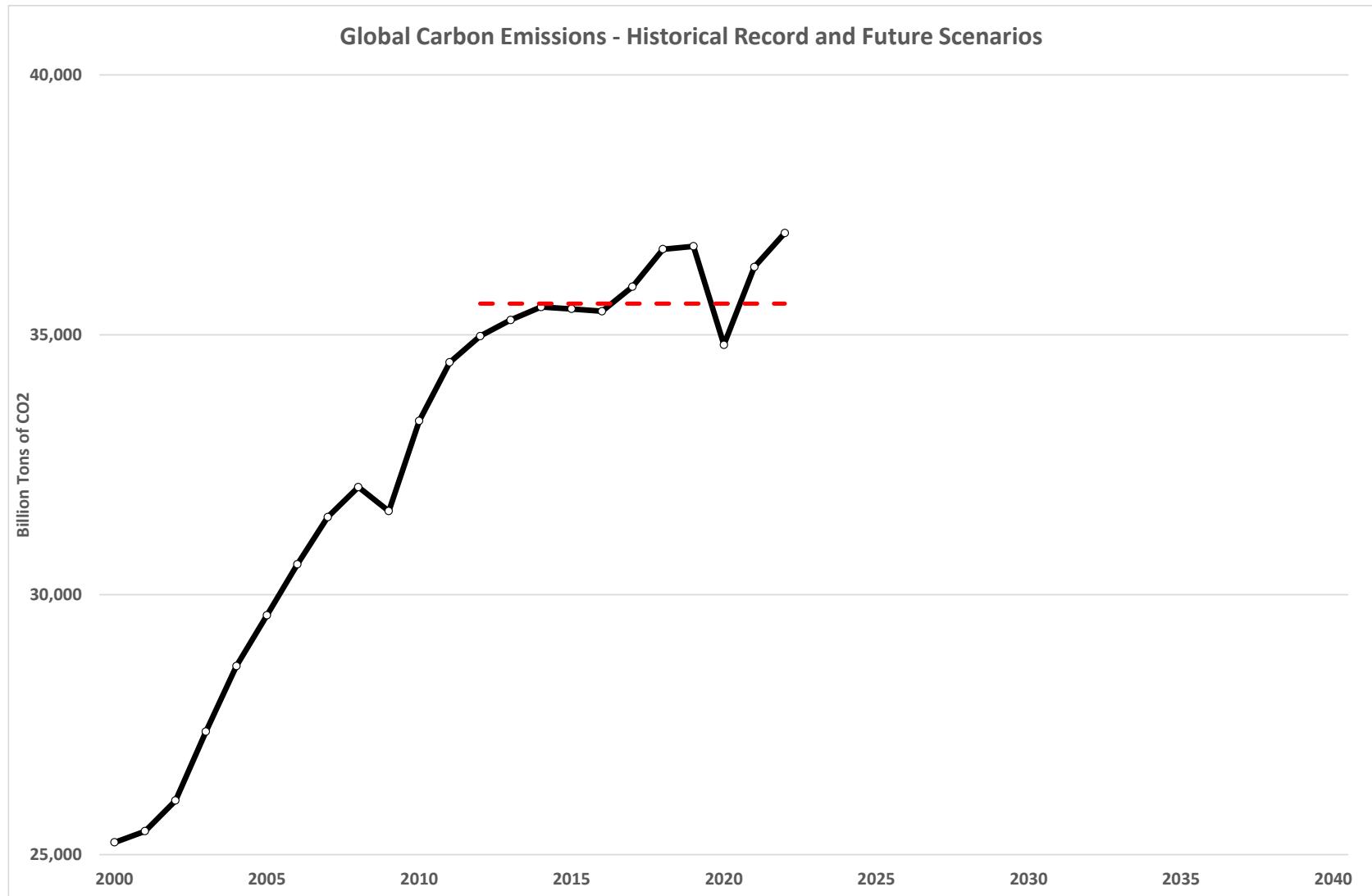
*Unearthed, 2015*

Carbon Brief, 15/11/2016, 'Analysis: What global emissions in 2016 mean for climate change goals'; China's CO2 emissions likely fell 3% in 2015 — and that trend looks set to continue - Unearthed (greenpeace.org)

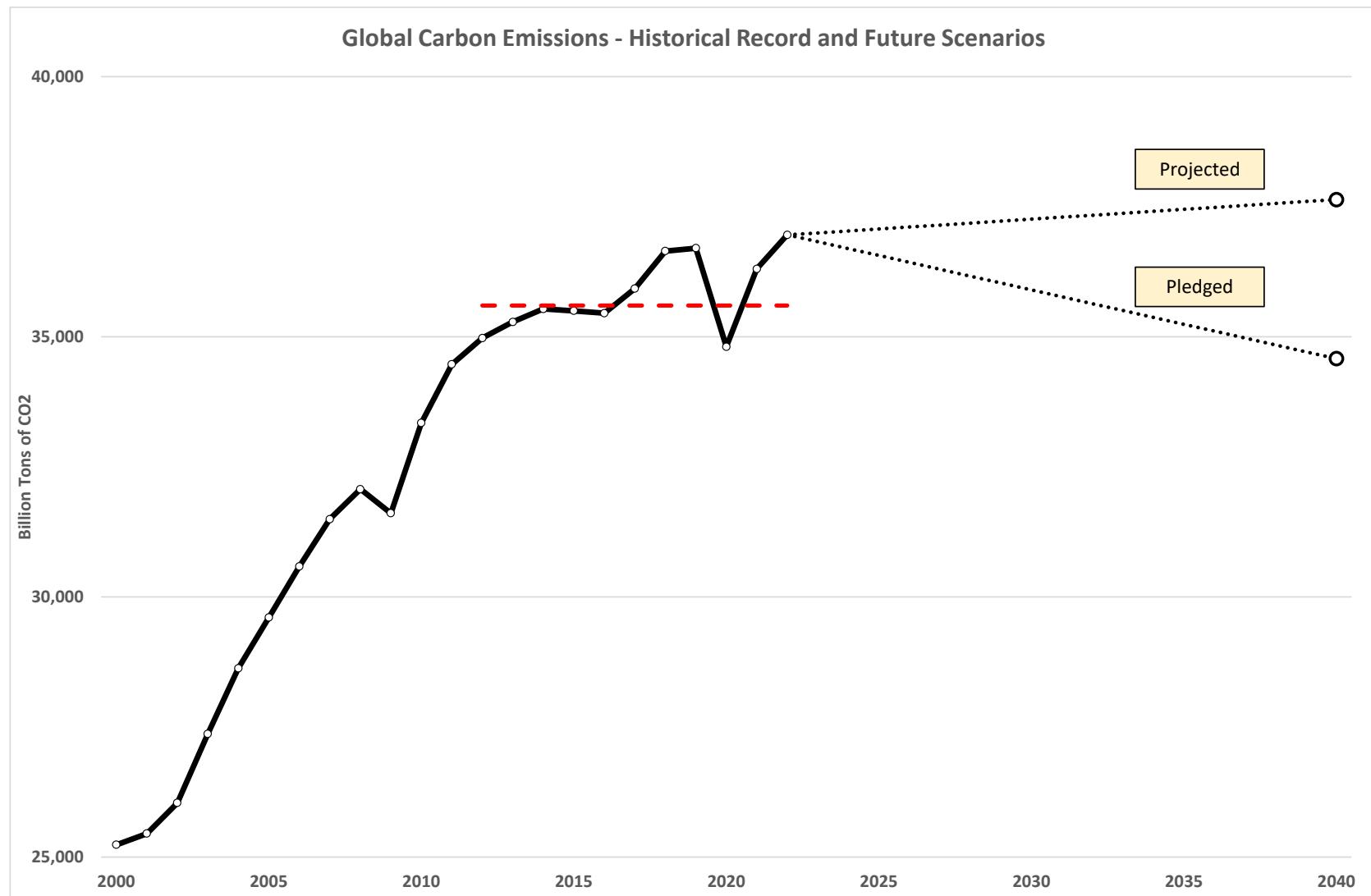
# A Brief Moment of Hope Not So Long Ago



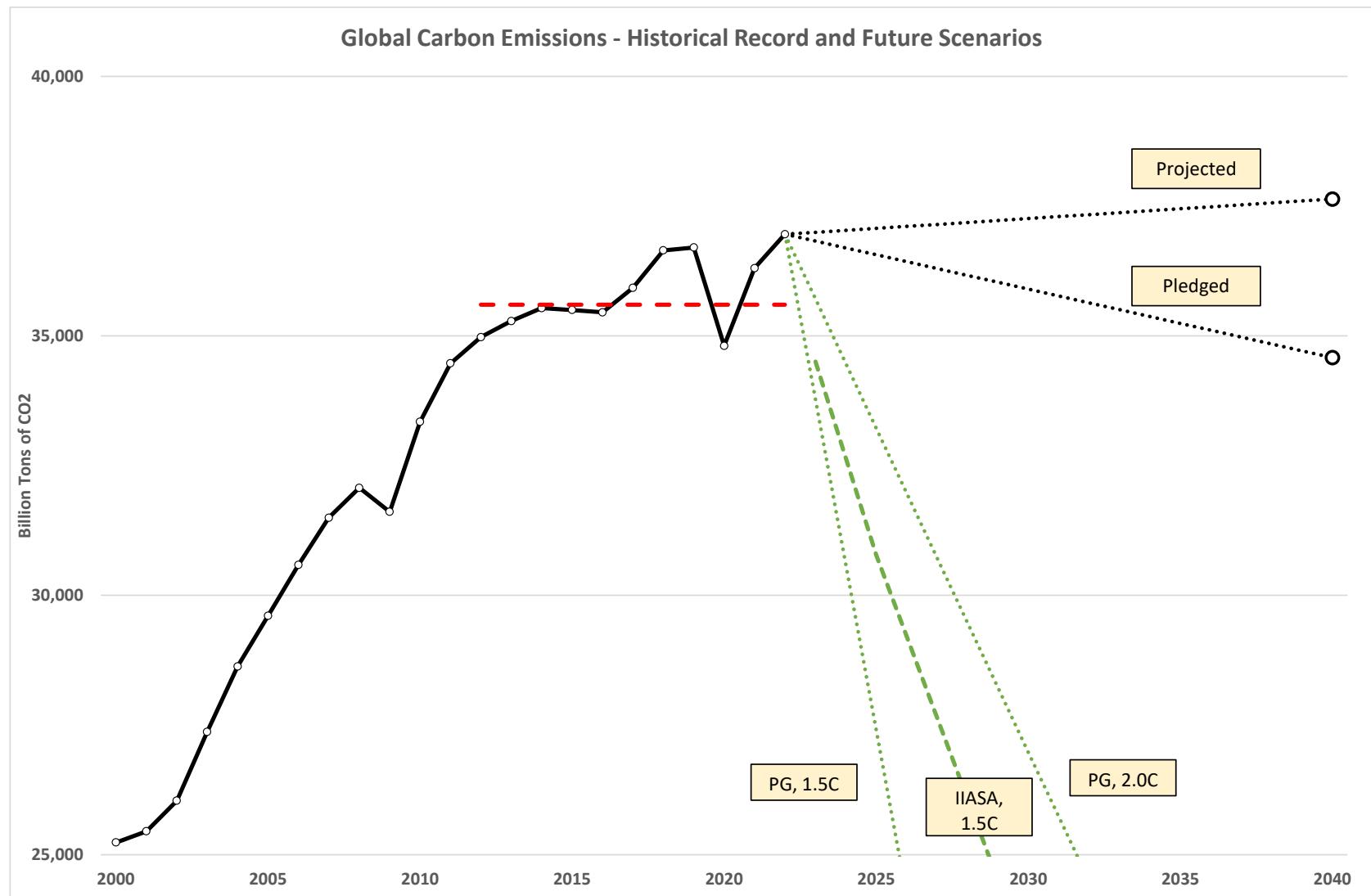
2016 to 2022



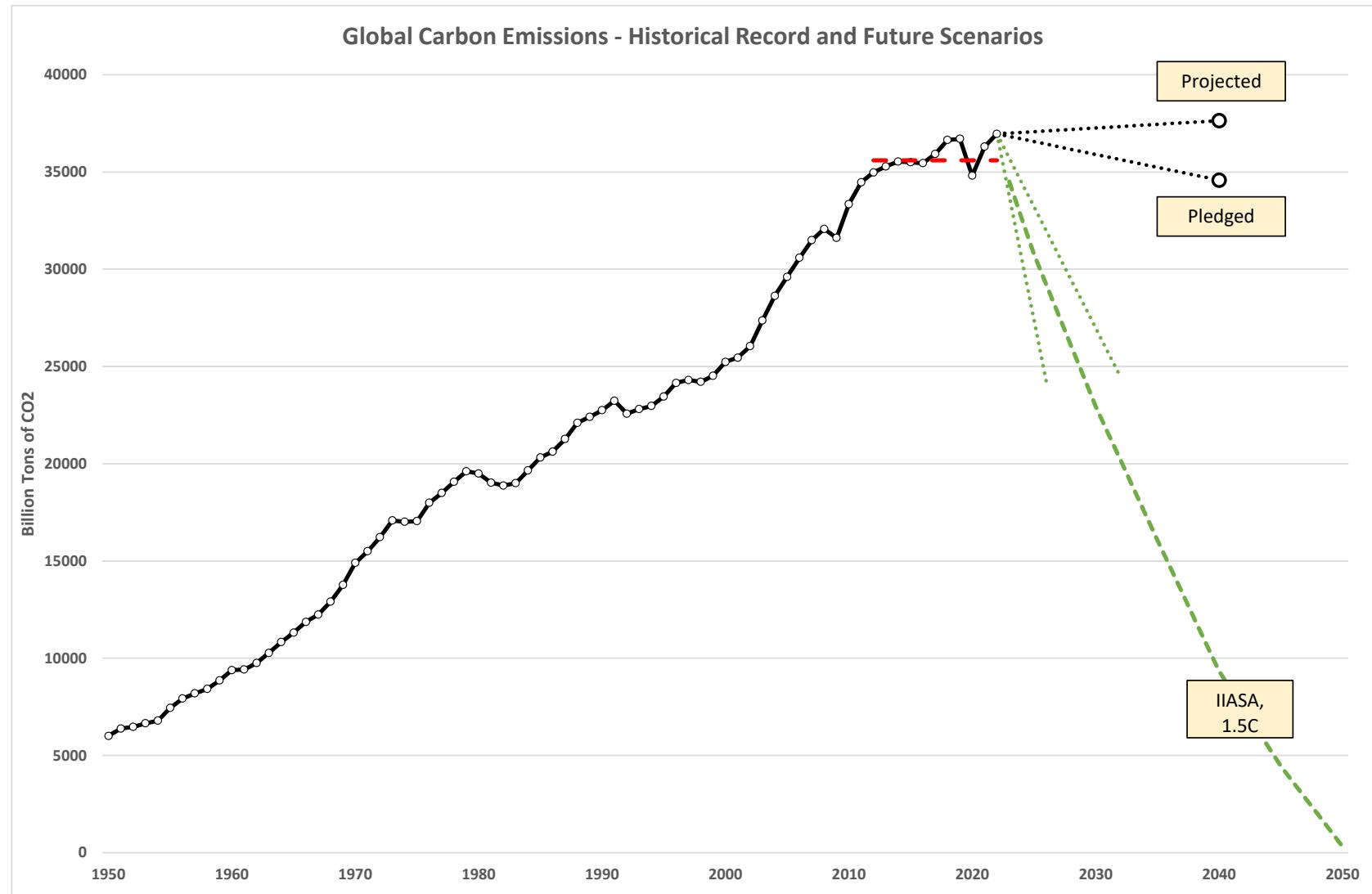
# Projections and Pledges



# Pathways to 1.5°C and 2°C

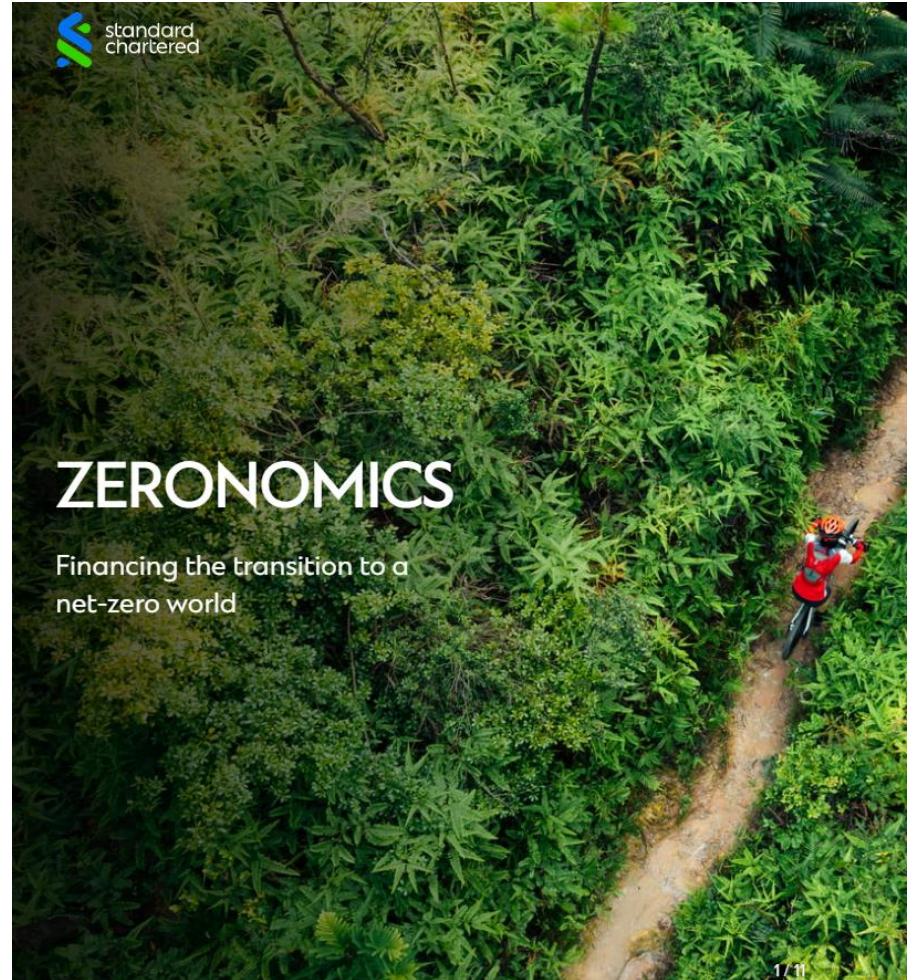


# 1950 to 2050



# What do Corporate Executives Make of this?

- **Net zero is not seen as commercially viable:** 64 per cent of senior executives believe the economics of operating as a net-zero organisation do not stack up for their company.



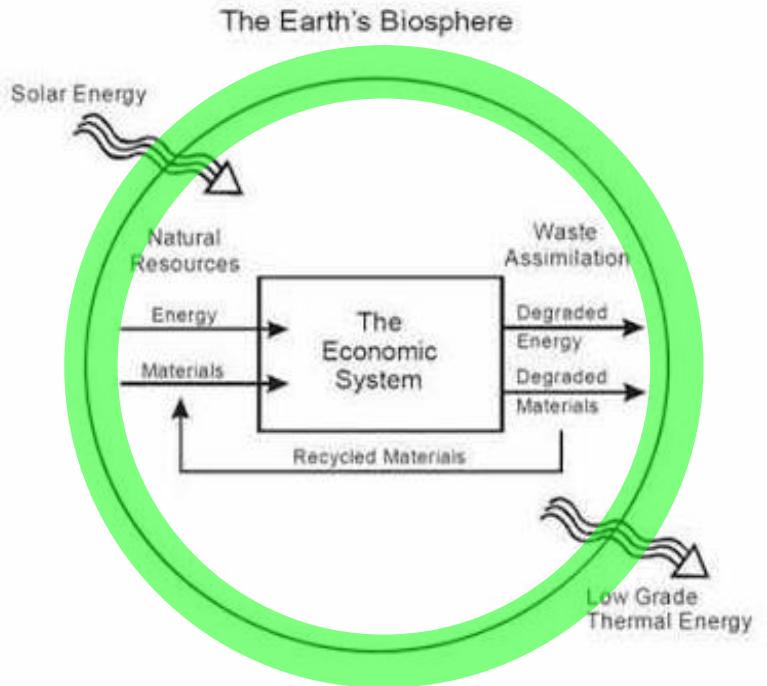
Standard Chartered, March 2021



# The Recontextualization of the Economy

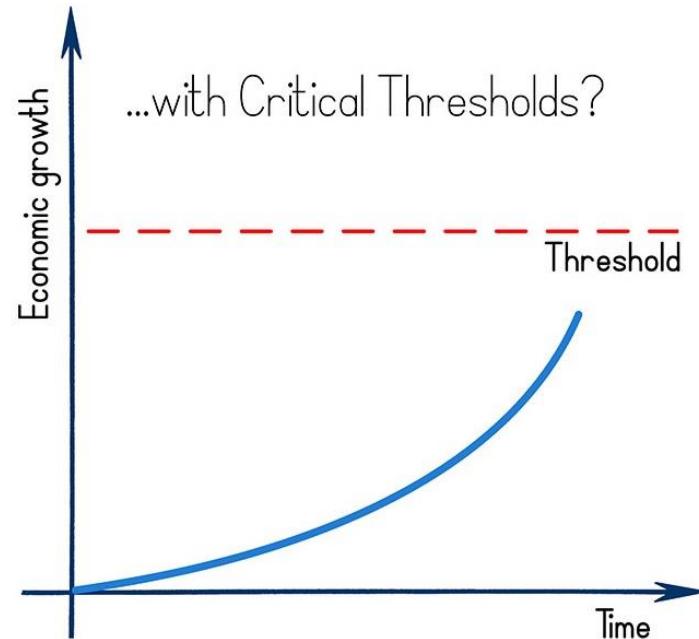
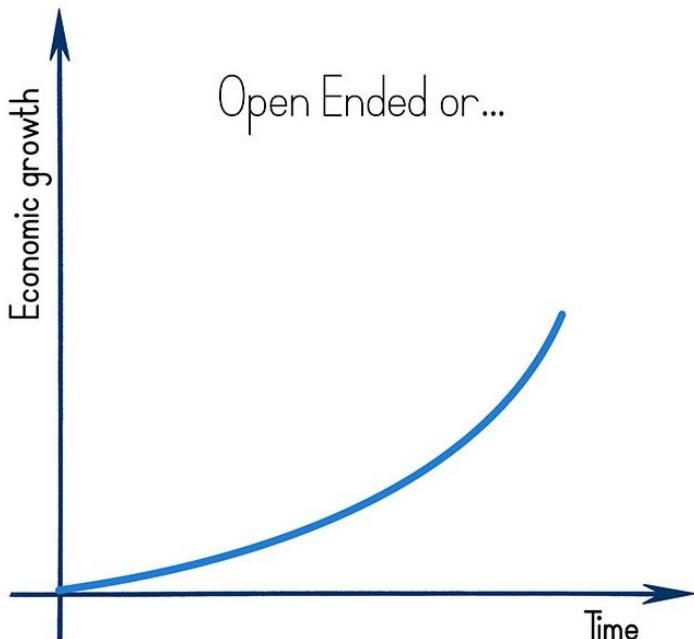
# Recontextualization of our Economy

- Our economy and its component parts – businesses, banks, investors etc. – are being recontextualized into a biophysical reality we had convinced ourselves we might be able to ignore.
- Some of our recent language captures the impulse:
  - ‘Circular’ economy
  - ‘Closed loop’
  - ‘Zero-waste’
  - ‘Regenerative’
- But these concepts have to apply at the level of the whole system, not just for individual companies or projects!

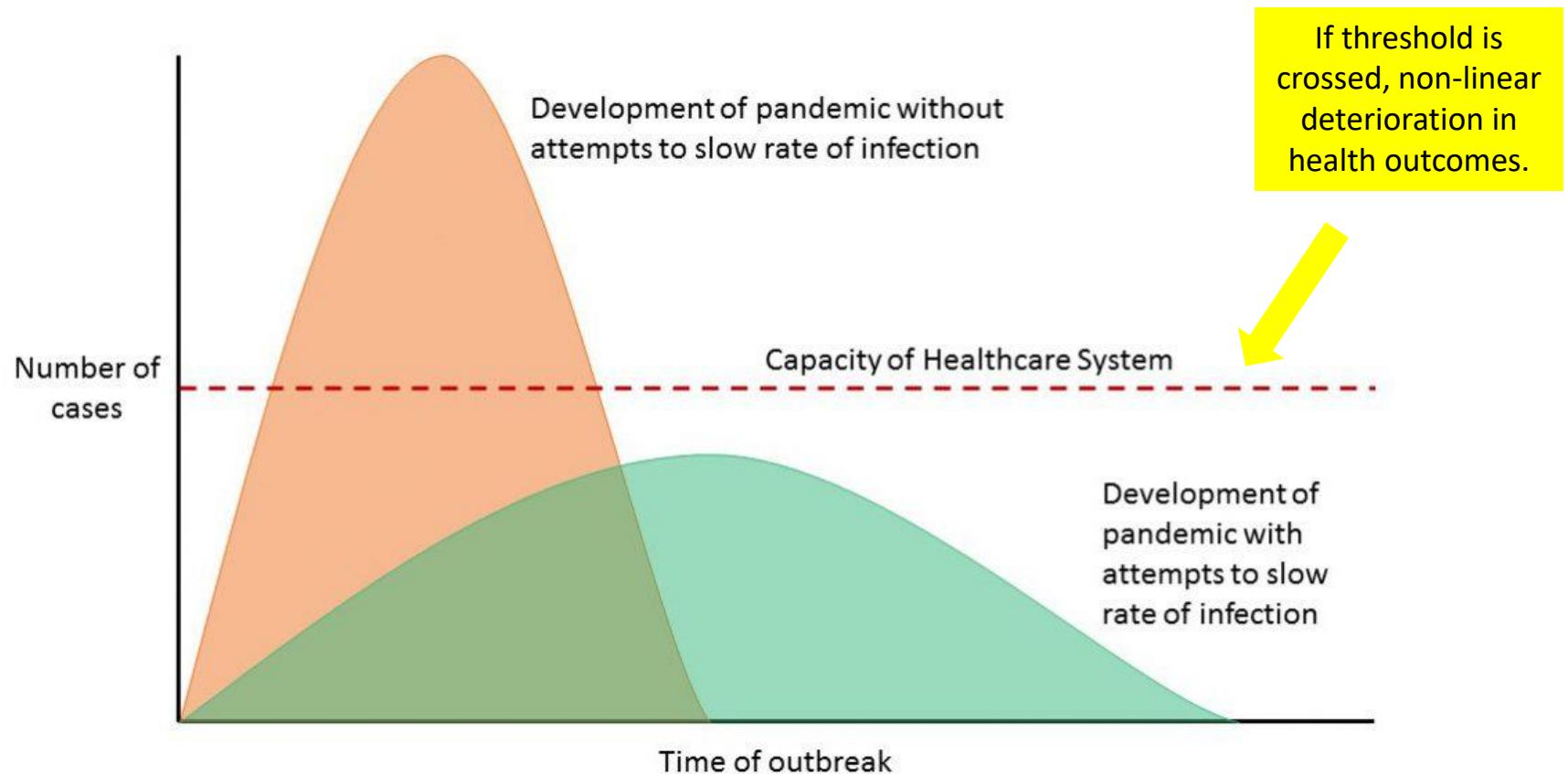


# The Sustainability Debate in One Chart

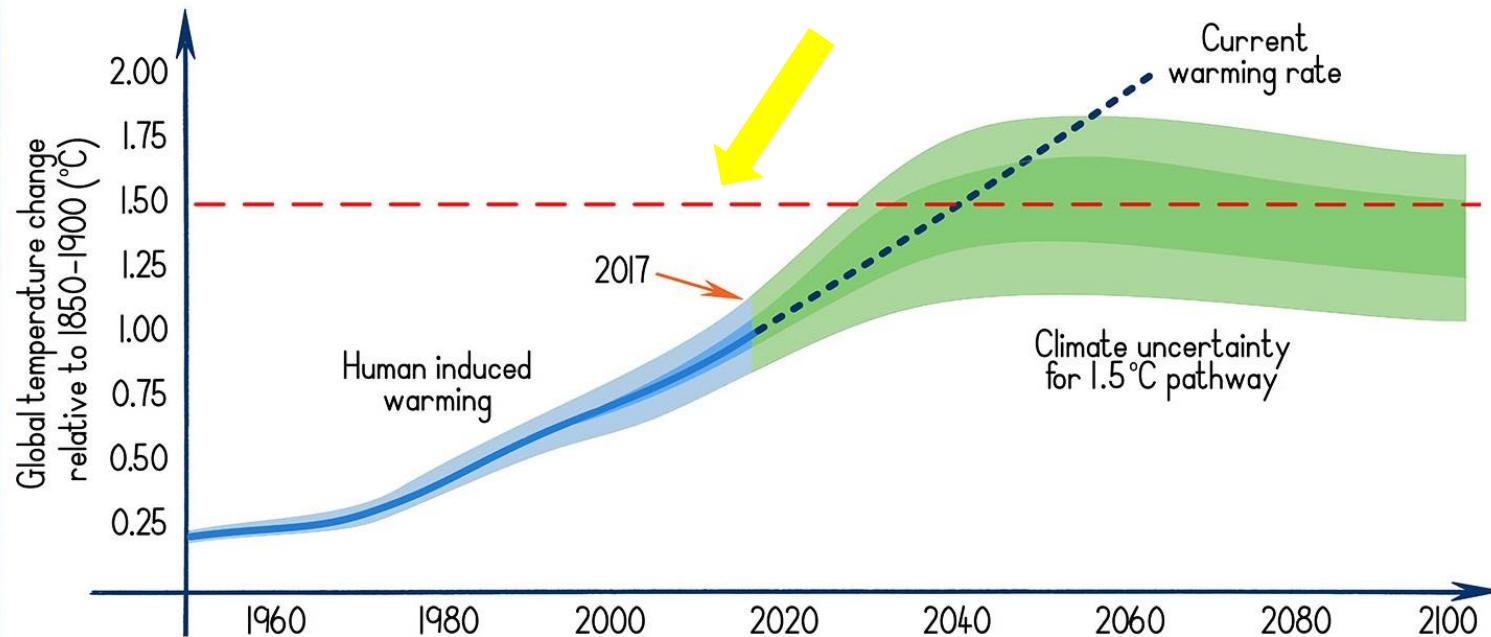
What is the world really like?



# 'Bend the Curve' Dynamics are now familiar

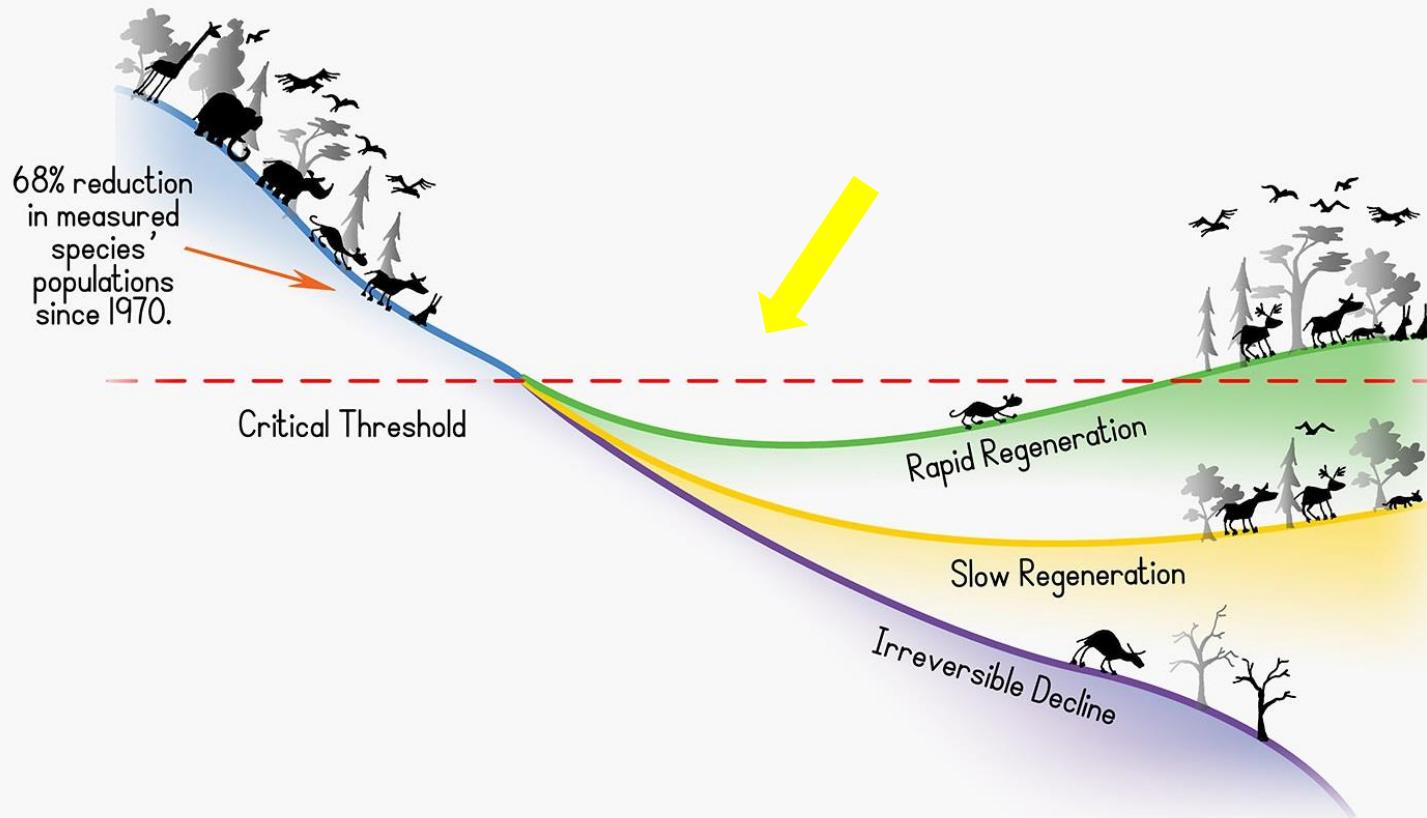


## Climate Change is a Bend the Curve Challenge



IPCC, 2018

## Biodiversity Protection is a Bend the Curve Challenge



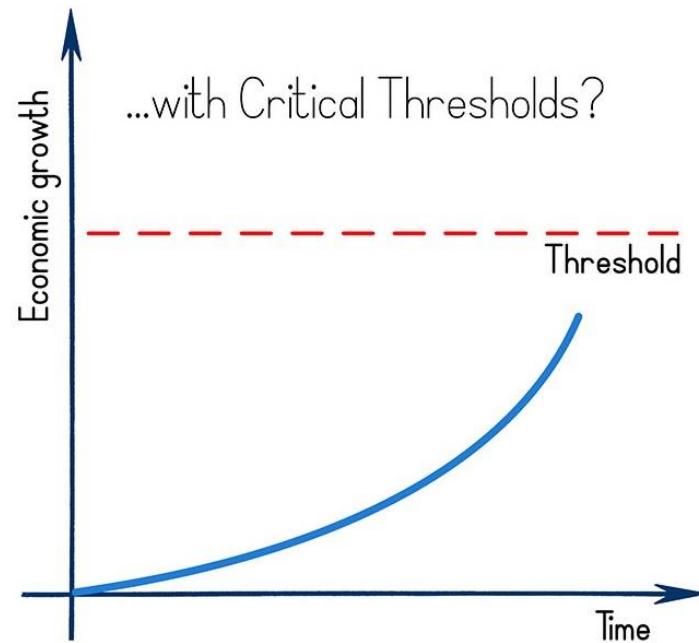
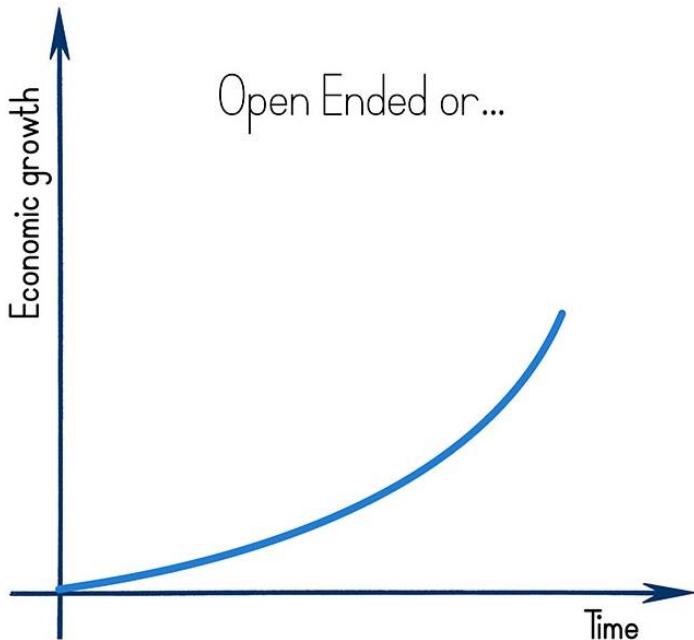
Based on IIASA (2020) and WWF (2020)



# Not One, But Two Definitions of Sustainability

# The Sustainability Debate in One Chart

What is the world really like?



# TWO Definitions of Sustainability!

## “Sustainability”?

“More sustainable than before”

(Open-ended definition;  
default in business community)

“Sustainable enough before it is too late”

(Biophysical- and time-limited definition;  
default in scientific world)



# Environmental and Social Issues Have a Fundamental Difference

## “Sustainability”?

“More sustainable than before”

(Open-ended definition;  
default in business community)

“Sustainable enough before it is too late”

(Biophysical- and time-limited definition;  
default in scientific world)

### ECONOMIC NORMS

*Business and finance norms are generally about improvement over time. ‘We have grown versus last fiscal year...’*

### SOCIAL ISSUES

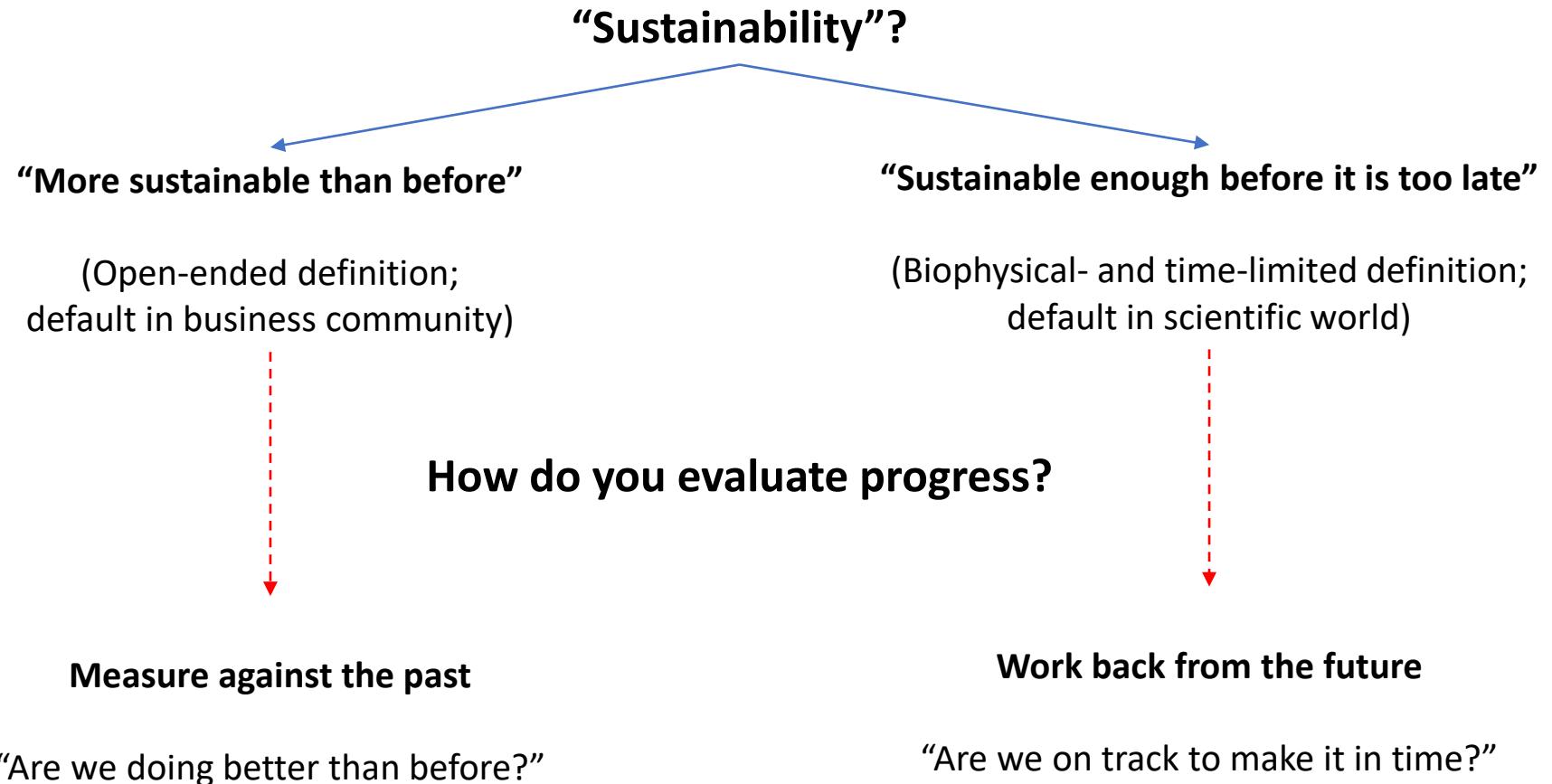
*Social issues often progress at a slower than ideal pace, even if unjust. ‘We have more diversity/equality than before...’*

### ECOLOGICAL ISSUES

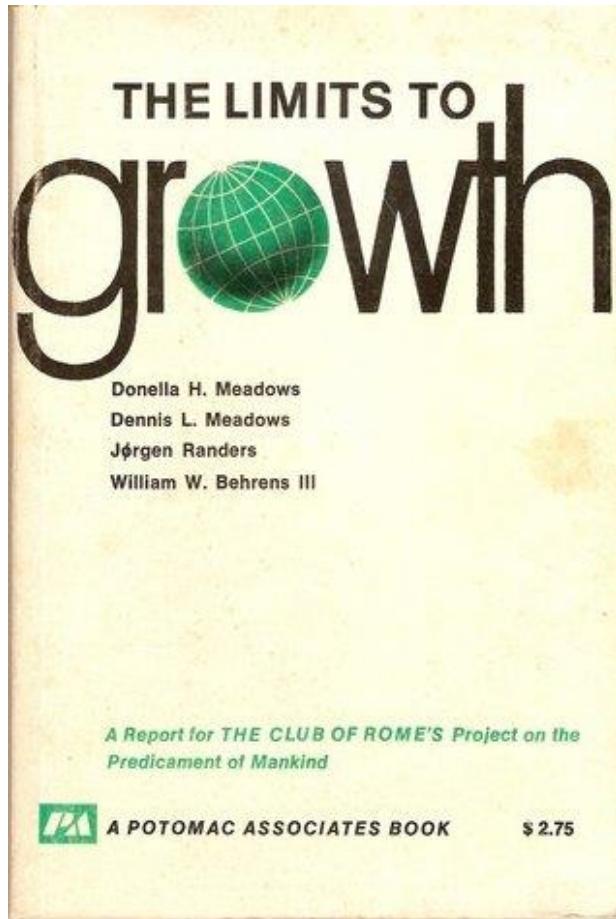
*Nature dictates the pace virtue of biophysical thresholds.  
(Ice cannot be persuaded not to melt above 0°C.)*

?

# Different Means of Evaluation



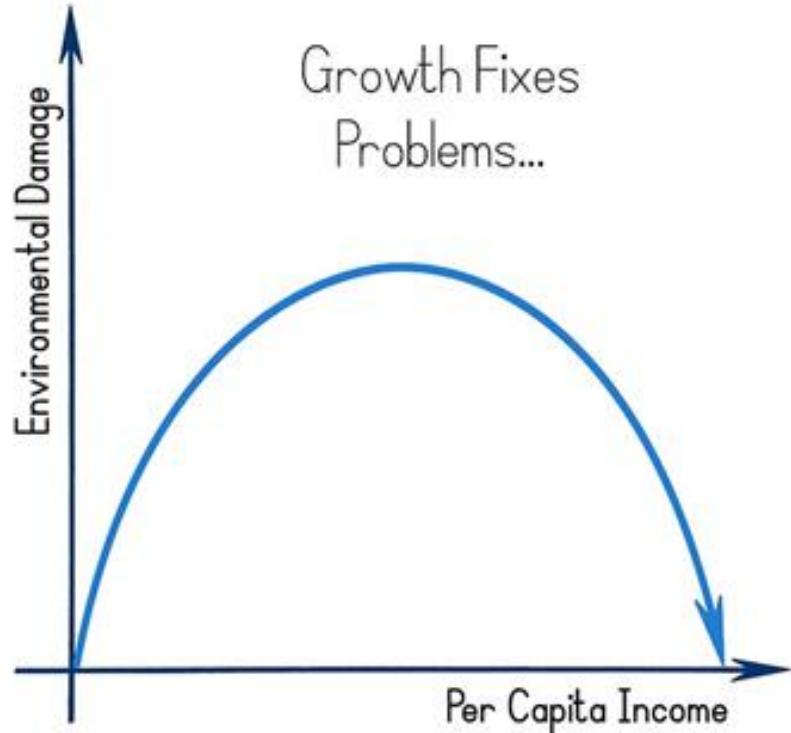
# Not 'Limits' again...?!



- Didn't we lay the 'limits' concern to rest in the 1970s?
  - Economists argued that history amply demonstrates that human ingenuity overcomes or bypasses limits.
  - Here we all are, 4 billion more people later, inhabiting a world 5 times 'wealthier' than in 1970!
- The Anthropocene presents a different form and scale of limits.
  - We are now 'geological agents'
  - Instead of the age-old concern about running out of inputs – food, energy, oil, etc. – the new concern is that our many outputs and impacts – emissions, waste streams, deforestation, species loss etc. – may exceed natural absorptive and regenerative capacities and destabilize the planetary systems.
  - The limits problem today is less about 'running out', and much more about 'screwing it all up'.
- Limits-deniers conflate genuinely limitless concepts ('intelligence, imagination and wonder') with genuine biophysical limitations:
  - "It is the failure to delineate properly between what is limited and what is not that lies at the heart of capitalism's woes" (Tim Jackson)

Meadows et al, 1972; Tim Jackson, 2021

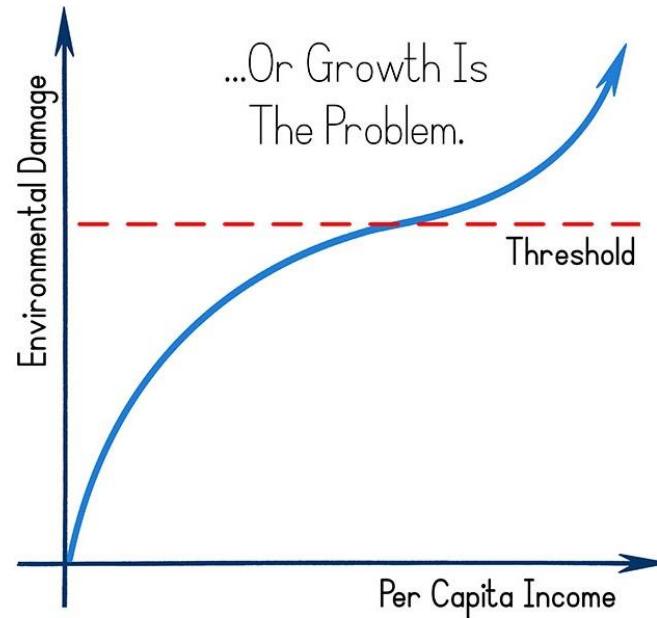
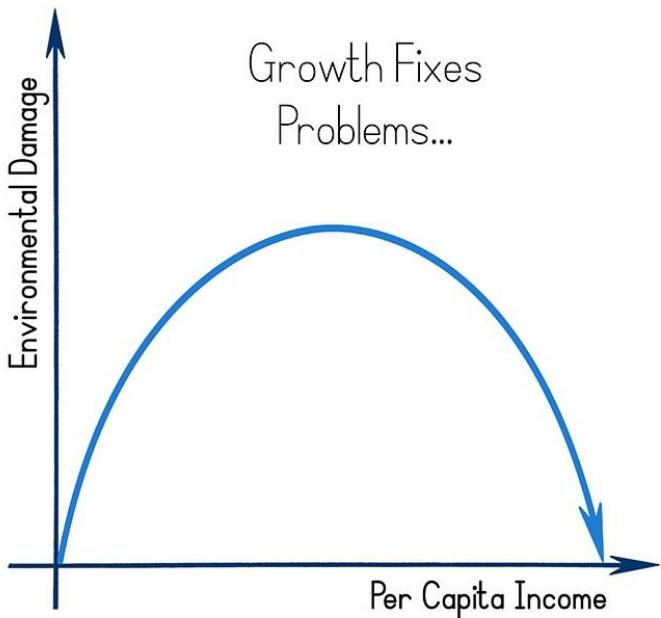
# Environmental Kuznets Curve



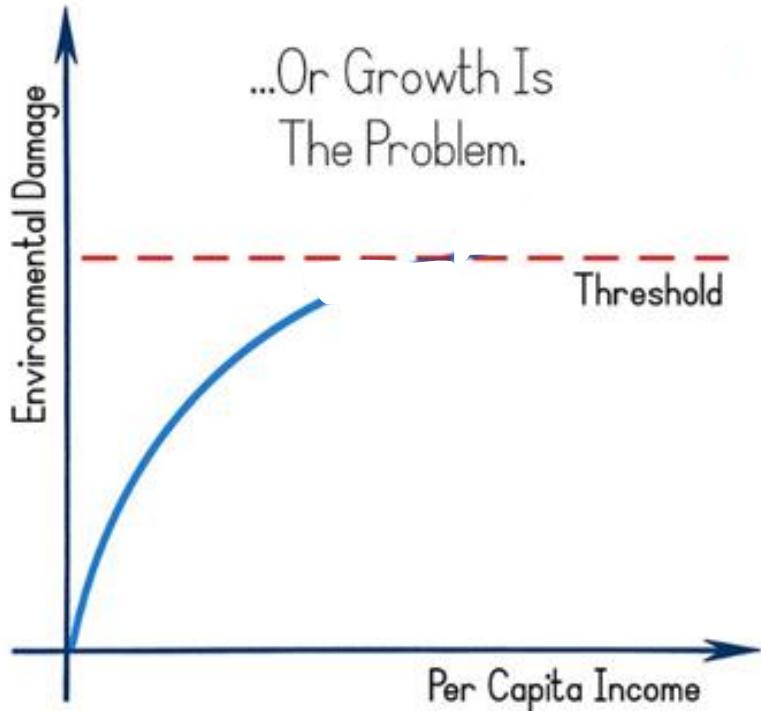
- Environmental Kuznets Curve (EKC) argument (1990s)
  - While the early stages of economic growth might damage the environment, as societies became wealthier, they develop the means to remedy the damage.
  - The EKC's prescription: 'if you are in an ecological crisis, grow your way out', or 'get rich, then clean up.'
- Identified problems with EKC
  - [Ironic: based on original Kuznets Curve which postulated that societies would become more equal as they grew wealthier].
  - Premised on local air pollution problems not global systemic problems. Localized pollution is a 'shorter loop' problem; easier to connect the dots between cause and effect and so be prompted to remedy.
  - Based on correlation not causation. It is not that wealth magically improves the environment, but rather that wealth increases the appetite to introduce binding policies to improve the environment. In other words, you still need the policy.
  - **MOST IMPORTANT:** EKC denies the possibility of irreversible biophysical thresholds. In other words, it always assumes that you can catch up after...

# The Growth Debate in One Chart

Which world do you see?



# Have we got enough turning room?



- The line represents **material and energy transformation** NOT economic units (£, \$, etc).
- It is easy to miss the (bio)physics for the finance.
- Once you accept and take seriously the possibility of thresholds, the question becomes: 'do we have enough physical headroom to execute a turn?'...
- ... and the act of turning itself has matter and energy consequences.
  - 'Creation footprint' and a 'continuation footprint' of a clean economy
  - 'Coattail footprint' of all other contemporaneous growth, sustainable or not, being sanctioned as part of the EKC-endorsed 'wealth-is-the-solution' paradigm.

# Creation Footprint of a 'Clean Economy'...

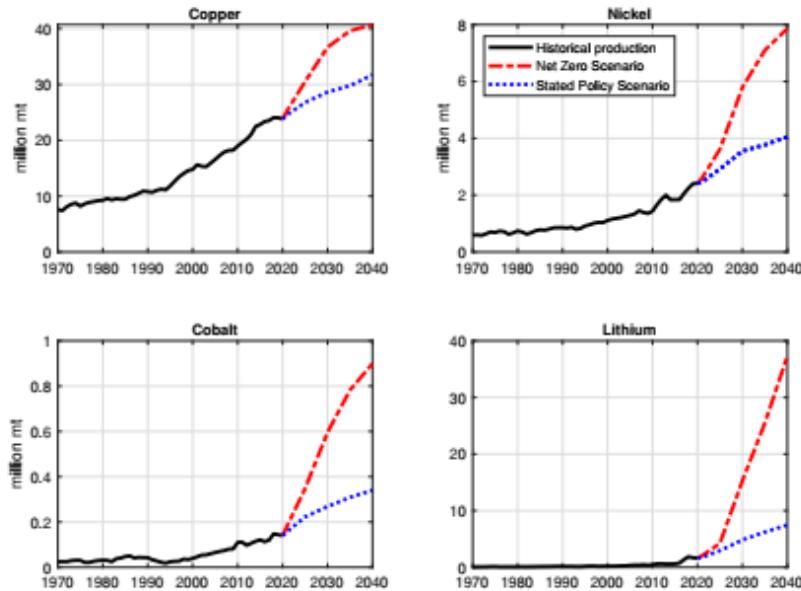
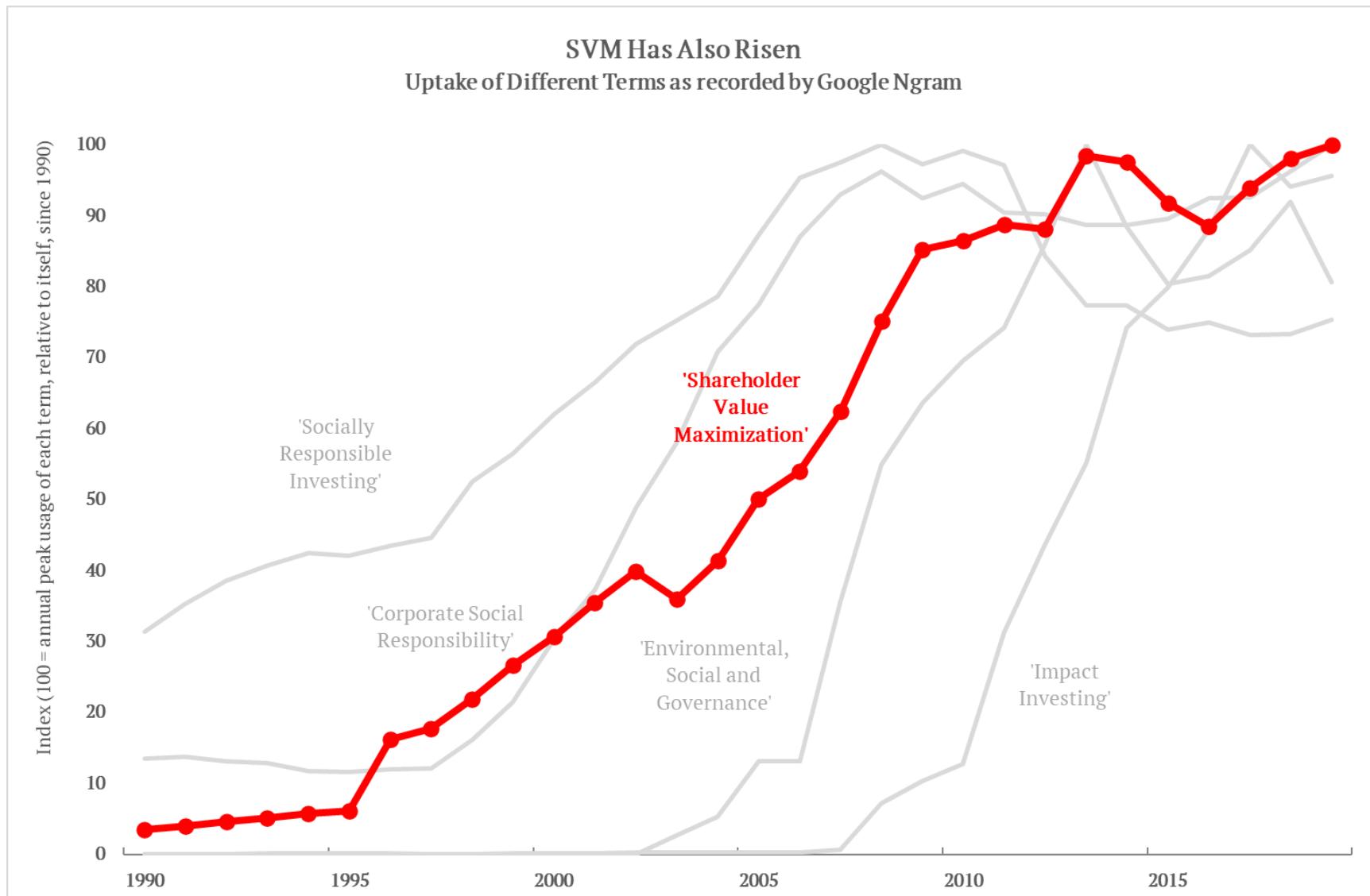


Figure 1: Metals consumption in the IEA's net-zero emissions scenario and the stated policy scenario.

- We want a clean economy so that we can meet our energy needs with a lower footprint that avoids breaching thresholds...
- ... but the clean economy has a 'creation footprint' that may breach those thresholds along the way...!
  - Aka. the 'quicksand problem': if you fall in quicksand you need to get out as quickly as possible, but anything you do only drags you further in...
- Parallel with companies going broke and frantically raising money.
  - It's not that they have not got a profitable future, it is just they cannot cross the 'valley of debt' to reach the profitable future.
  - Past a 'point of no return', the rest is just denouement.
- Two reactions to these charts:
  - Great investment opportunity!
  - 'Oh, I see to get out of the trap we are already in, we may have to make things worst first, which may breach thresholds...'
- Also a 'continuation' footprint to the clean economy in that it has to be almost completely replaced every 25 years.



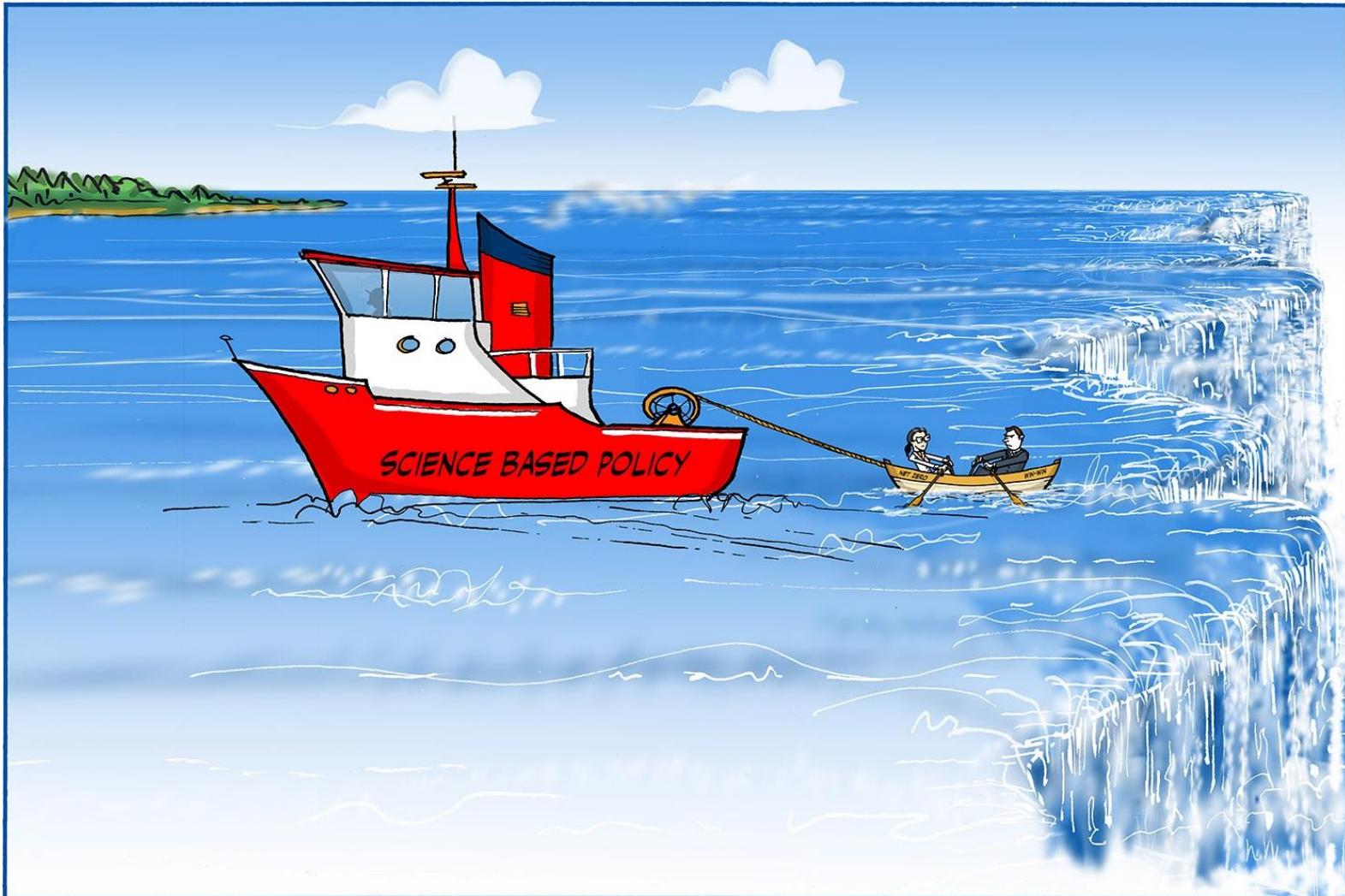
# The line that has really mattered





# The Turn to Policy?





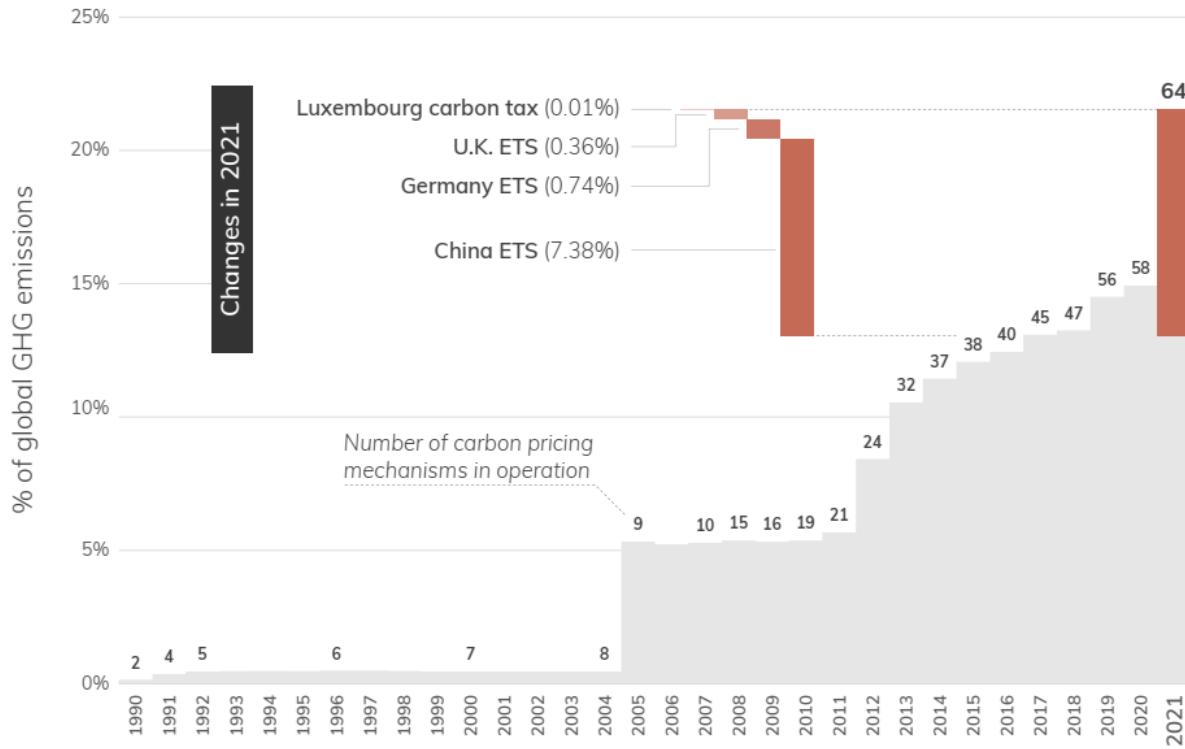
# Growing Recognition of Need for Policy

- Private sector starting to recognize the need for more comprehensive policies, including a meaningful carbon price.
- GFANZ Statements, October 2021
  - "...companies must deliver robust transition plans and governments set predictable and credible policies."
  - "Now we need governments to help get the job done, by setting the ambitious policies that can unlock, accelerate and help direct the investment to where it's needed most."
- US BRT Statement, September 2020
  - "the new Business Roundtable position on climate change reflects our belief that a national market-based emissions reduction policy is critical to reducing greenhouse gas emissions to levels designed to avoid the worst effects and mitigate the impacts of climate change."
- But... very hard work...

# Global Carbon Pricing

**FIGURE 2.2**

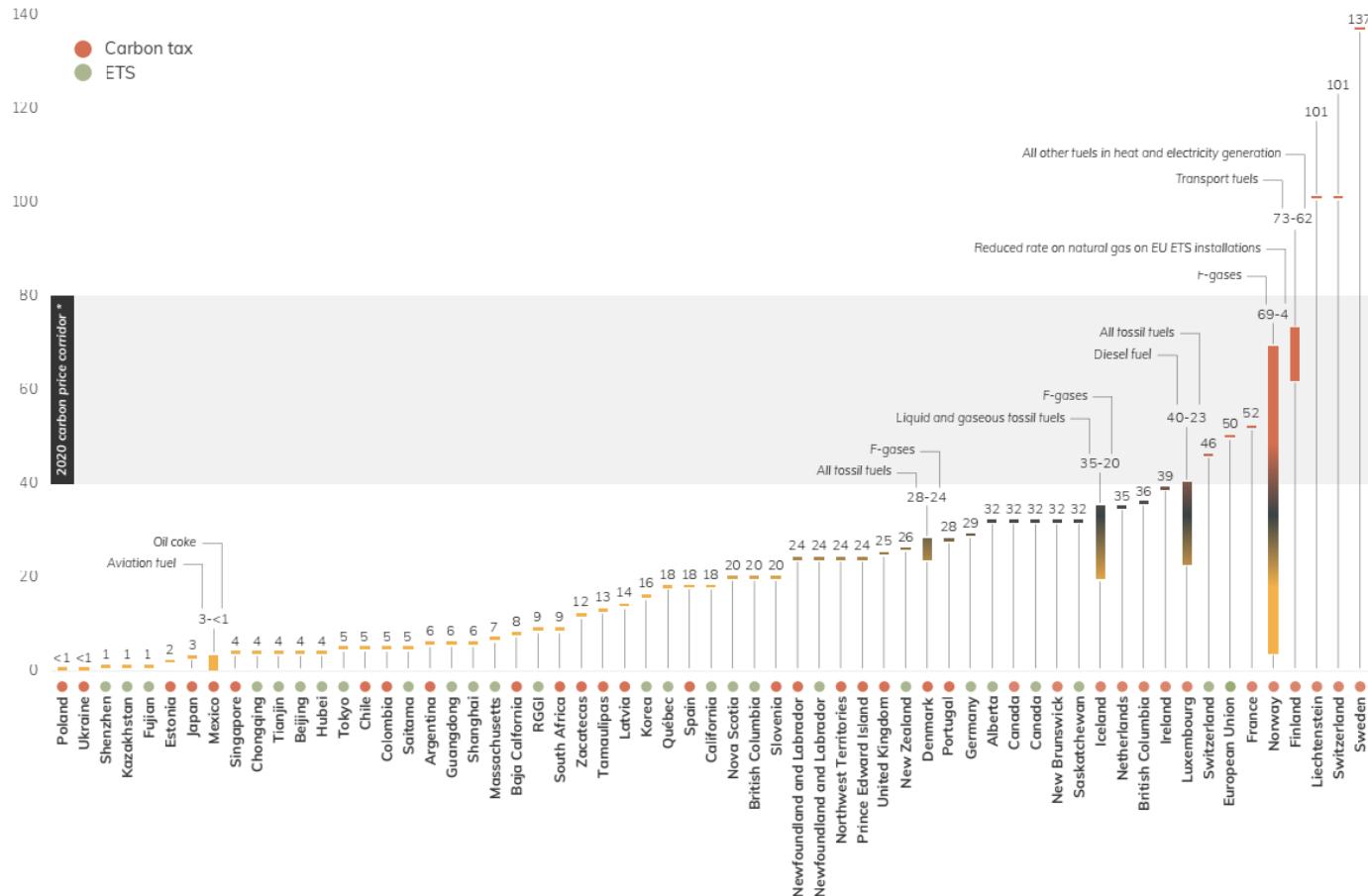
Share of global greenhouse gas emissions covered by carbon taxes and emissions trading systems



In 2020, initiatives around the world generated USD 53 billion in revenue and covered **21.7%** of global GHG emissions. (World Bank, 2021)

# Global Carbon Pricing

## CARBON PRICES (2021)



But only **3.76%** of emissions covered by a carbon price above USD 40/tCO<sub>2</sub>e (the minimum recommended by 2020 to be Paris compliant). World Bank, 2021

# Final Reflections

# Rising scepticism about ESG and corporate sustainability

## 25 Years Ago I Coined the Phrase “Triple Bottom Line.” Here’s Why It’s Time to Rethink It.

by John Elkington

## Overselling Sustainability Reporting

We're confusing output with impact. by Kenneth P. Pucker

Tariq Fancy on the failure of green investing and the need for state action

## Impact Investing Won’t Save Capitalism

by Alan Schwartz and Reuben Finighan

The Dangerous Allure of Win-Win Strategies

## The Complicity of Corporate Sustainability



Bloomberg Businessweek

ESG LaLa Land is burning

## The Trillion-Dollar Fantasy

Linking ESG investing to planetary impact.

By Kenneth P. Pucker September 13, 2021

## The fallacy of ESG investing

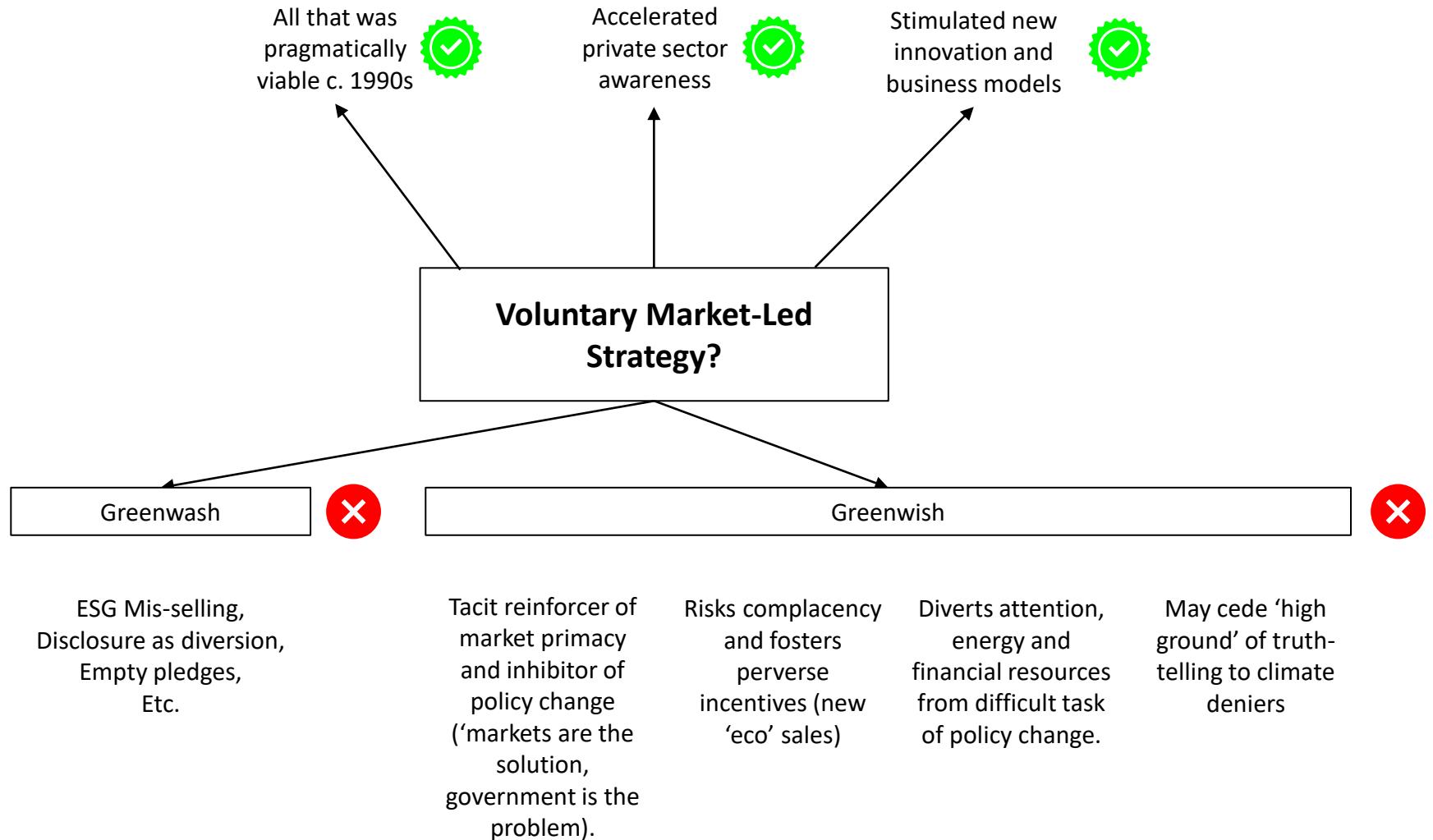
Win-win arguments promoting both bigger profits and better social returns are illogical

ROBERT ARMSTRONG

+ Add to myFT

## Morningstar ESG Chief Asks Herself: What Do Those Trillions Do?

# VML: Catalyst and Inhibitor



# The Key Difference in Perspective



## “Sustainability”?

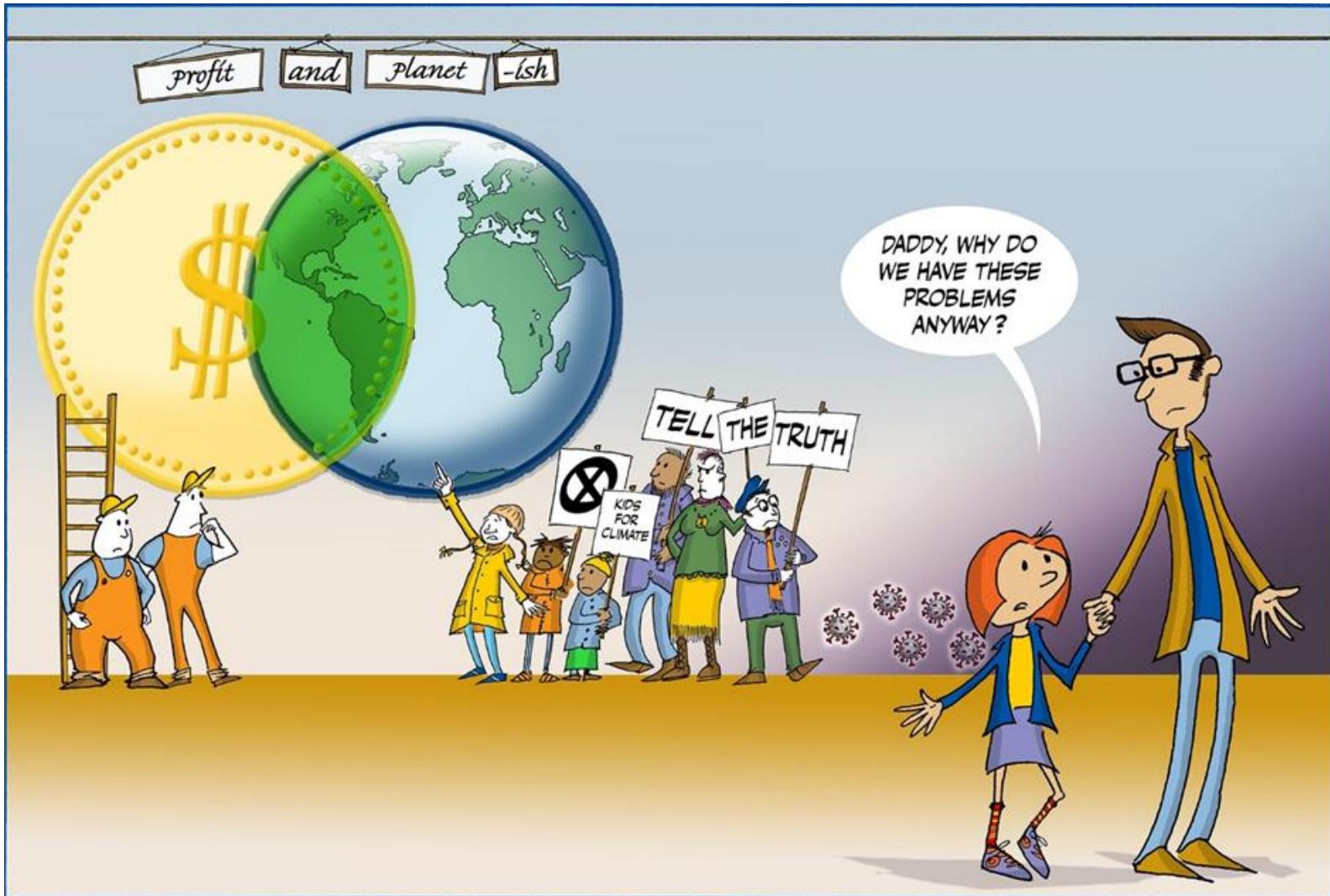


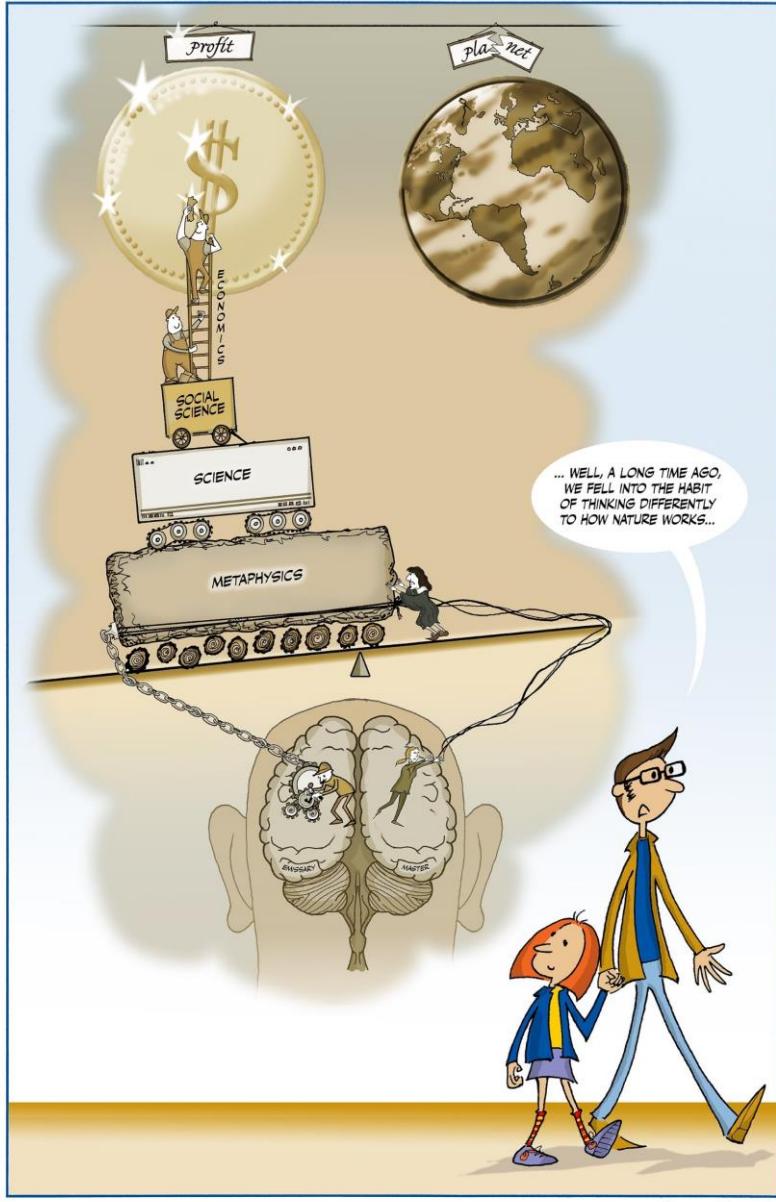
“More sustainable than before”

“Sustainable enough before it is too late”

‘Keep making progress. We’ll get there eventually.’ Evaluation: ‘Are we doing better than we were?’	‘Race against time. We need to arrive before it is too late.’ Evaluation: ‘Are we on course to make it in time?’
Permits a ‘win-win’ attitude [i.e. make as much progress as is consistent with economic growth and SVM norms.]	May force a ‘trade-off’ recognition [i.e. it might be physically possible, but it does not look commercially possible (under current policies).]
Assumes EKC: Tacitly endorses all growth, whether sustainable or unsustainable.	Acknowledges EKC may not hold: Biophysical thresholds imply limited ‘turning room’ for manoeuvre.
“Green growth!”	“Ugh, restructuring story...”
‘Economically rational’ actors compete to beat others to opportunities.	‘Economically rational’ actors compete to do least (i.e. free ride)
Small leadership groups can trigger systems change.	All parties needs to be bound by universal rules.
‘Business case’ can lead.	‘Moral case’ must lead.
Market-primacy-affirming consistent with current socio-economic norms	Recognizes role for policy ‘intervention’ to regulate our dysregulating market-led system.

# Cartoons





[www.bothbrainsrequired.com](http://www.bothbrainsrequired.com)

*to be continued...*