
The Sustainability Imperative



The Sustainability Imperative...

PLASTIC
OCEANS

<https://youtu.be/6zrn4-FfbXw>



The Sustainability Imperative...



*It is not just a
pollution problem
anymore.*



Scientists find microplastics in blood for first time

25 March 2022



Blood samples in healthy volunteers showed microparticles of PET and Polystyrene plastic.

Welcome to the Anthropocene



Welcome to the Anthropocene



Paul Crutzen
1933 – 2021
Atmospheric Chemist
Nobel Prize Winner: 1995

Suggested that the world has evolved into a new geological era, dominated by the impacts of humans.



Eugene Stoermer
1934 – 2012
Biologist

The Anthropocene

Welcome to the Anthropocene

<http://www.anthropocene.info/index.php>



Source: <https://globaia.org/anthropocene>

<https://youtu.be/fvgG-pxlobk>

Limits & Planetary Boundaries



- The earth has limits...
- We (humankind) are encroaching on those limits...
- Exceeding these limits isn't a good thing...
- We'd better pay attention or else...



Johan Rockström
Stockholm Resilience Center

<https://youtu.be/V9ETiSaxyfk>

Limits & Planetary Boundaries

- The Holocene period over the past 10,000 years was one of stability.
- Such stability enabled humans to thrive and "civilizations to arise".
- Man's impact on earth's systems (the Anthropocene) now threatens such stability.
- Defined a framework based on 9 different "Planetary Boundaries" – defining "safe operating space for humanity".

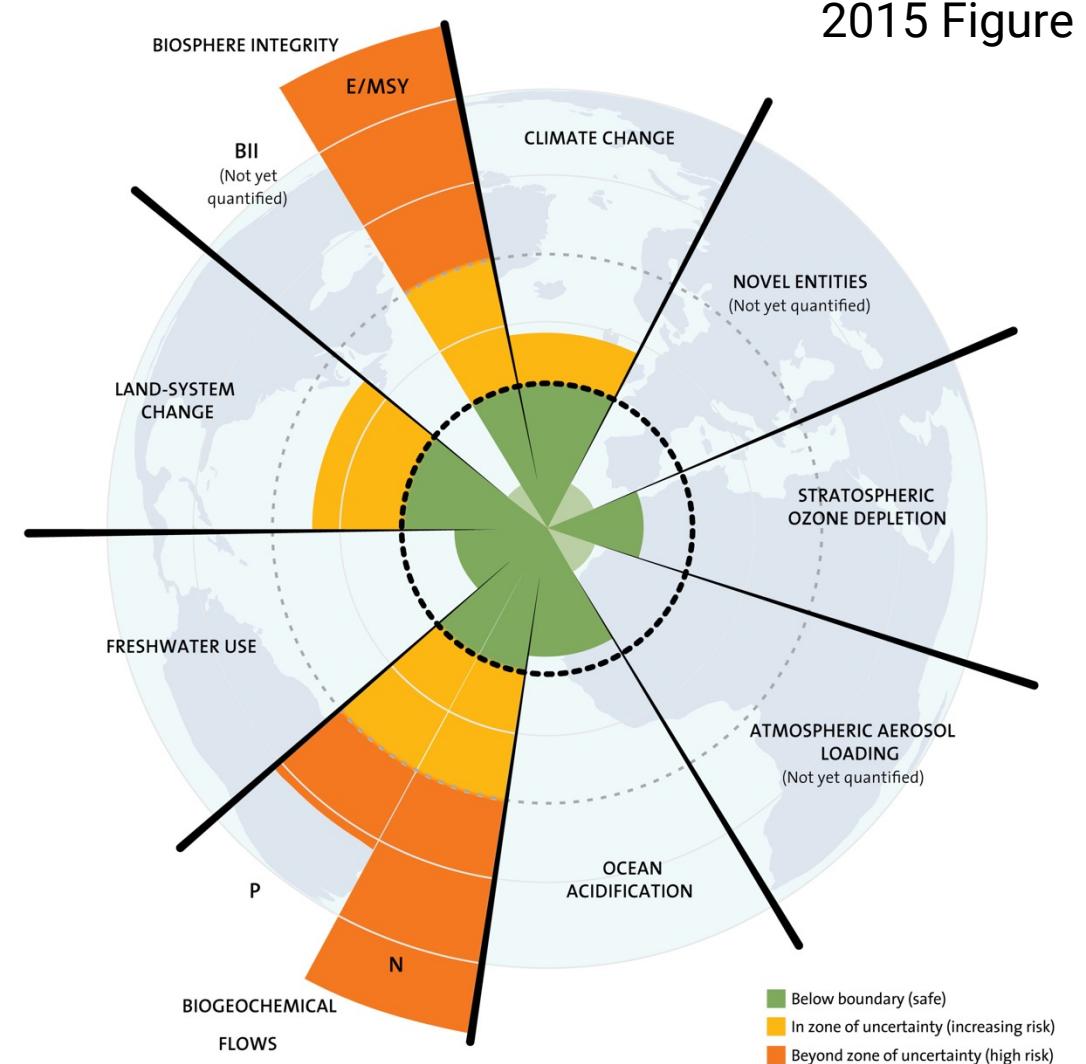


Nature, V. 461, No.24,
pages 472-475 (2009)

Limits & Planetary Boundaries

Planetary Boundaries

- Climate Change
- Rate of Biodiversity Loss (=> Biosphere Integrity)
- Nitrogen Cycle
- Phosphorous Cycle
- Stratospheric Ozone Depletion
- Ocean Acidification
- Global Freshwater Use
- Change in Land Use
- Atmospheric Aerosol Loading
- Chemical Pollution (=> Novel Entities)



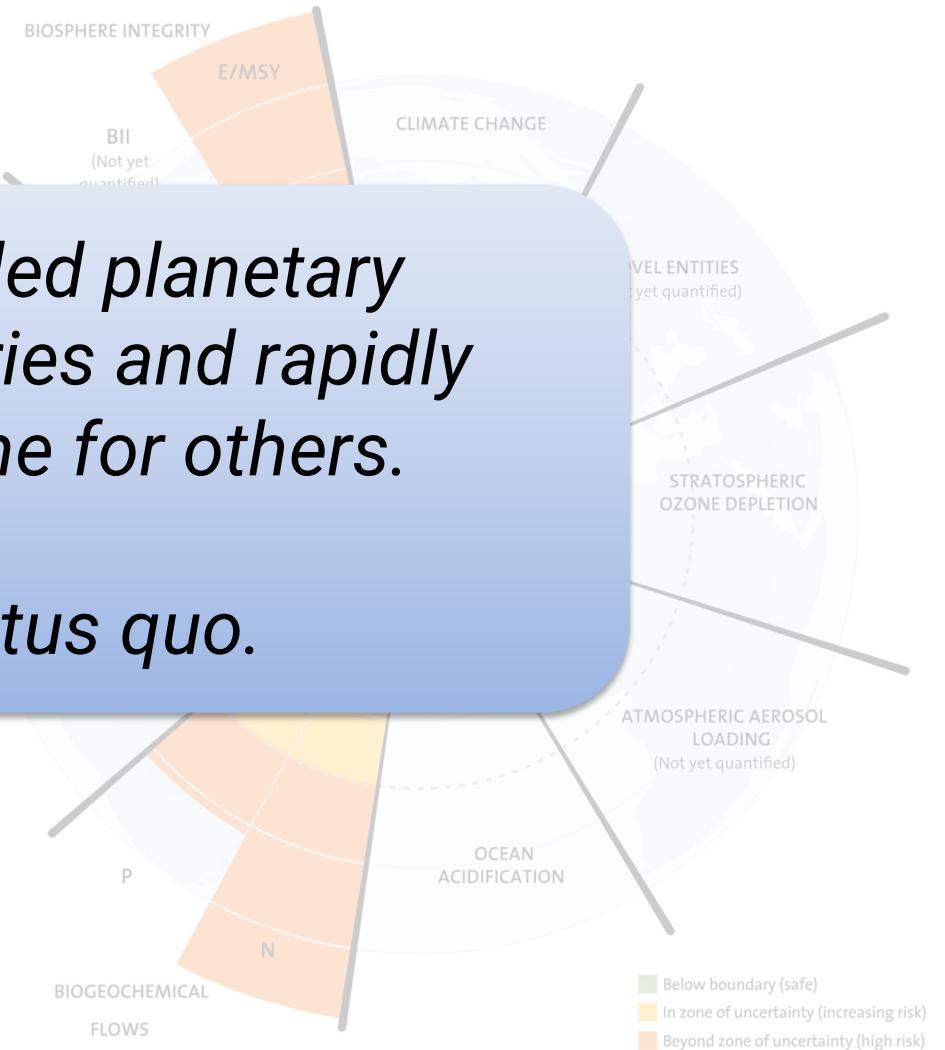
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Bottom Line: We've exceeded planetary boundaries in several categories and rapidly approaching the danger zone for others.

Time to change the status quo.



Growing Social Inequality...

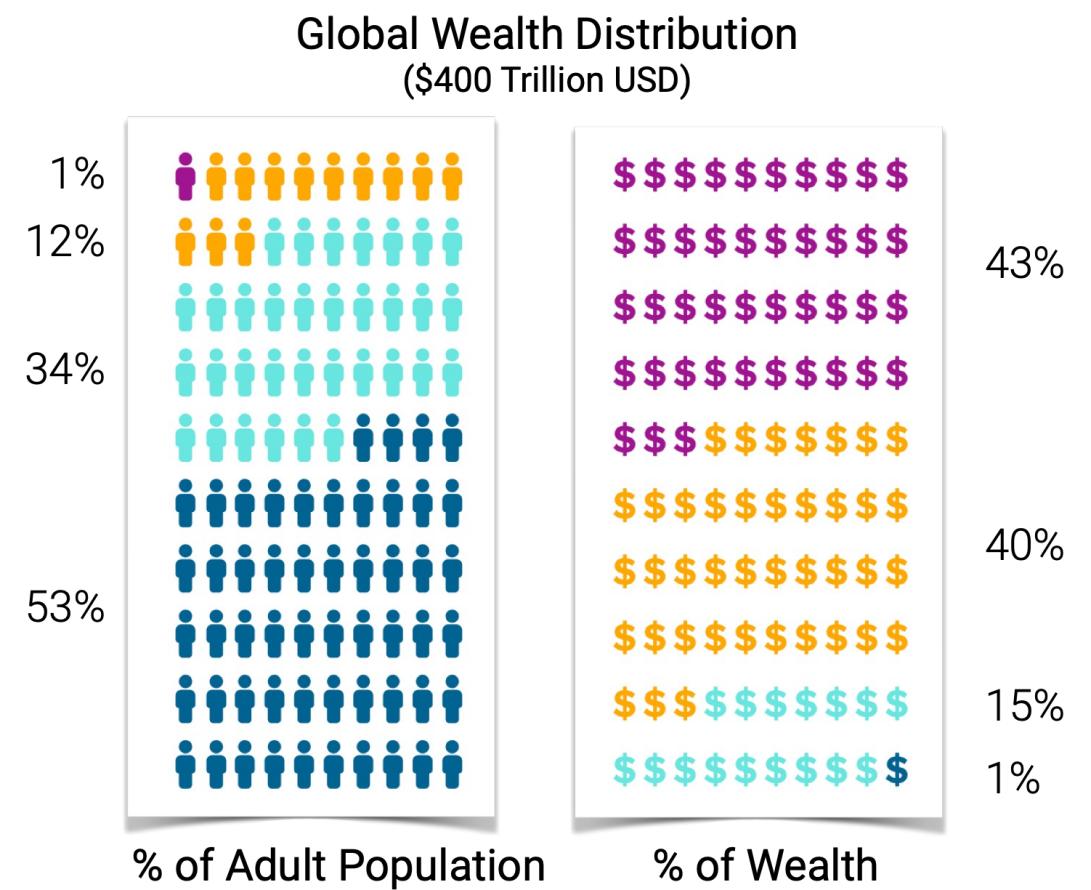


VS.



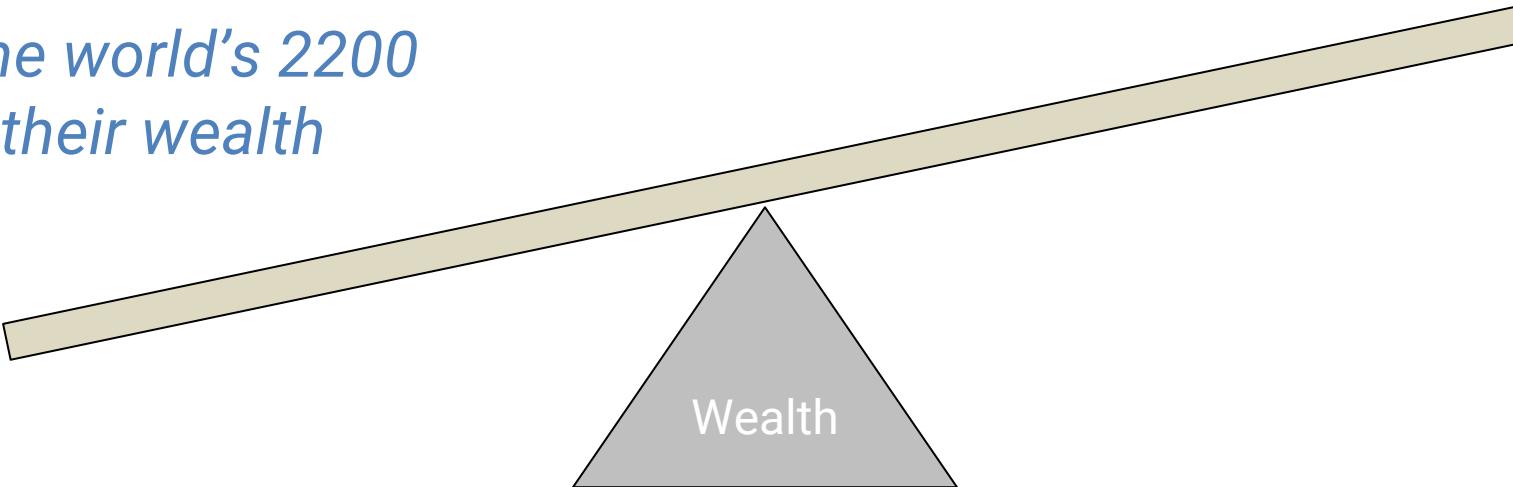
Growing Social Inequality...

In 2018, 26 people had as much wealth as the bottom 1/2 of the world's population.



Growing Social Inequality...

In 2018 alone, the world's 2200 billionaires saw their wealth increase 12%.



While the world's 3.8 billion poorest saw their wealth decrease 11%.

Growing Social Inequality...

US: in 2015, the income gap between the top 1% and bottom 99% was the greatest since the Great Depression – and continues to increase.

Economic Policy Institute Report, 2015



Is it any real surprise we're seeing such division in our country (countries!)?

Don't give up and become a fatalist!

"...believing that collapse is inevitable is one of the best ways to make it so..."

...believing that an alternative future is possible is one of the only ways of giving it a chance of actually being realized."

Kate Raworth
Foreword, Finer Future

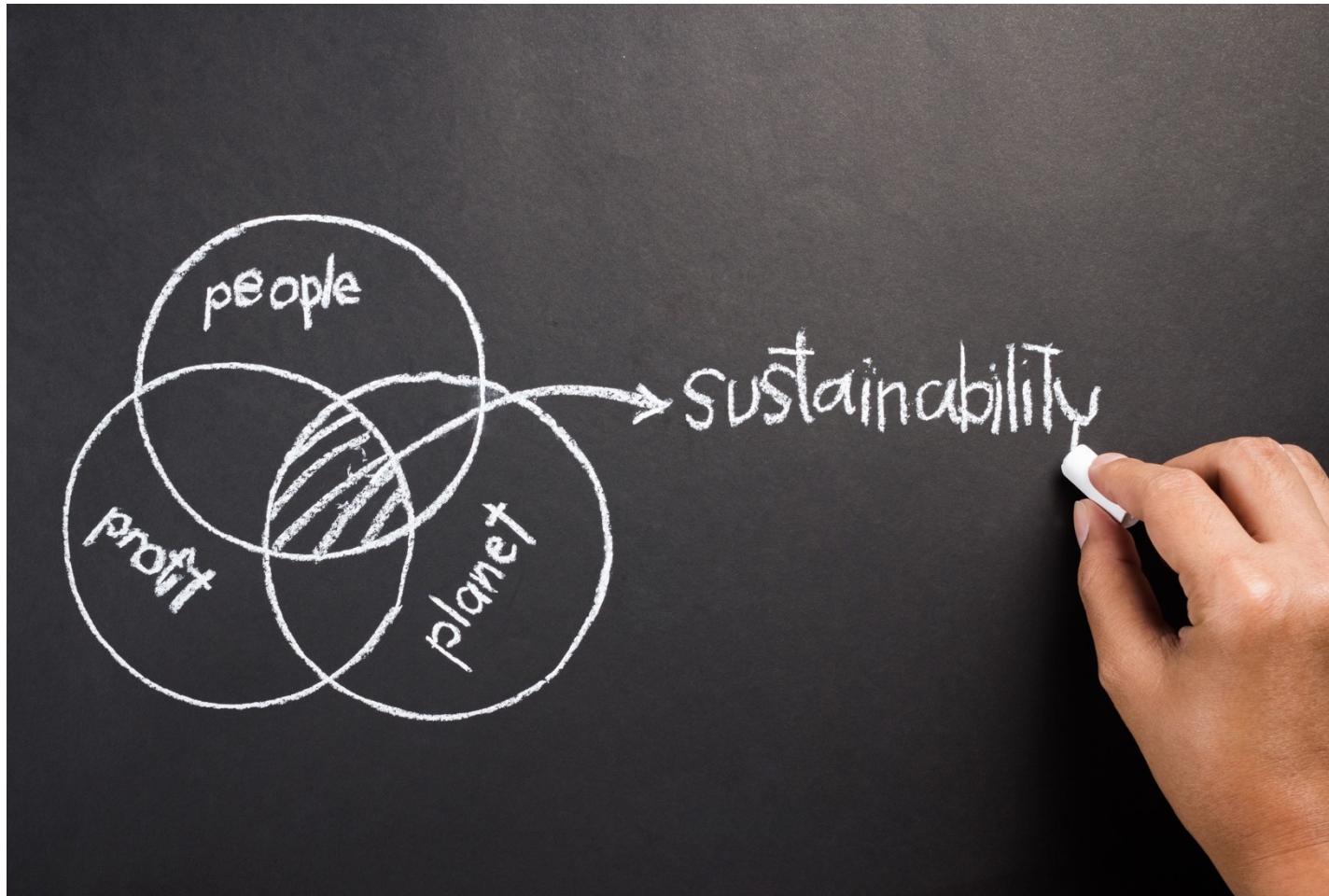
Stay positive – as we have some work to do!



Kate Raworth
Author, Doughnut Economics

Next Time...

Sustainability and Business



Credits & References

Slide 1: People and sustainable eco-friendly lifestyle by elenabsl, Adobe Stock (255348426.jpeg).

Slide 2: Pollution on the beach of tropical sea by somchairakin, Adobe Stock (82592161.jpeg).

Slide 3: Image Source, <https://phys.org/news/2022-03-scientists-microplastics-blood.html> (accessed June 26, 2022).

Slide 4. Ecological footprint by Mopic, Adobe Stock (36939761.jpeg).

Slide 5: Paul Crutzen Image Source: "File:Paul Crutzen.jpg" by Teemu Rajala is licensed under CC BY 3.0. Eugene Stoermer Image Source:

https://www.tandfonline.com/na101/home/literatum/publisher/tandf/journals/content/tdia20/2012/tdia20.v027.i04/0269249x.2012.729702/production/images/medium/tdia_a_729702_o_ilf0001.jpg (accessed Feb. 6, 2021).

Slide 6: Welcome to the Anthropocene Video Source: Globaia. <https://globaia.org/anthropocene>. Used with permission.

Slide 7: Johan Rockstrom Image Source: The Stockholm Resilience Institute.

Slide 8: Research Paper Image Source: Nature, V. 461, No.24, pages 472-475 (2009).

Slide 9: Planetary Boundaries Image Source: The Stockholm Resilience Institute. J. Lokrantz/Azote based on Steffen et al. (2015).

Credits & References

Slide 11: Stylish wealthy couple on a luxury yacht by Nejron Photo, Adobe Stock (140007313.jpeg). Poor Hungry Children by TheFinalMiracle, Adobe Stock (14145083.jpeg).

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Slide 14: US divided concept, republicans democrats society polarization, american flag on cracked background, 2020 election in America by Delphotostock, Adobe Stock (121211499.jpeg).

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