

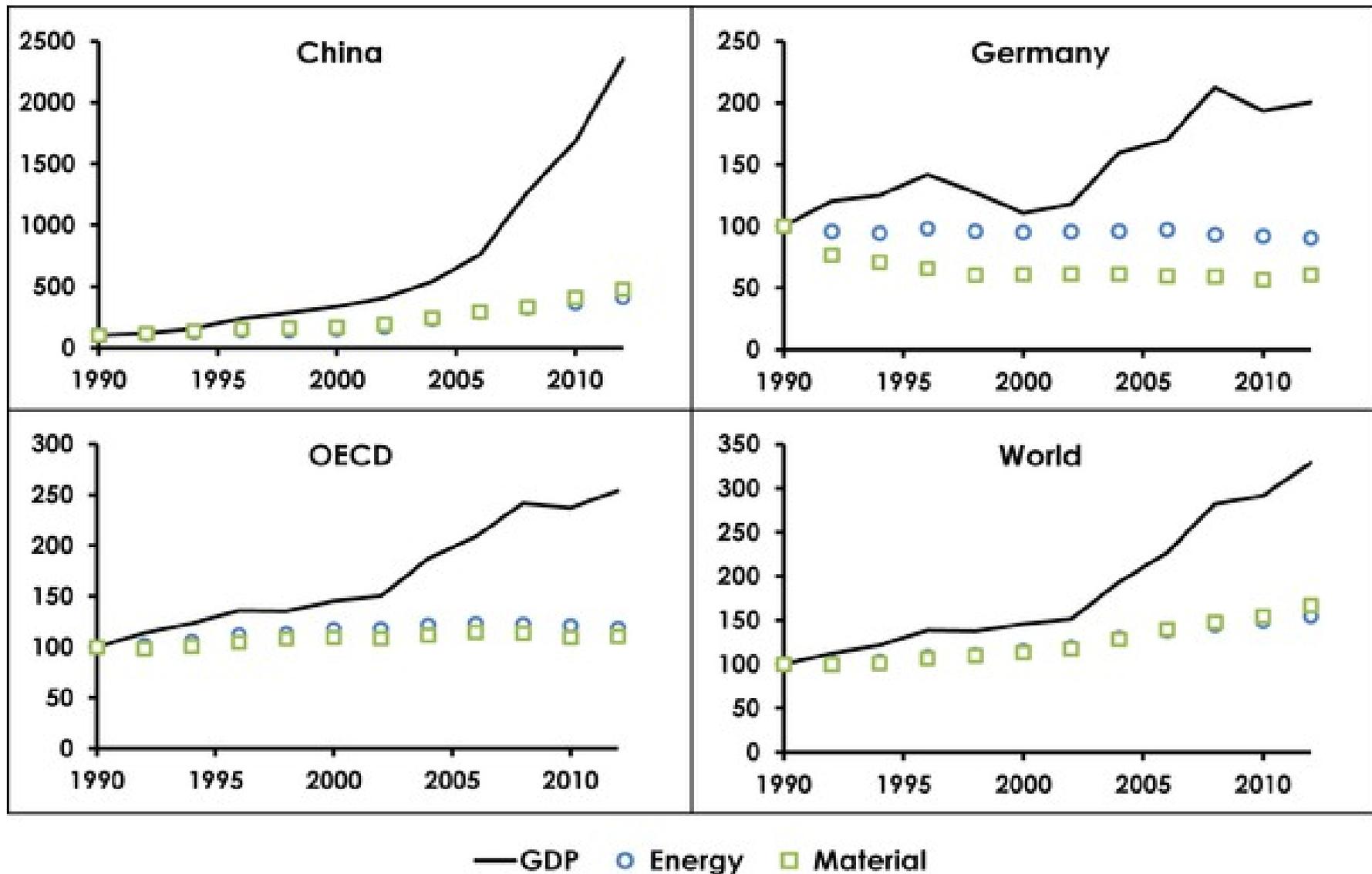
Is sustainable growth possible?  
Is economic growth desirable?

Tone Smith  
Rethinking Sustainability, Oslo  
9 February 2019

# The historical discourse about the growth and the environment

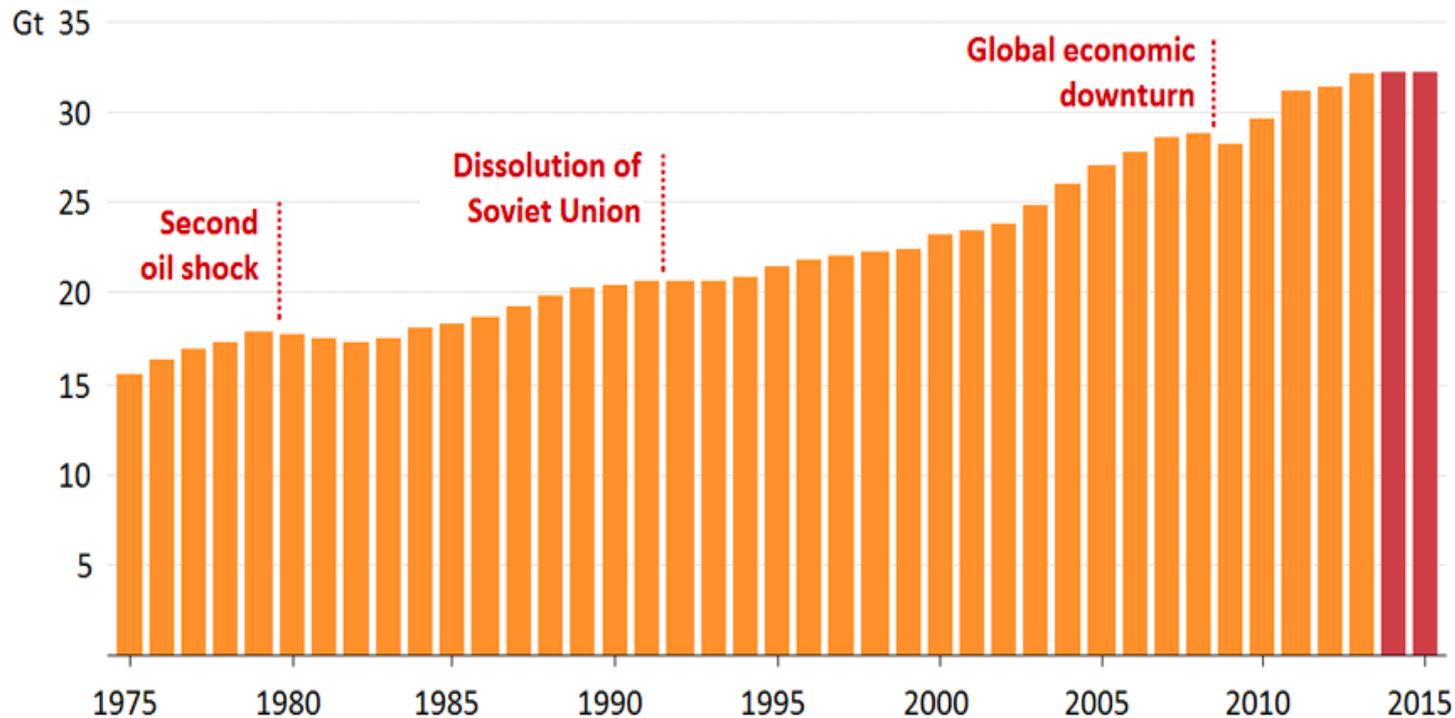
- 1960-70s: general perception that economic growth is incompatible with environmental protection
- 1980s: Brundtland report argued in favour of changing the content of growth
- How?
  - structural change in the economy
  - resource efficiency & decoupling
- But did it happen...?

**Fig 1. Recent trends in real GDP, total energy use and total material use for China, Germany, OECD and the World.**



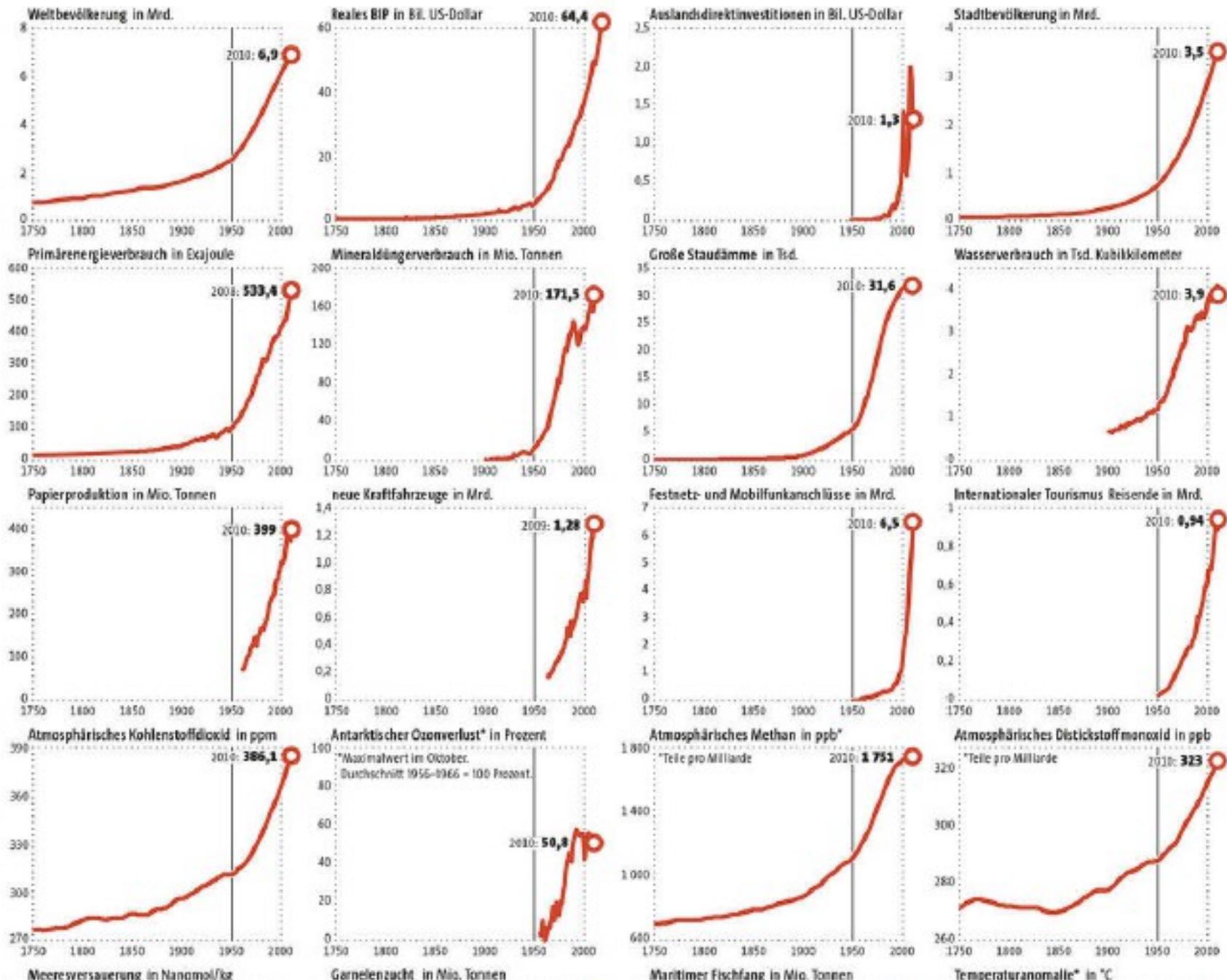
Ward JD, Sutton PC, Werner AD, Costanza R, Mohr SH, et al. (2016) Is Decoupling GDP Growth from Environmental Impact Possible?. PLOS ONE 11(10): e0164733. <https://doi.org/10.1371/journal.pone.0164733>  
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0164733>

## Global energy-related CO<sub>2</sub> emissions



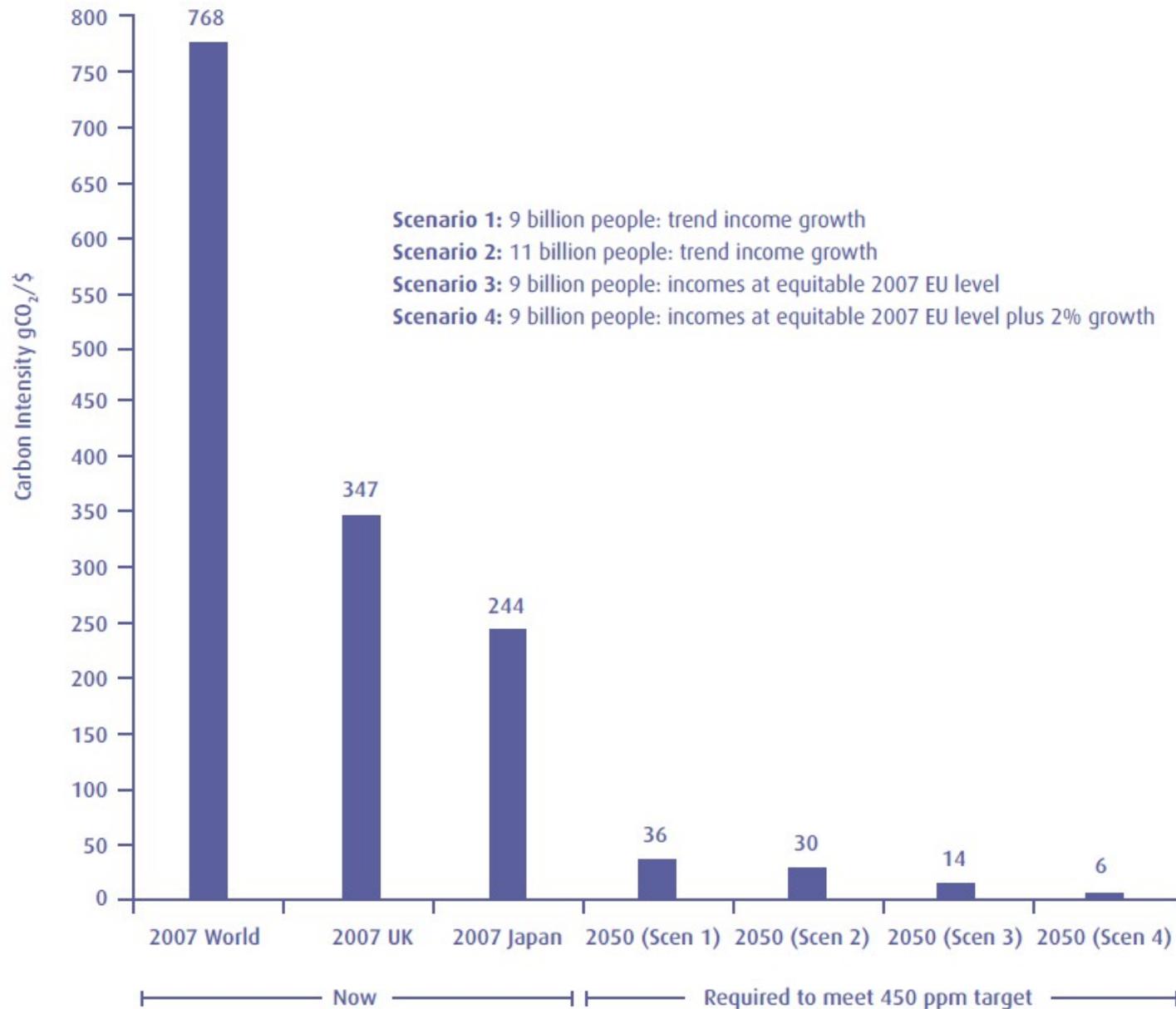
*IEA analysis for 2015 shows renewables surged, led by wind, and improvements in energy efficiency were key to keeping emissions flat for a second year in a row*

# Living in a growth society



# Extent of decoupling needed

Figure 17 Carbon Intensities Now and Required to Meet 450 ppm Target<sup>25</sup>



# Empirical evidence

- But what we really need is reduction in environmental pressures!
- Relative decoupling is a side-track!
- There is no absolute decoupling in sight

# Empirical evidence (cont.)

- Just because something haven't happened yet, doesn't mean it cannot happen
- However, what arguments do we have available to convince us that it could happen?
- Let us turn to theory...

# Theoretical discussion

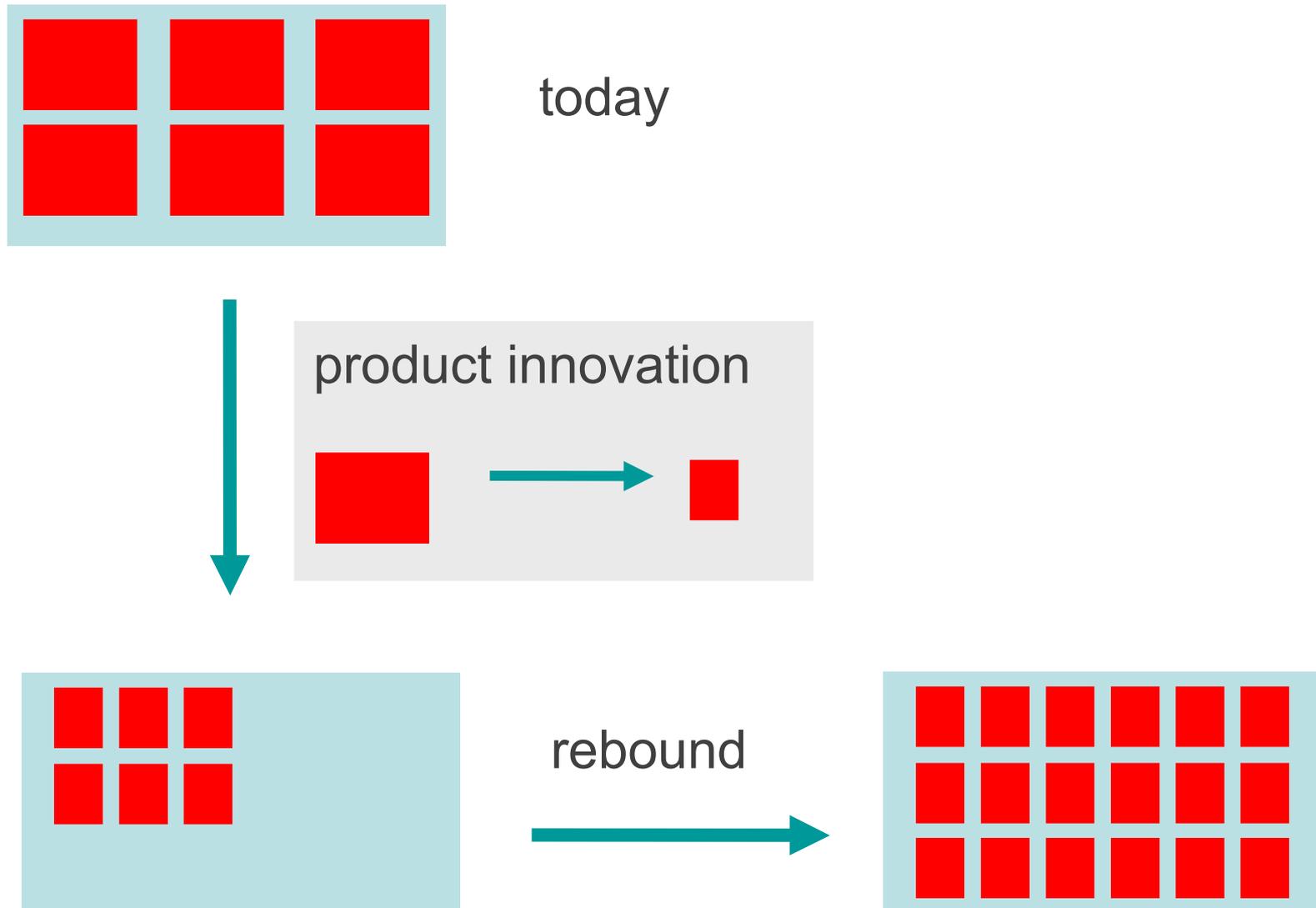
- Why is decoupling not happening? How can we explain that?
  - The change to a larger service sector does not mean that we consume less in material terms
  - We live in an integrated world economy, we can just "offshore" our pollution and resource extraction

# Theoretical discussion

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  - The change to a larger service sector, does not mean that we consume less in material terms
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  - Jevons paradox/the rebound effect: resource efficiency leads to more resource use

# Rebound Effects

the undesired side effects of efficiency



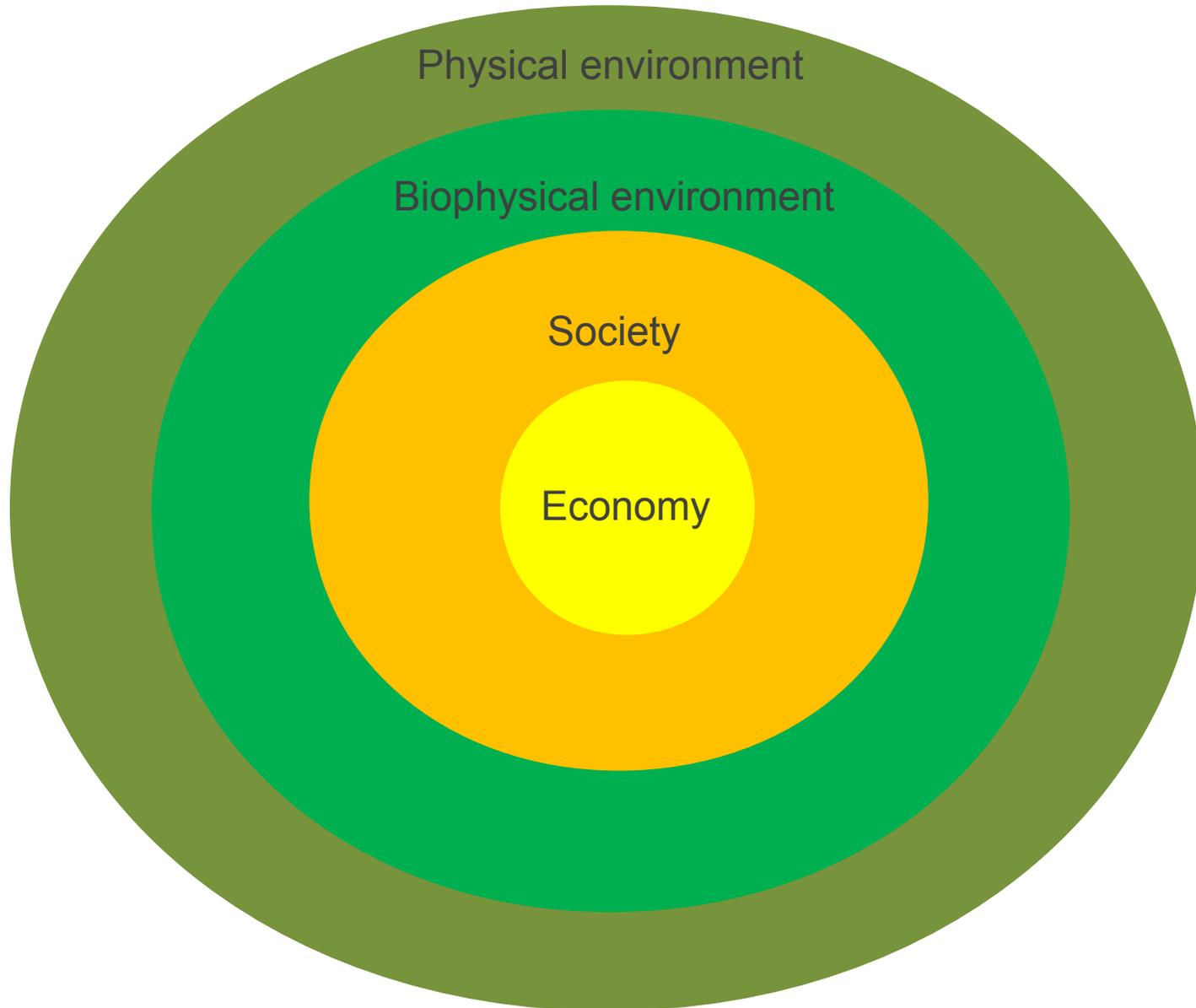
# Theoretical discussion

- Why is decoupling not happening? How can we explain that?
  - The change to a larger service sector, does not mean that we consume less in material terms
  - We live in an integrated world economy, we can just "offshore" our pollution
  - Jevons paradox: resource efficiency leads to more resource use
  - **The real economy is material: material and energy flows are closely linked to the economic flows**

# The biophysical economy

- All production processes require resource inputs and generate waste products
- Hence:
  - Pollution is all pervasive
  - There is not such thing as "clean" energy - renewable energy is not "clean"
  - Which is why we see a lot of environmental conflicts arising around extraction, energy, infrastructure projects
- If the economy is material, then **SCALE MATTERS!**

# The embeddedness of the economy in the biophysical reality



Is economic growth desirable?

or

Is it a problem that we cannot have  
eternal economic growth?

# Social problems with growth

- Hirsch: "the social limits to growth" published already in the 1960s
- Veblen: luxury consumption
- Easterlin: catching up with the Joneses...
- More recently: stress, performance, competition, depression, alienation...

# Why do we need growth anyway?

- There are many myths about what growth brings us, and we definitely need to deconstruct some of them:
  - growth  $\neq$  more jobs
  - growth does not address basic human needs (automatically)
  - growth not necessary for better education, health etc.

# Conclusion

- If there is no decoupling, and no reason - theoretically - to believe it will happen, and growth does not address basic human needs anyway
- Growth leads to both environmental and social problems or challenges
- So why would the lack of growth be a problem?
  - because our economy depends upon growth to avoid crises/recession

# Conclusion (cont.)

- Growth leads to both environmental and social problems
- If our economy depends upon growth to avoid crises/recession
- We have a problem!
- We need to change the system!
- Instead the main questions would be:
  - What do we need to live a good life, and what kind of economy would that imply?

Thank you for your attention!

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