

Socio-metabolic inequalities in the Anthropocene

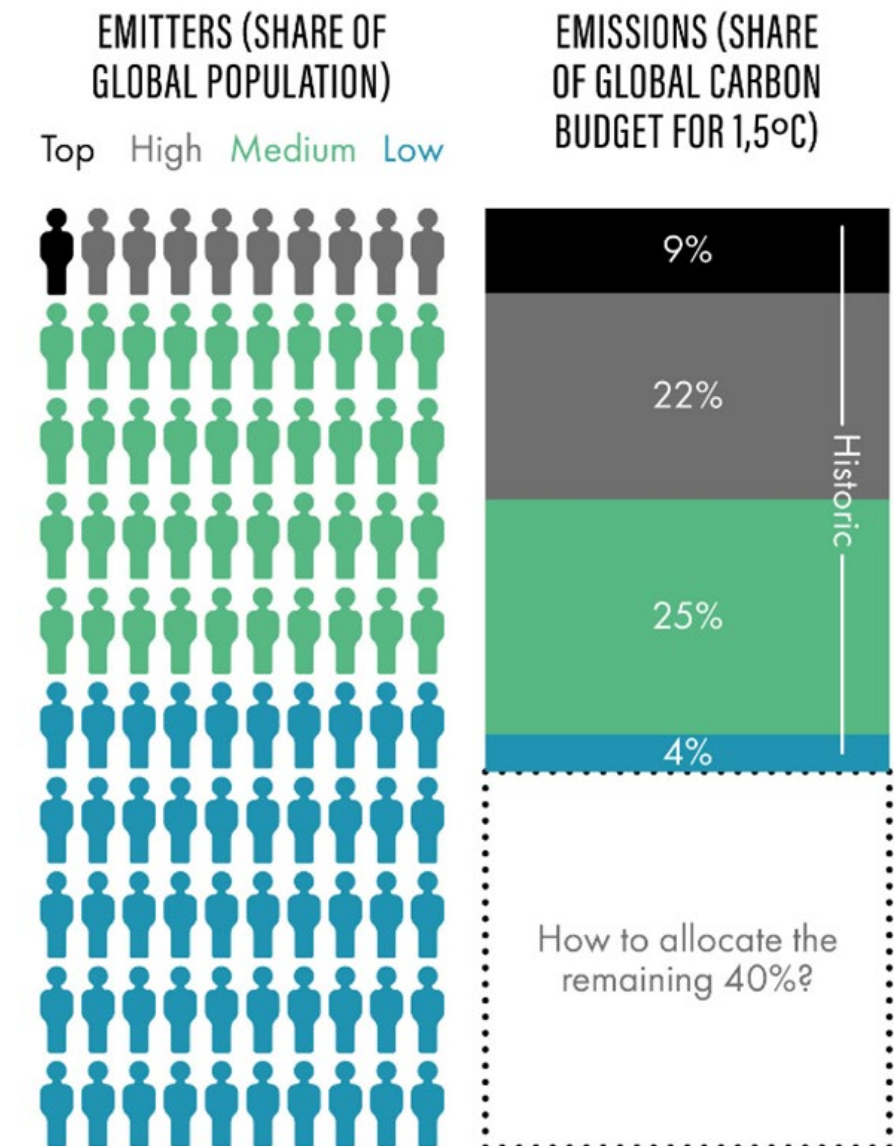


Session 1, Aula



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Social Complexity and System Transformation

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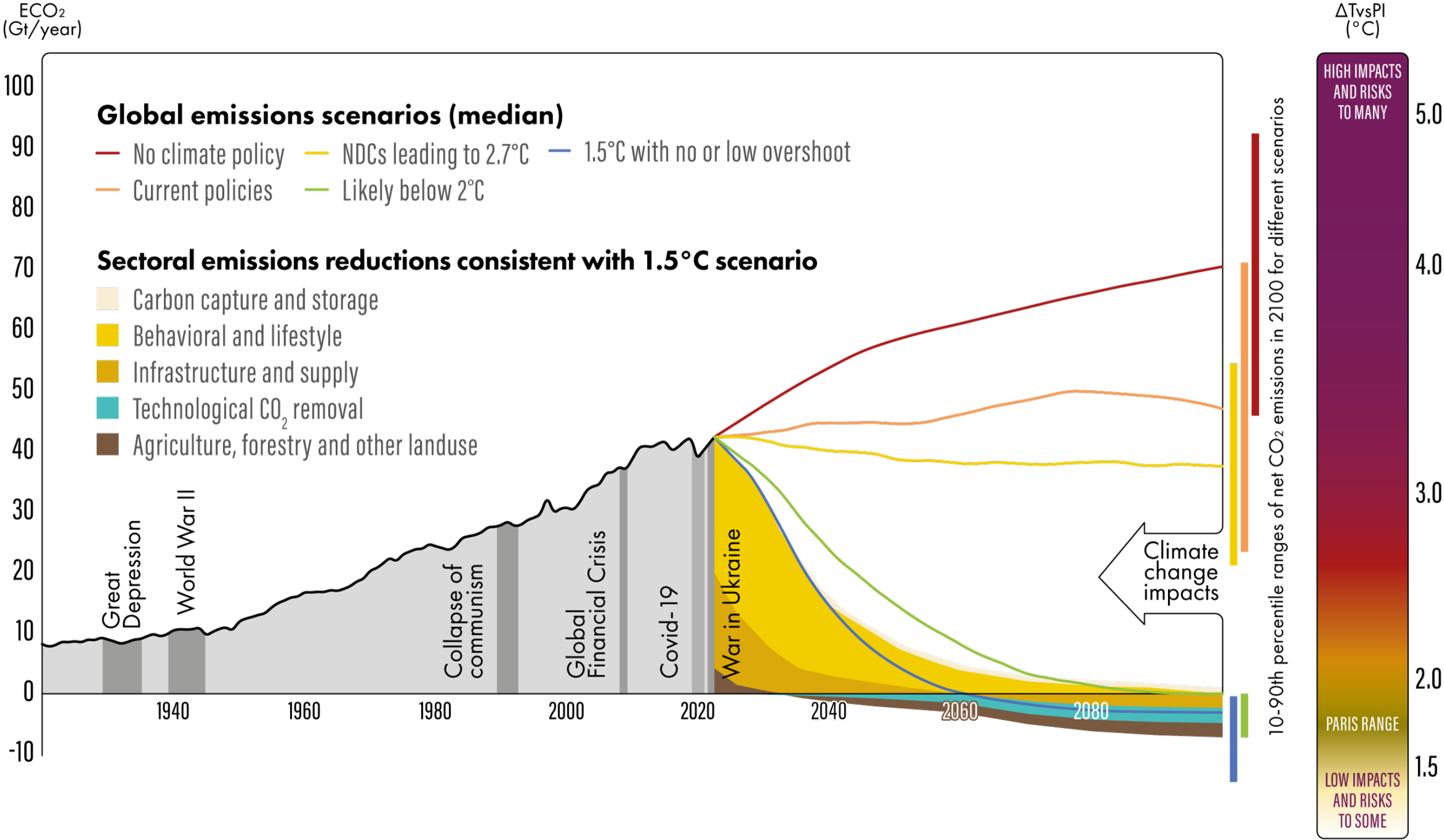
@ilonamotto

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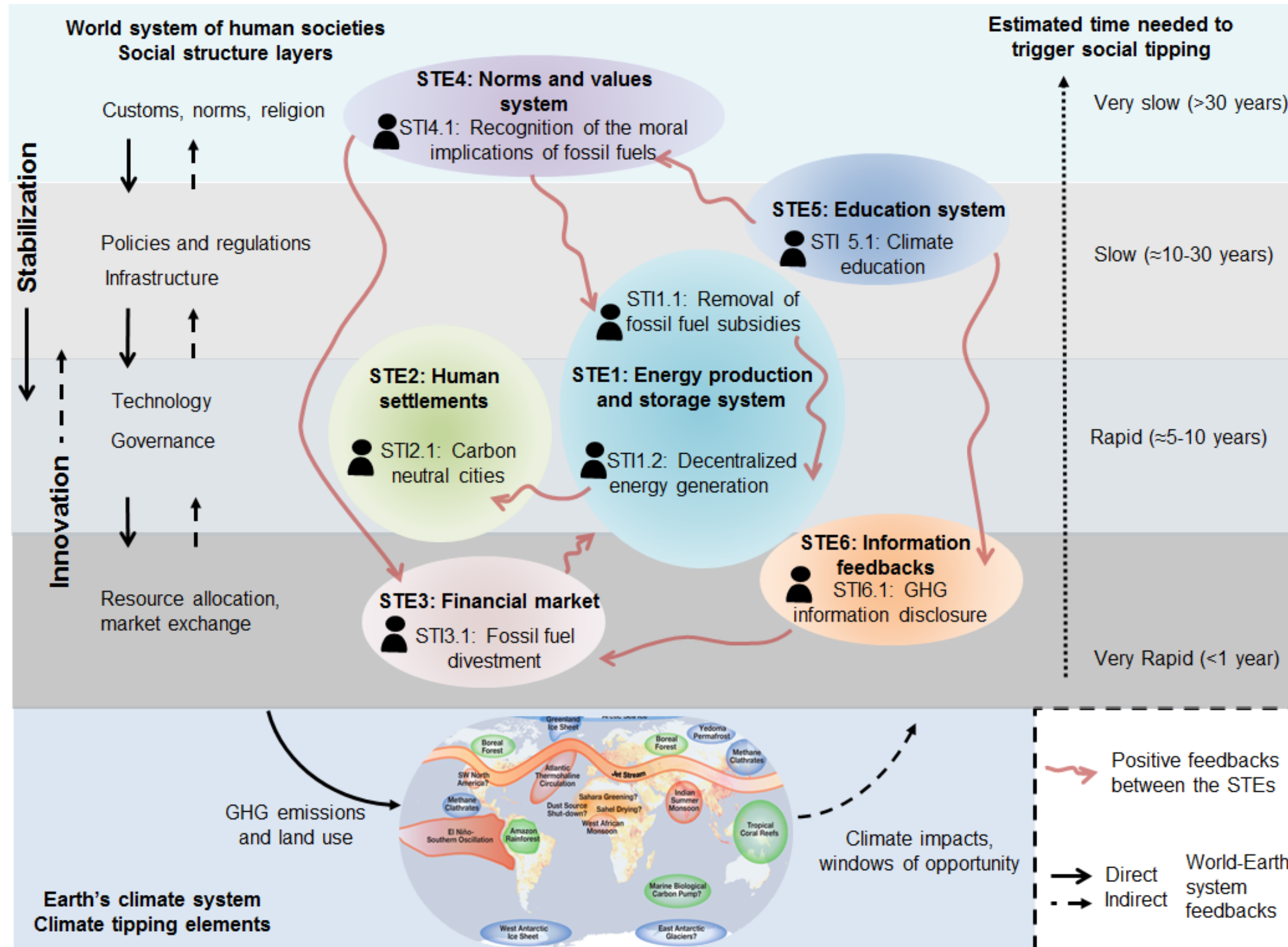
Net-zero emissions by the mid-century



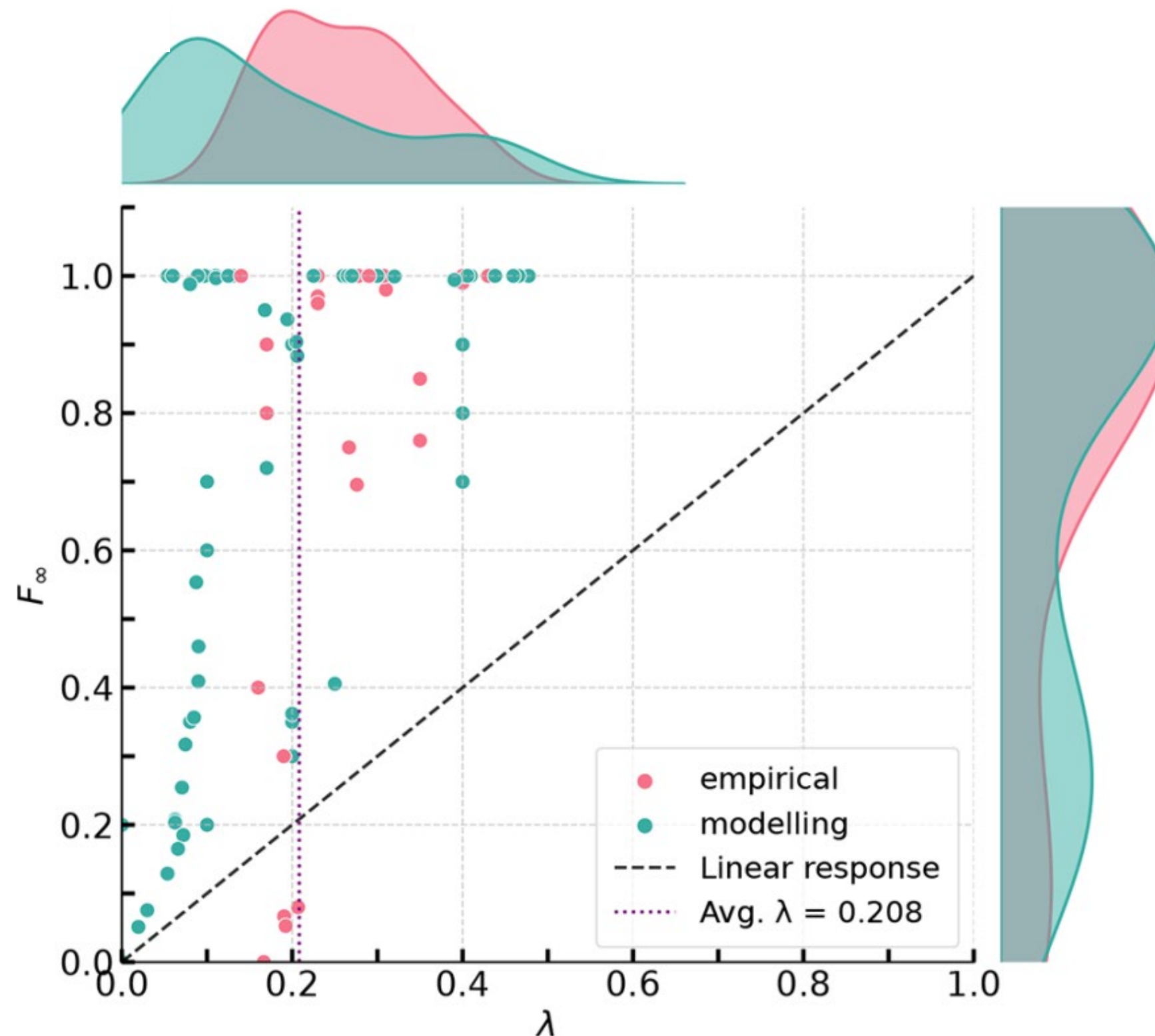
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Inducing a global social tipping

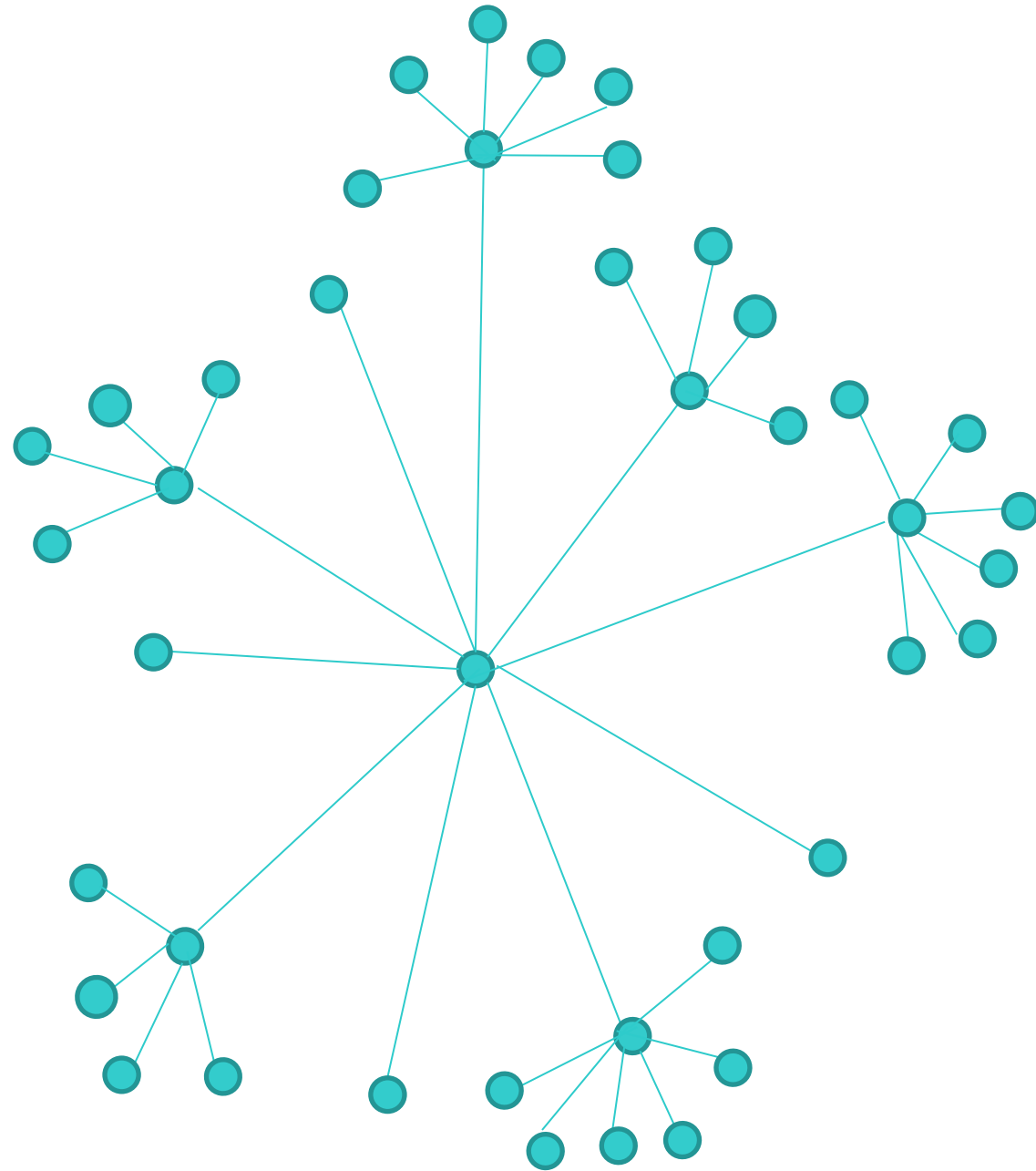


Minorities of about 20-25% tip the majority

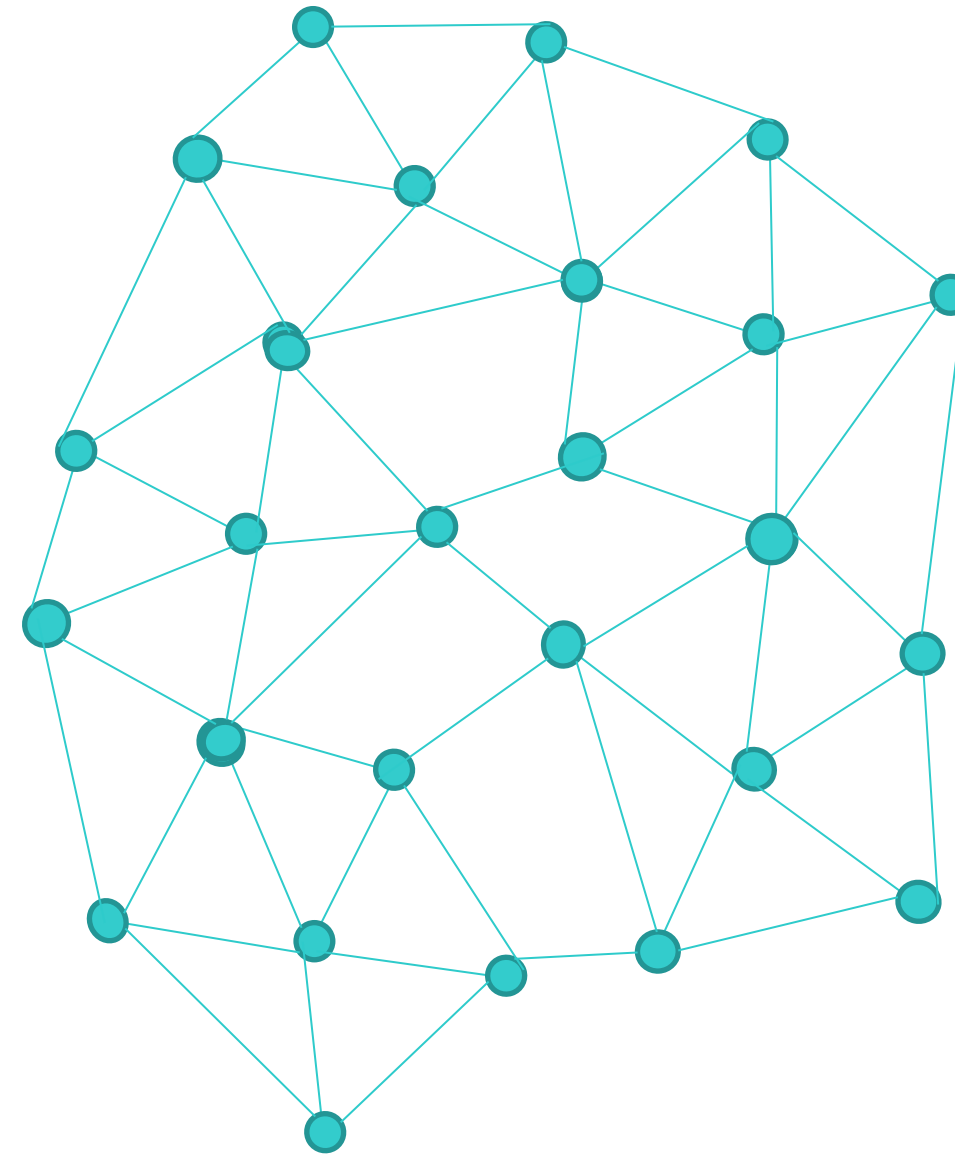


The critical mass size λ and the steady state adopter fraction n/N . $N = 87$ modelling and empirical results of complex contagion in social networks. After a critical mass of ~ 0.25 in a population, the steady state distribution of norm adopters converges quickly to a fully tipped state. Source: Overall, Donger, Otto, in review

Network structure



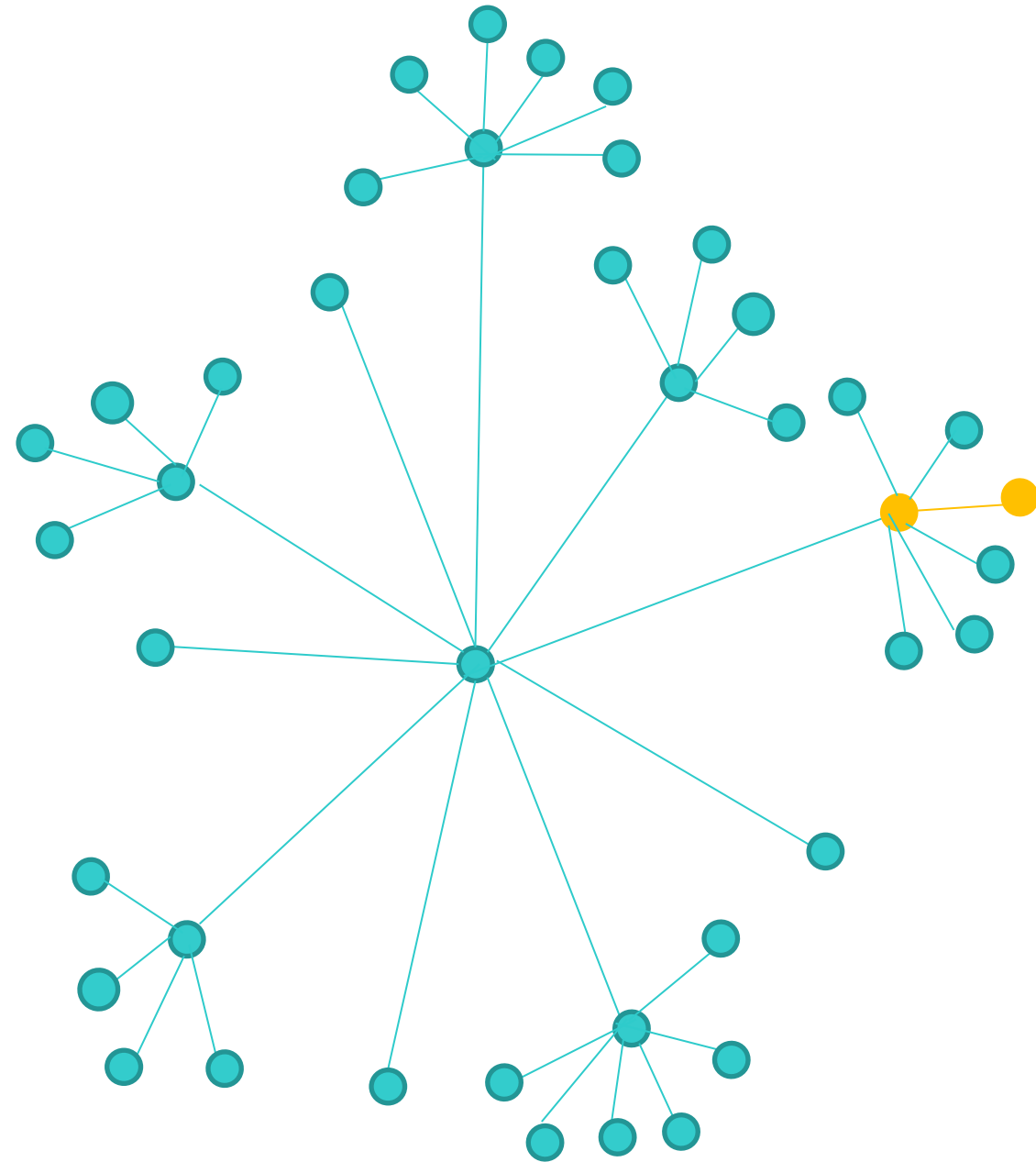
Fireworks (weak ties)



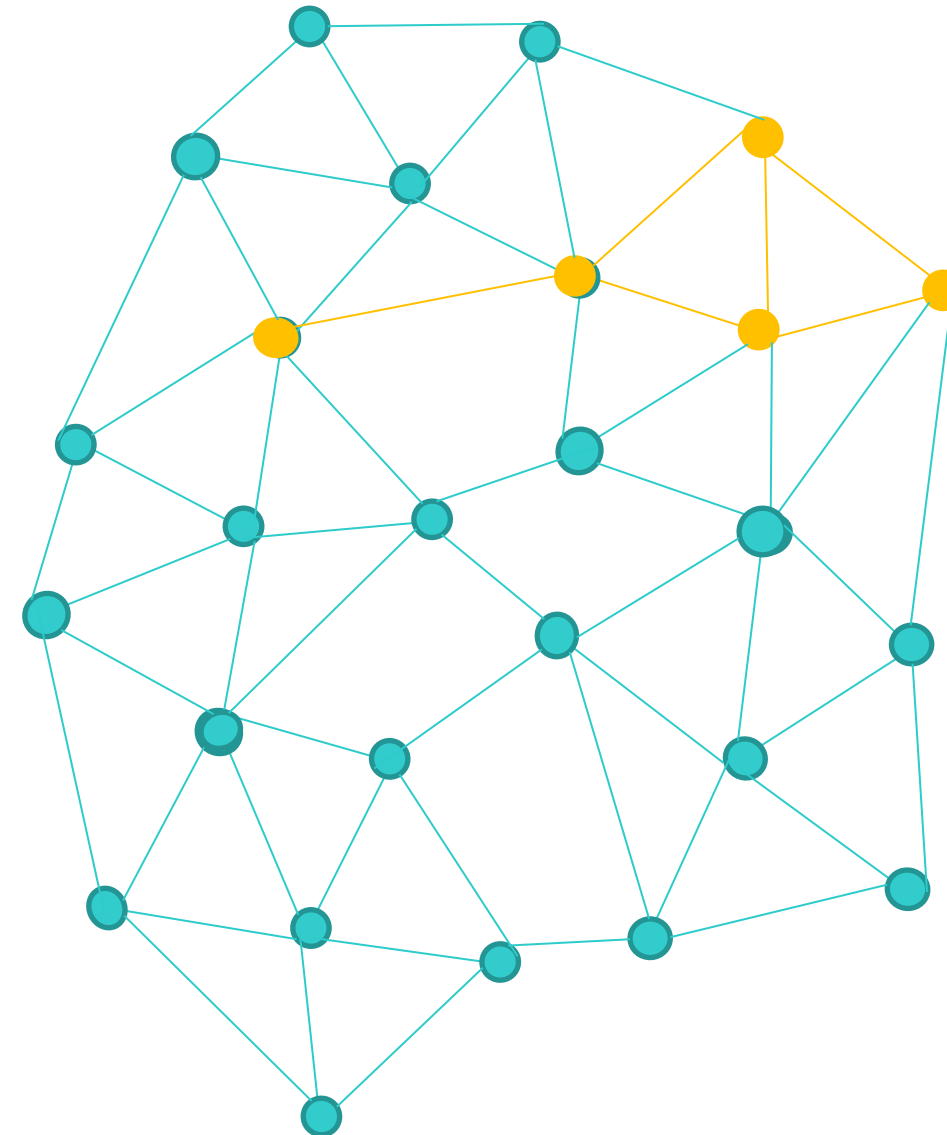
Fishing net (strong ties)

Adapted from: Centola 2021, „How to make big things happen“; Baran 1962 „On distributed communication.

Network structure



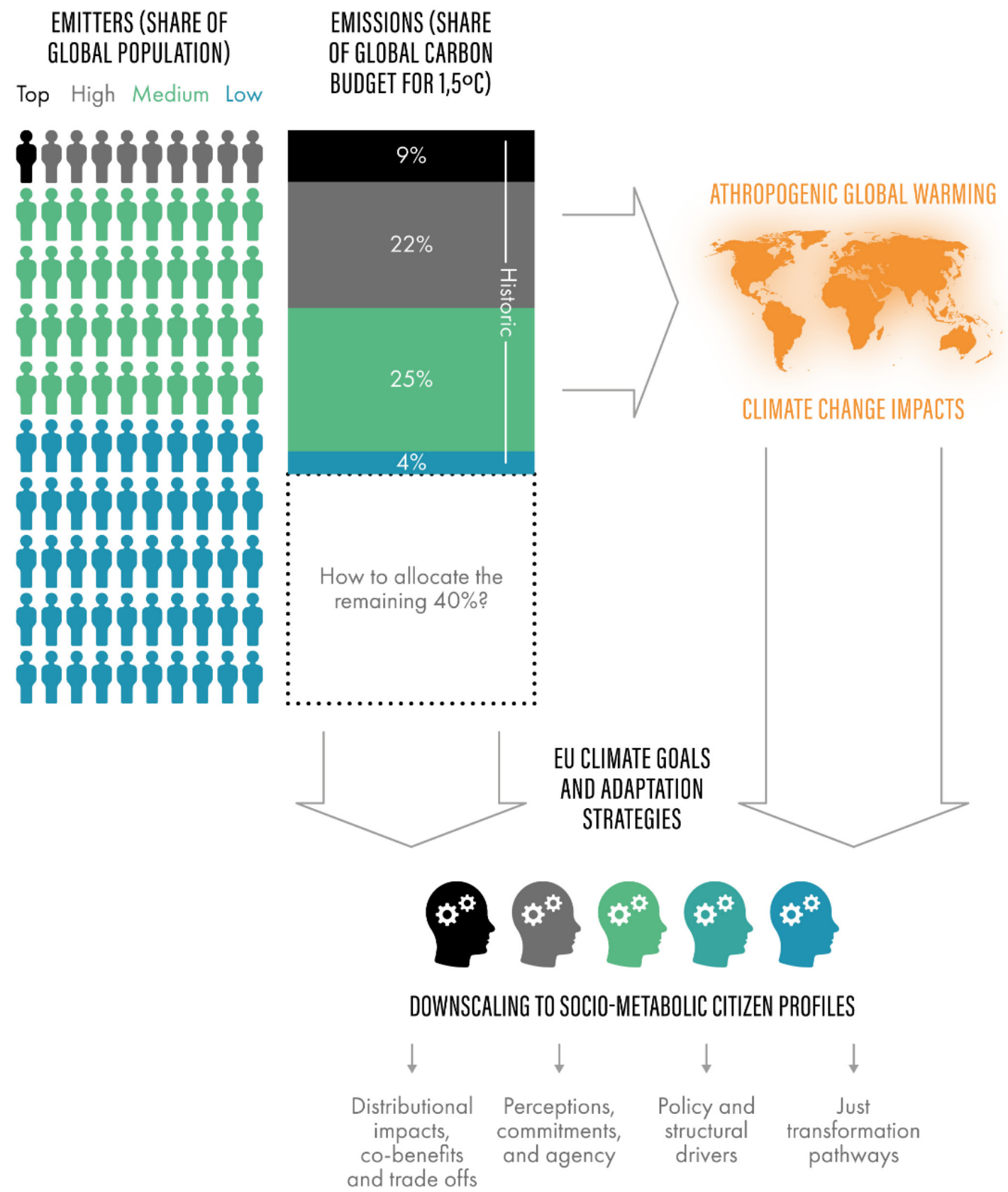
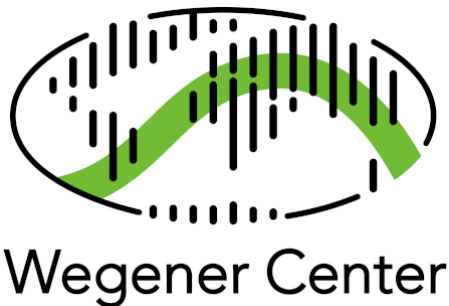
Fireworks (weak ties)



Fishing net (strong ties)

Adapted from: Centola 2021, „How to make big things happen“; Baran 1962 „On distributed communication.

Carbon inequalities



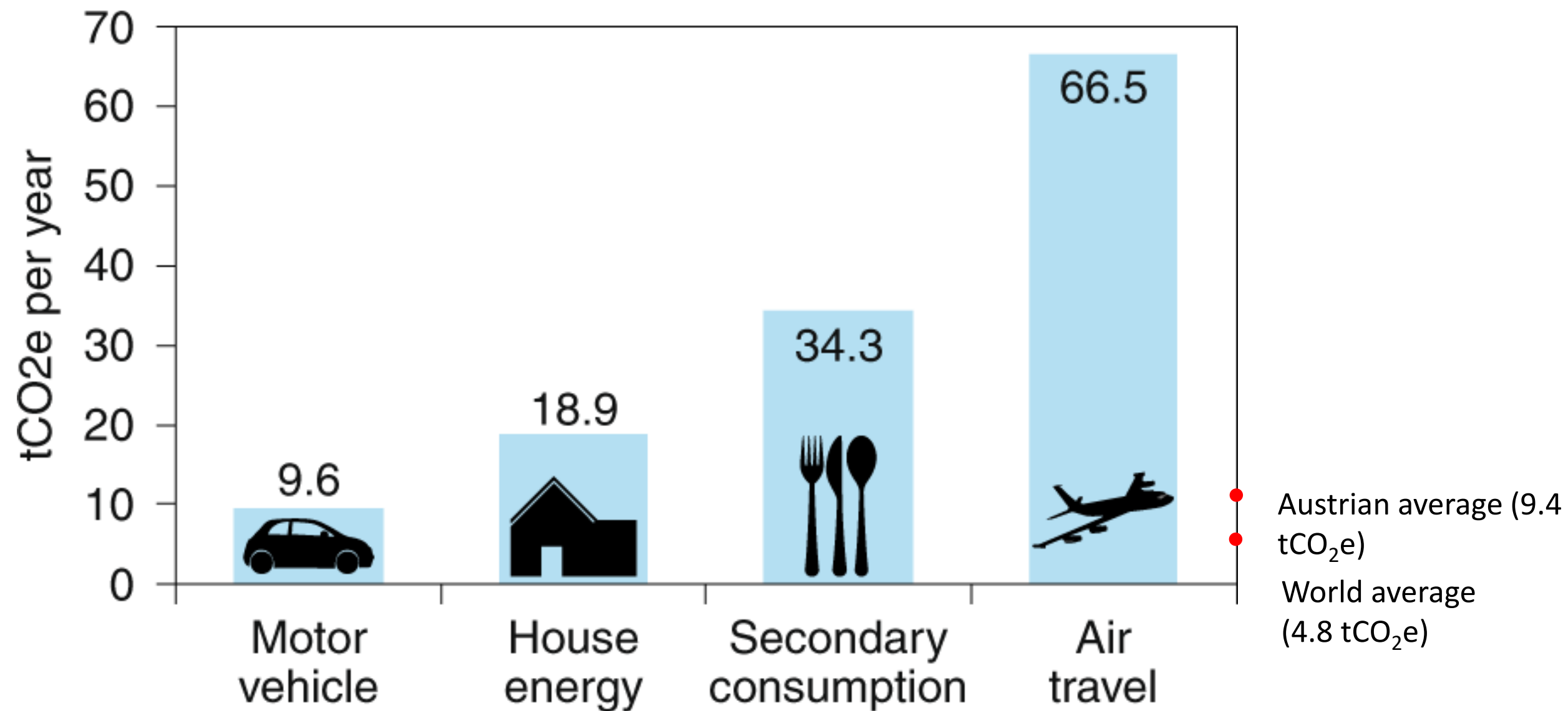
Carbon lifestyle emissions of the super-rich



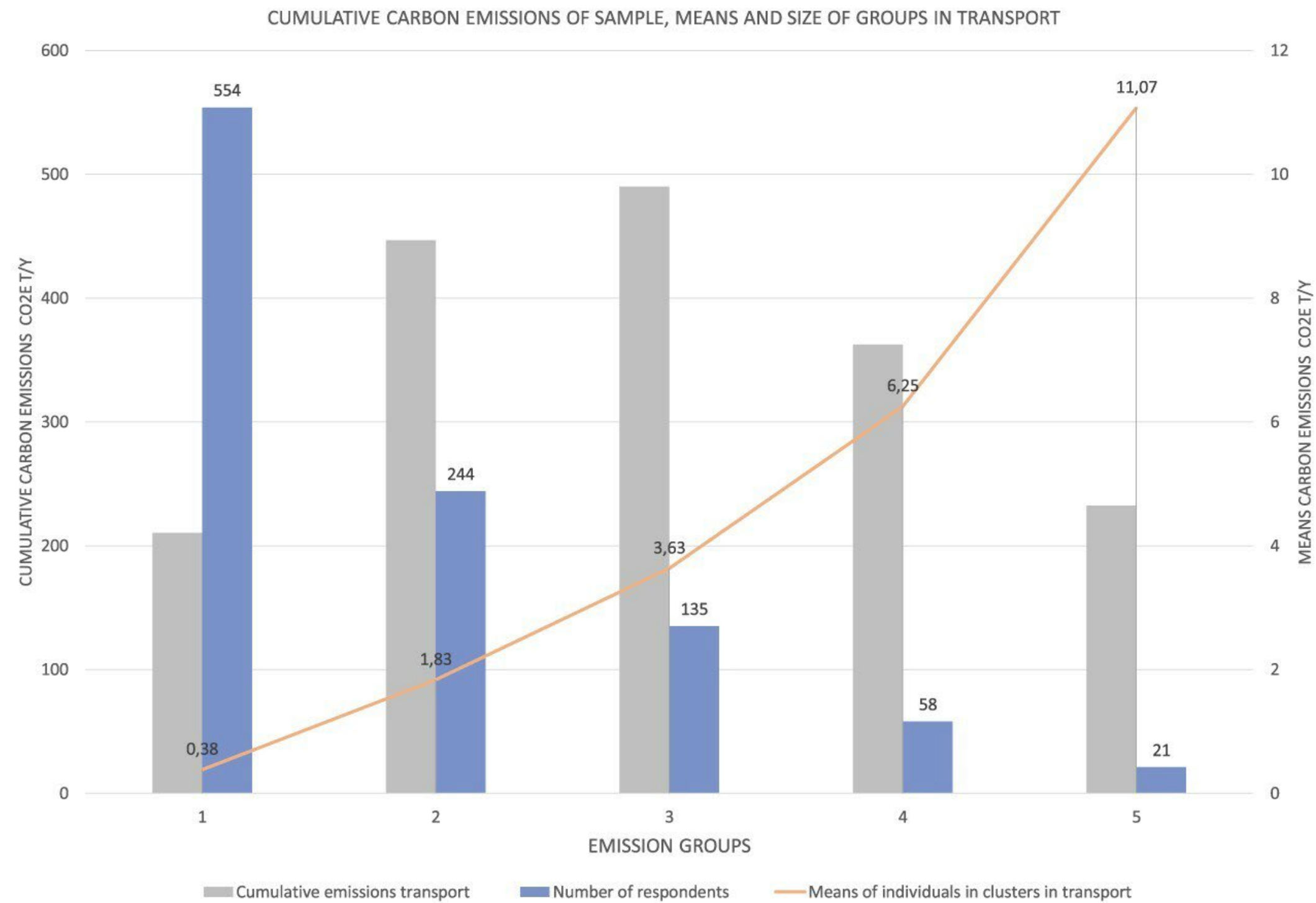
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● Roman Abramovic
(33 859 tCO₂e in 2018)

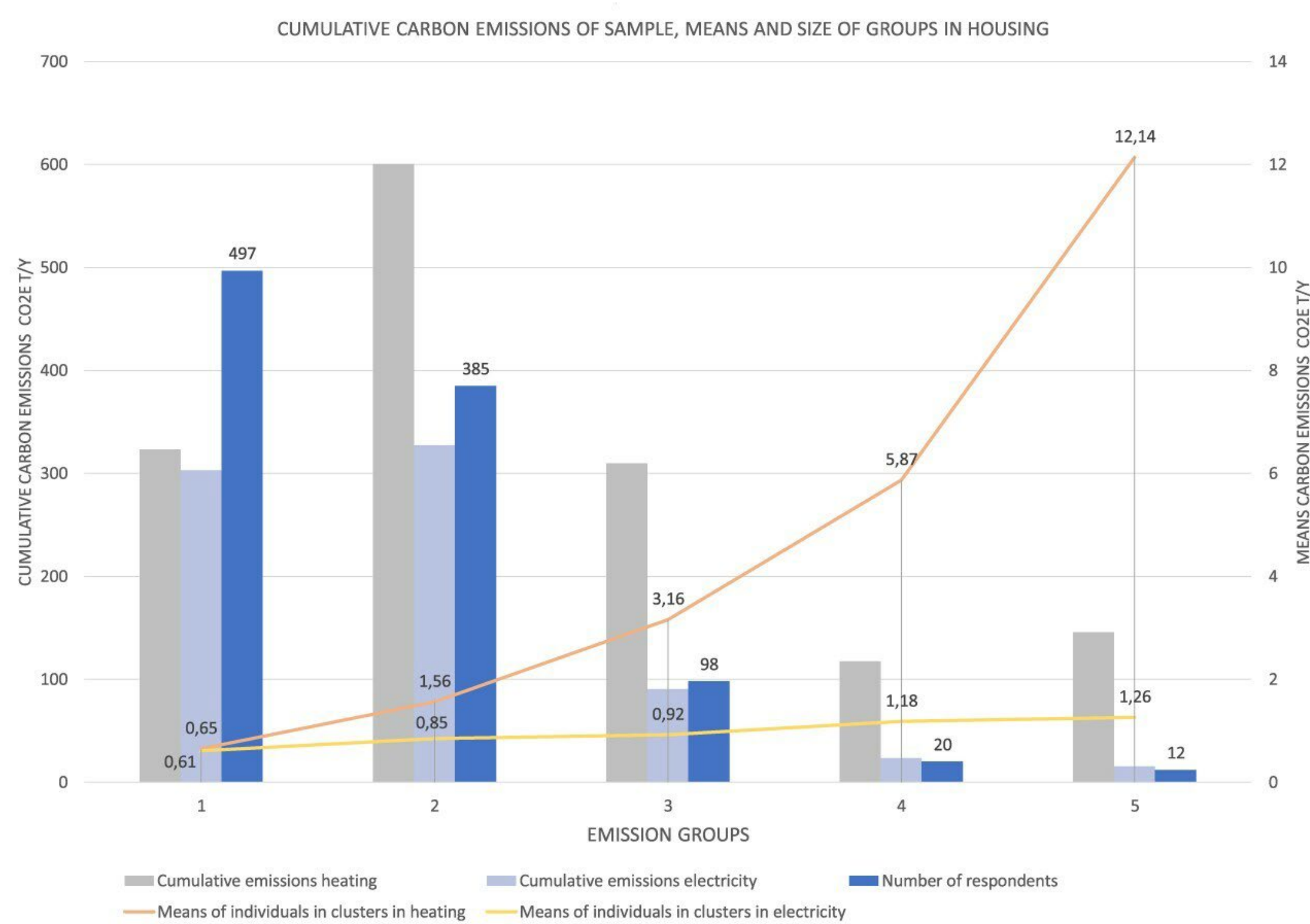


Socio-metabolic inequalities in Germany, sector transportation



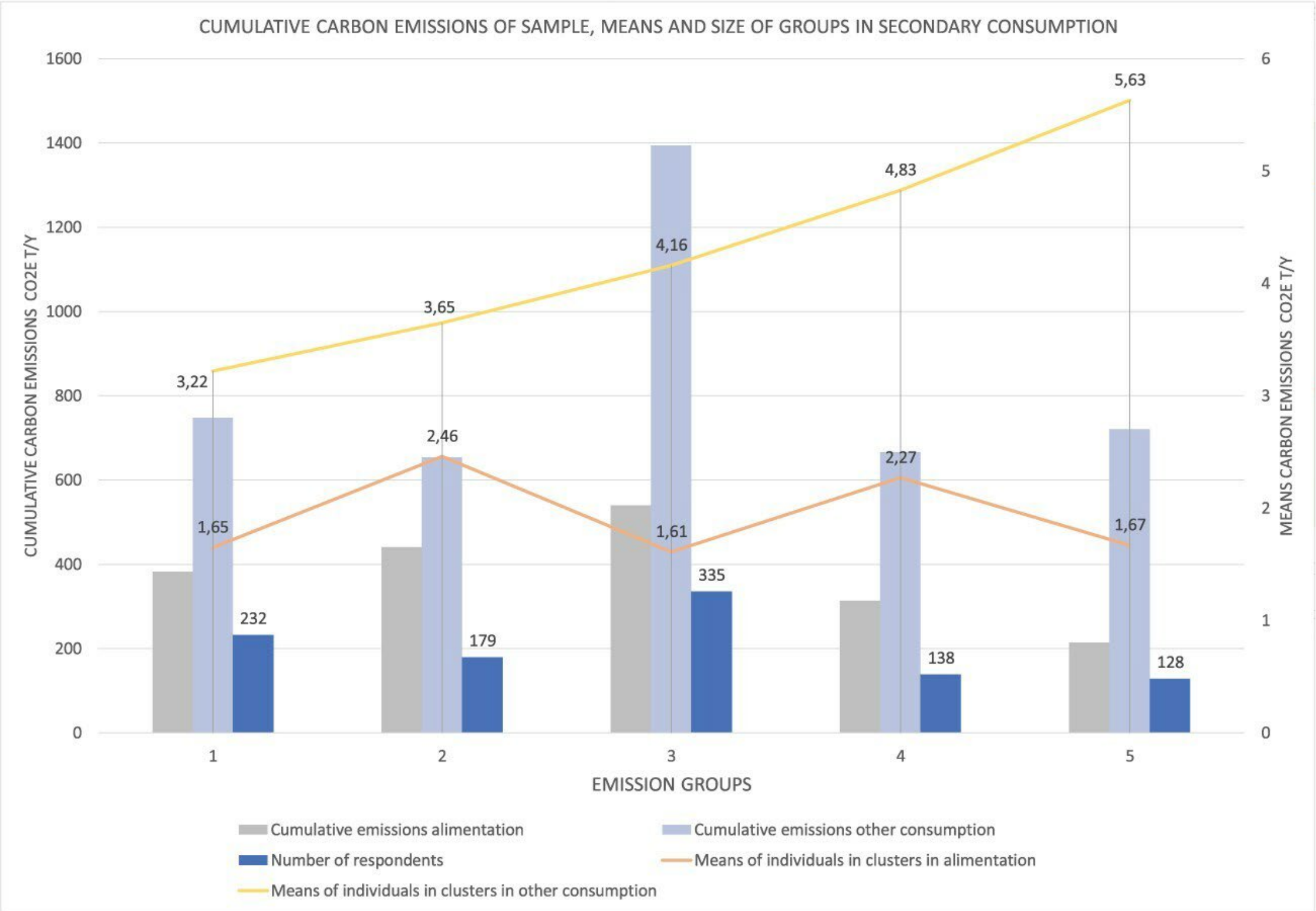
Source: Schuster and Otto, 2022, Capitalism, Nature, Socialism

Socio-metabolic inequalities in Germany, sector housing



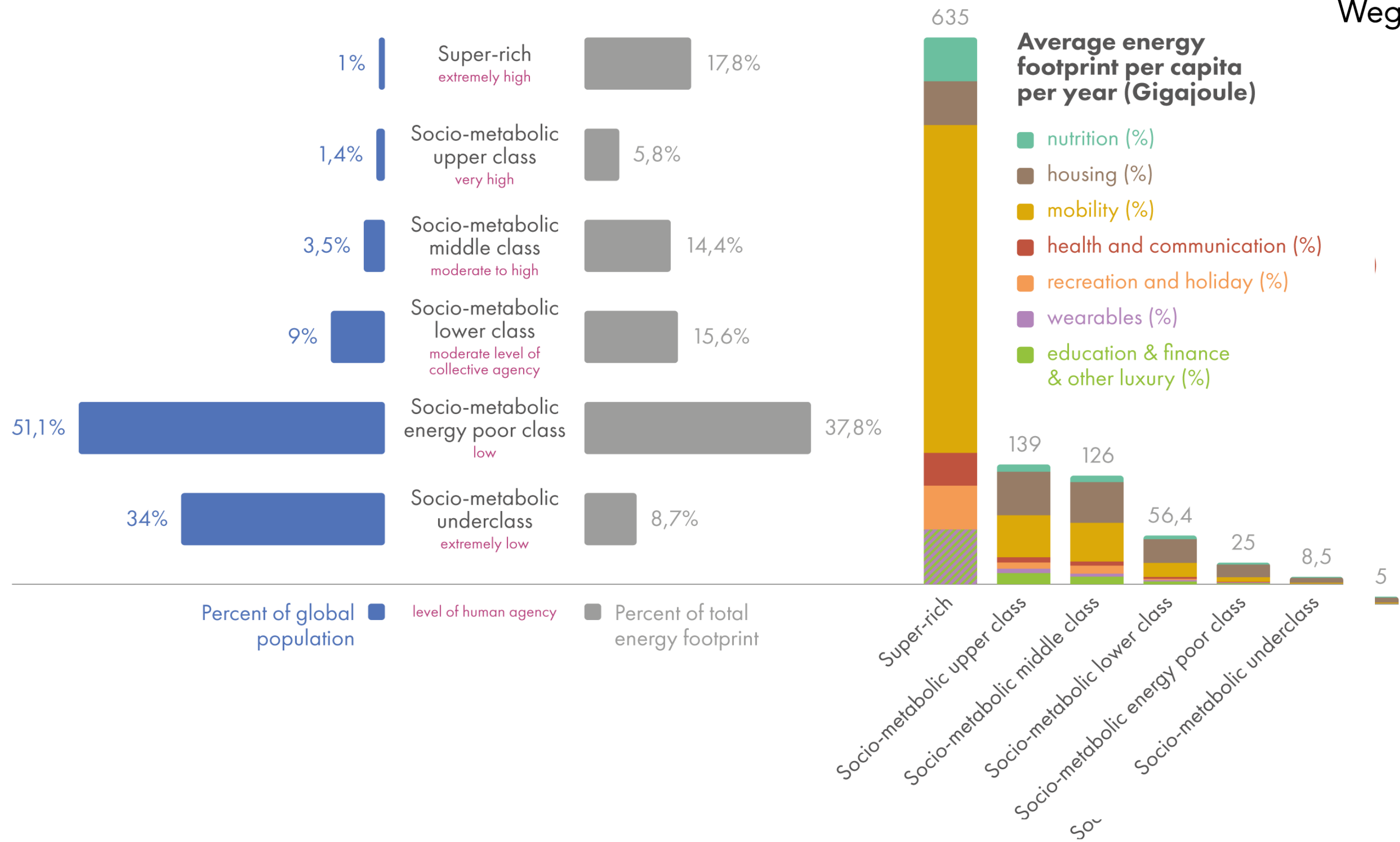
Source: Schuster and Otto, 2022, Capitalism, Nature, Socialism

Socio-metabolic inequalities in Germany, sector consumption



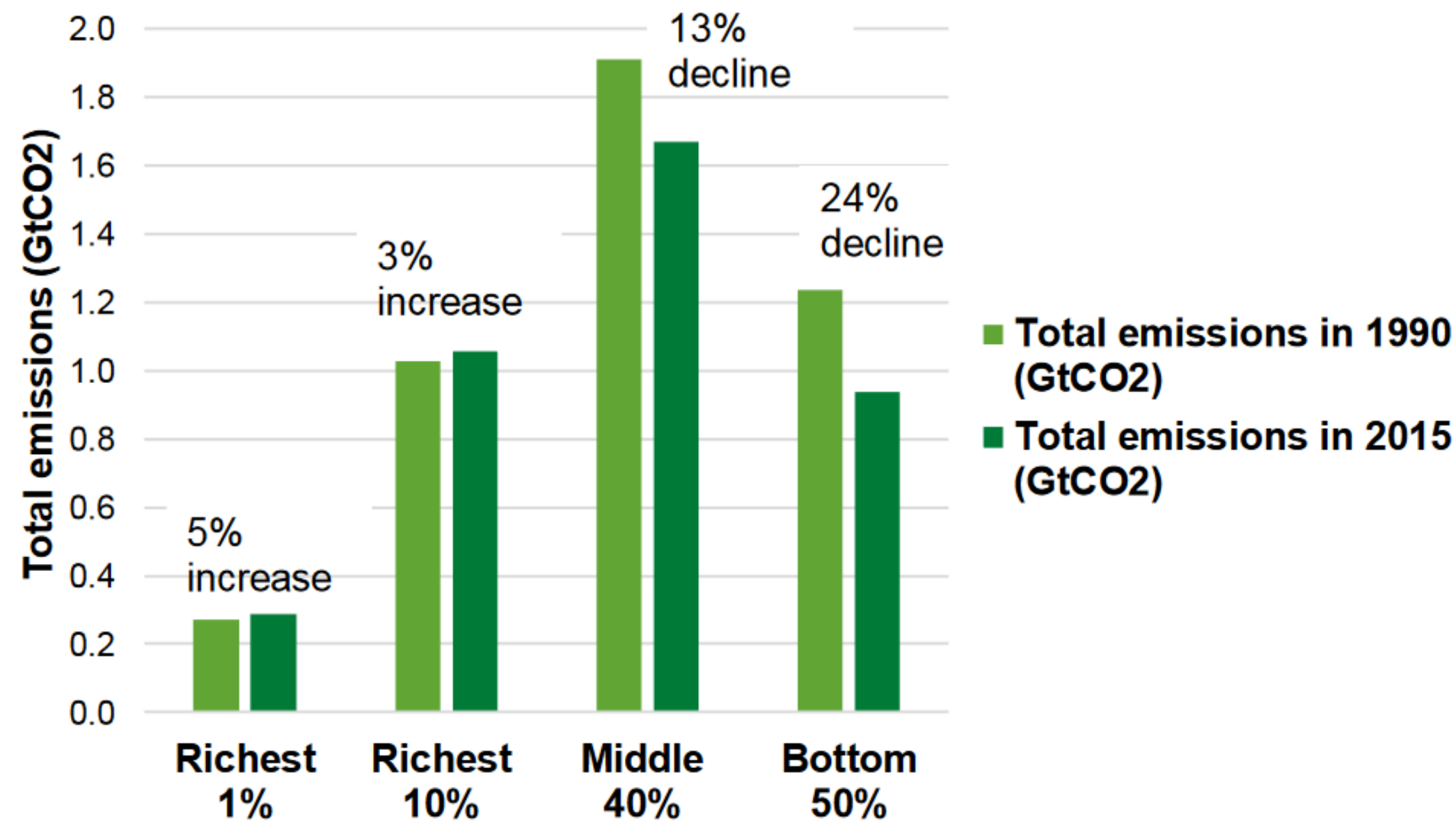
Source: Schuster and Otto, 2022, Capitalism, Nature, Socialism

Carbon inequalities, decomposition

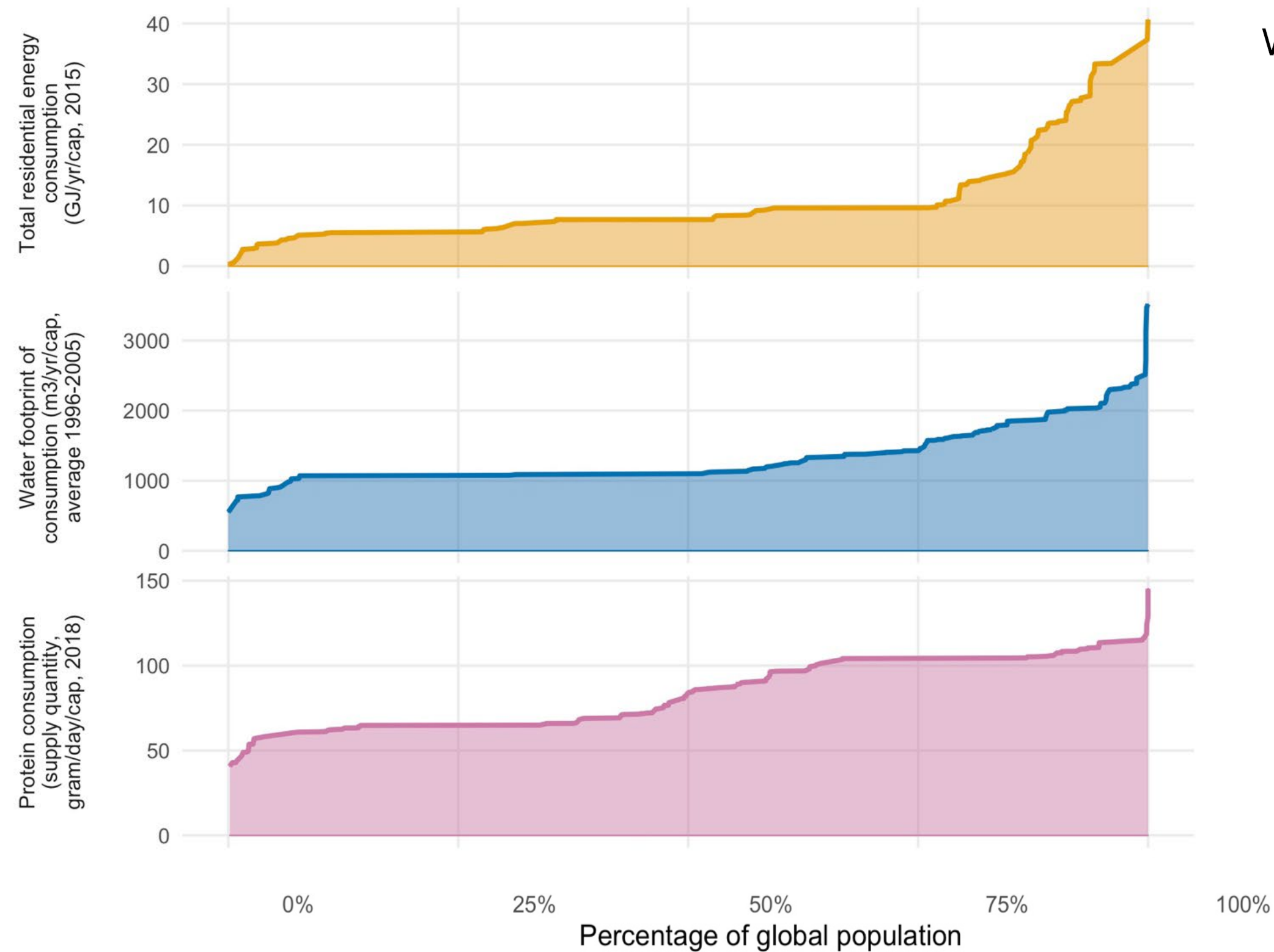


Source: Otto and Schuster, in review

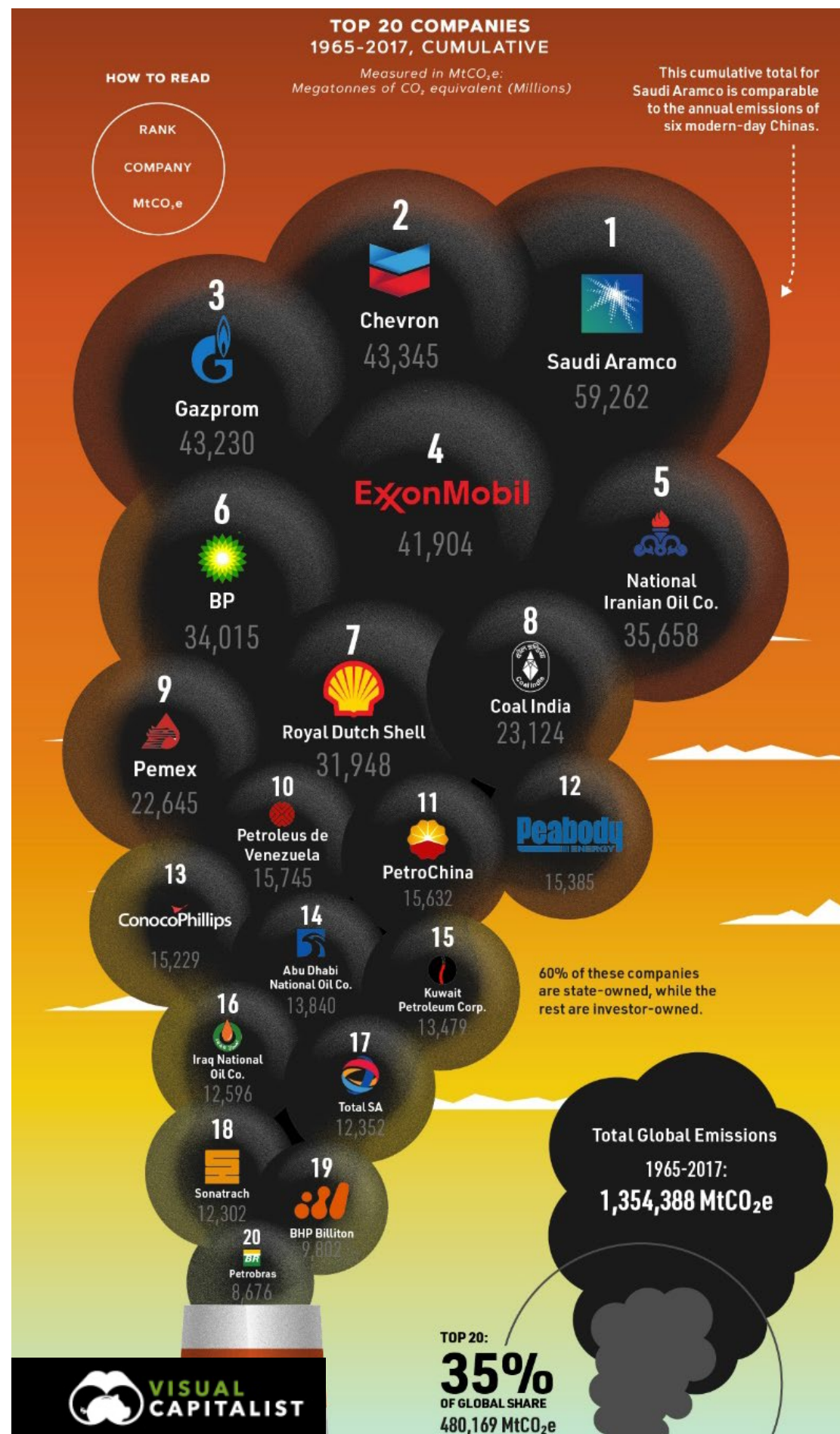
Greenhouse gas emissions (GtCO2) in different income groups in the EU, 1990 and 2015



Inequalities in the resource and material needs



Source: Remmelt, Otto, et al. 2022, Nature Sus.



**20 firms responsible
for a third
of all carbon emissions**

Discussion questions



- 1. Should there be upper limits on individual consumption of energy and resource intensive goods or specific product bans?**
- 2. How to encourage the most privileged to reduce their energy and resource consumption?**
- 3. Can low carbon lifestyles be attractive?**
- 4. How will our lifestyles look like in a carbon neutral world in 2040?**

Should there be a limit on the living space size per person?



An online survey run in cooperation with BAUHAUS ● EARTH Germany

„We must dare to invent the future“
Thomas Sankara (1949-1987)



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Thank you!

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