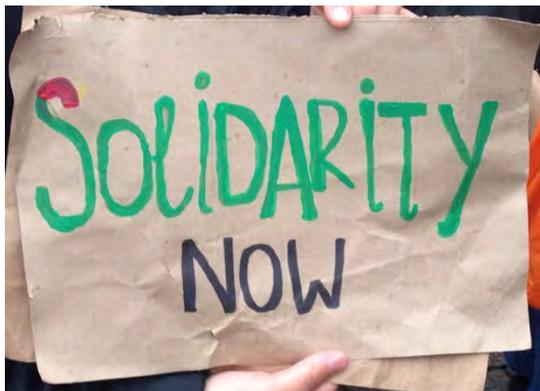
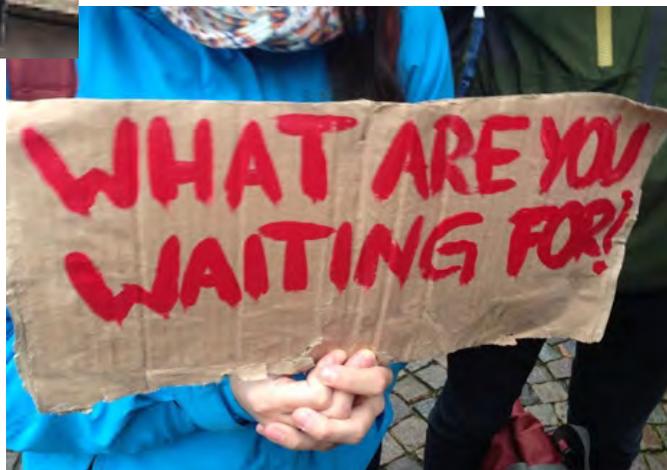
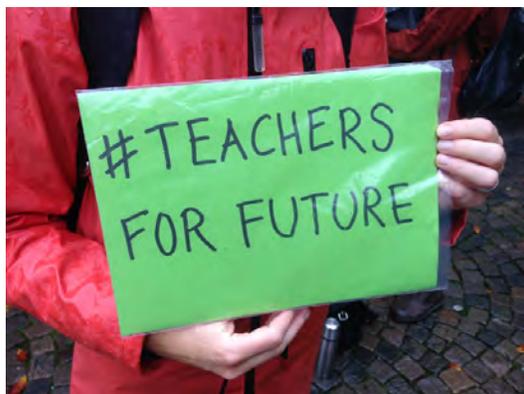
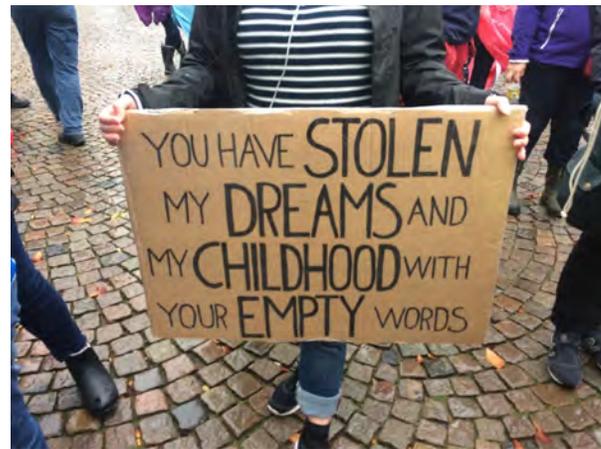
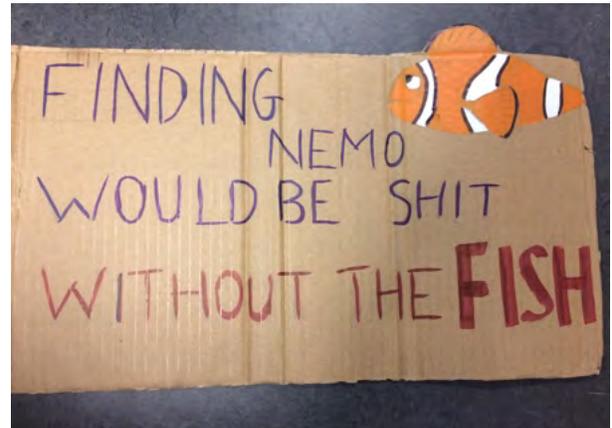


How to Act on the Climate Crisis?

A Scenario of Life for European Citizens in 2030

Mathilde Vandaele
mathilde.vandaele@gmail.com







<https://www.dw.com/en/germany-aachen-hosts-fridays-for-future-climate-rally/a-49291173>

Reuters/T. Schmuelgen



<https://www.deutschland.de/en/topic/environment/fridays-for-future-school-strikes-against-global-warming>



<https://participedia.net/case/6041>

The common "mis-understandings" around
climate change

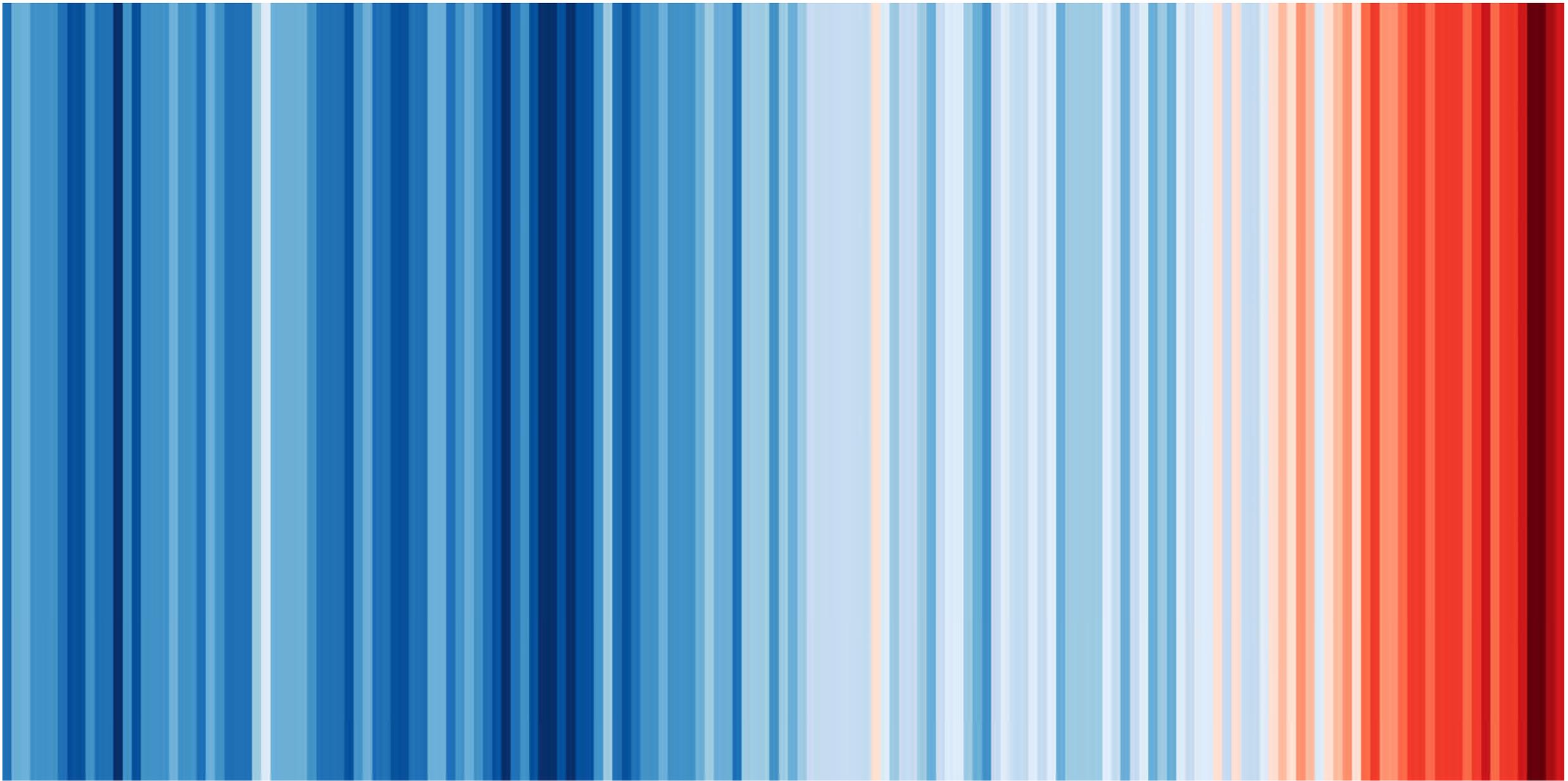
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- Climate change will happen in the future.

NO, it is happening now.



Warming Stripes for GLOBE from 1850-2018. <https://showyourstripes.info>
Data from Berkeley Earth, NOAA, UK Met Office, MeteoSwiss, DWD.

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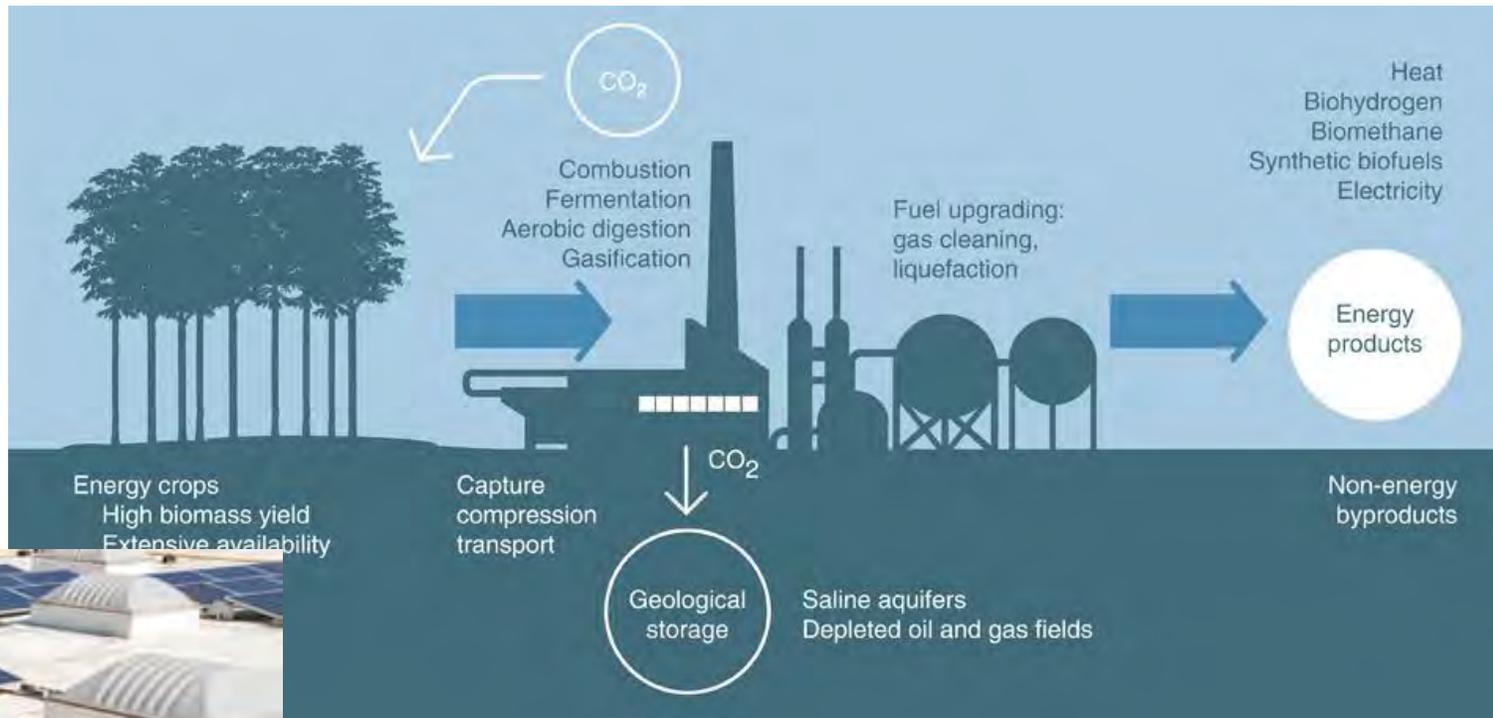
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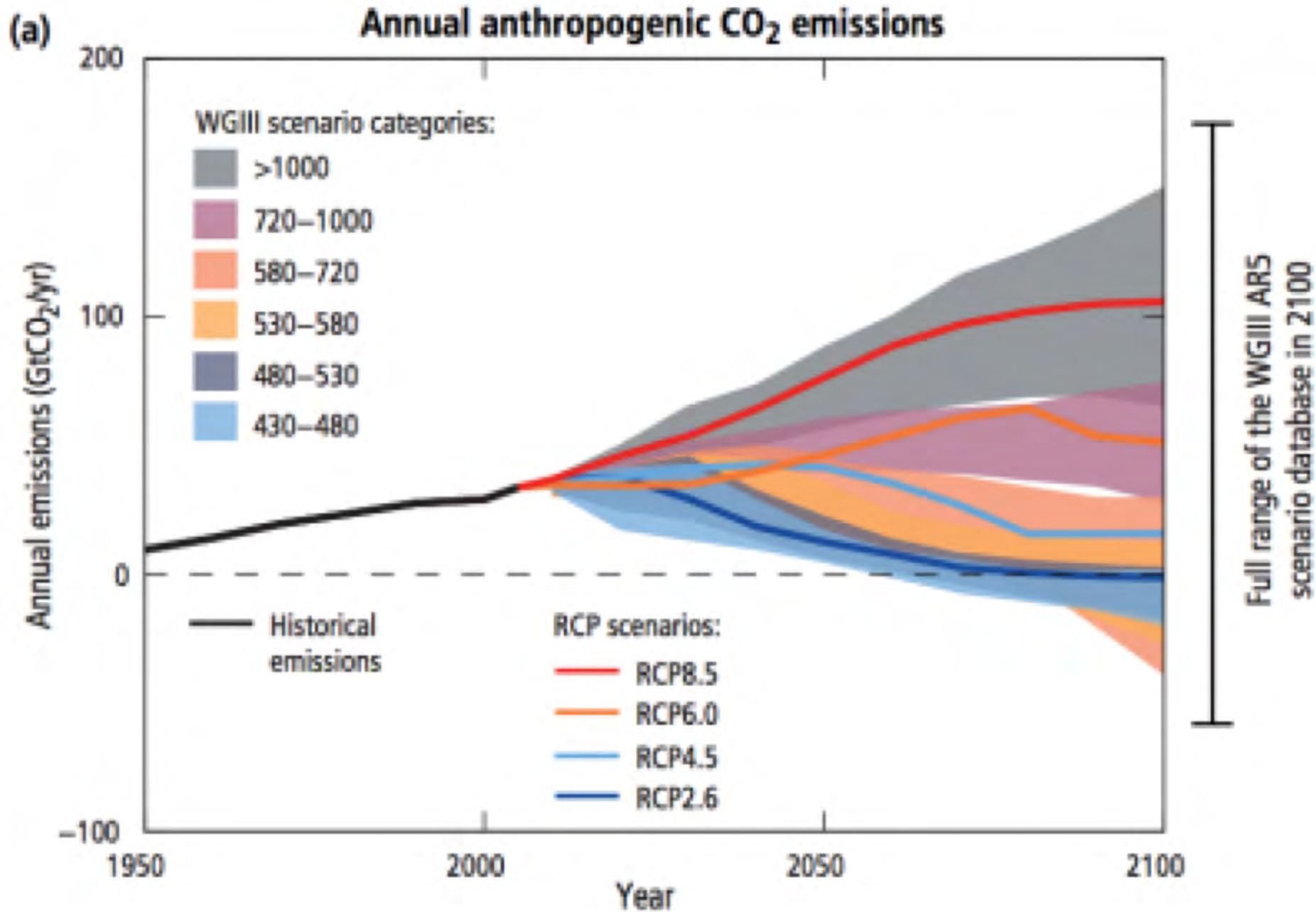
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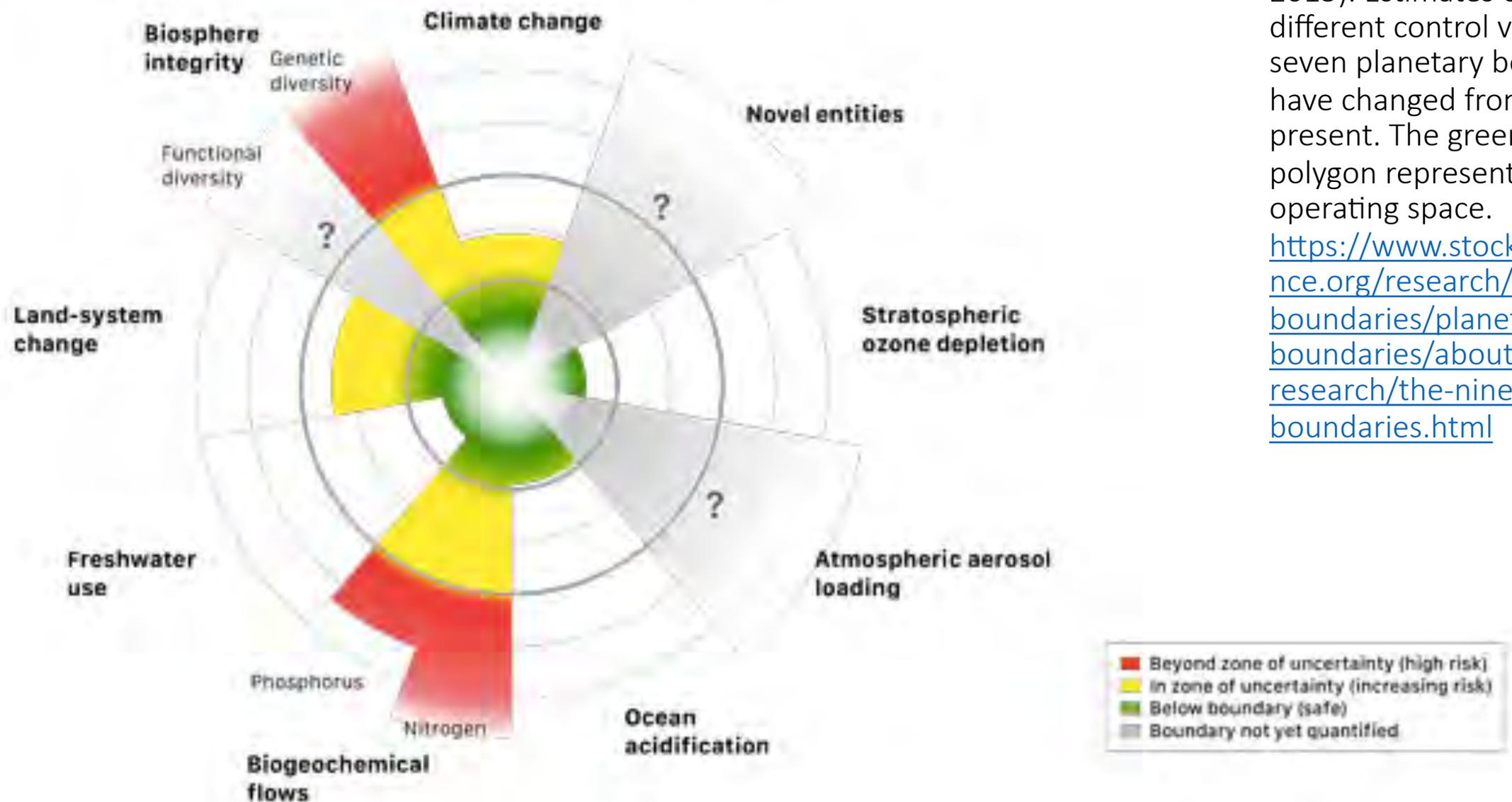


<https://www.vox.com/energy-and-environment/2018/6/14/17445622/direct-air-capture-air-to-fuels-carbon-dioxide-engineering>

<https://www.worldwildlife.org/stories/the-good-news-about-climate-change>



<https://www.weadapt.org/knowledge-base/climate-services/10-things-ipcc-scenarios>



The nine planetary boundaries. (Steffen et al, 2015). Estimates of how the different control variables for seven planetary boundaries have changed from 1950 to present. The green shaded polygon represents the safe operating space.

<https://www.stockholmresilience.org/research/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html>

$$I = P \times A \times T$$

- I = impact of human activity
- P = population size
- A = level of affluence (income/person)
- T = technology intensity factor (impact/wealth unit)

$$I = P \times A \times T$$

“Can we achieve a sufficient decrease in carbon intensity through efficiency gains in the future to continue to pursue the financialisation of our economy, an exacerbated form of capitalism and mass consumption, while remaining within the safe operating space of our finite planet?”

$$I = P \times A \times T$$

“Can we achieve a sufficient decrease in carbon intensity through efficiency gains in the future to continue to pursue the financialisation of our economy, an exacerbated form of capitalism and mass consumption, while remaining within the safe operating space of our finite planet?”

NO

(Jackson, 2016)

$$I = P \times A \times T \text{ by 2050}$$

- I = under 1.5 degree of global warming
- P = 9.7 billion human beings
- A = global economy 11 times larger

- T = ???

$$I = P \times A \times T \text{ by 2050}$$

- $I =$
- $P = 9.7$ billion human beings
- $A =$ global economy 11 times larger
- **$T \rightarrow$ reduction of global carbon intensity must happen 50 times faster than this last decade.**

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Nations Unies

Conférence sur les Changements Climatiques 2015

COP21/CMP11

Paris France



<https://www.worldwildlife.org/stories/the-good-news-about-climate-change>

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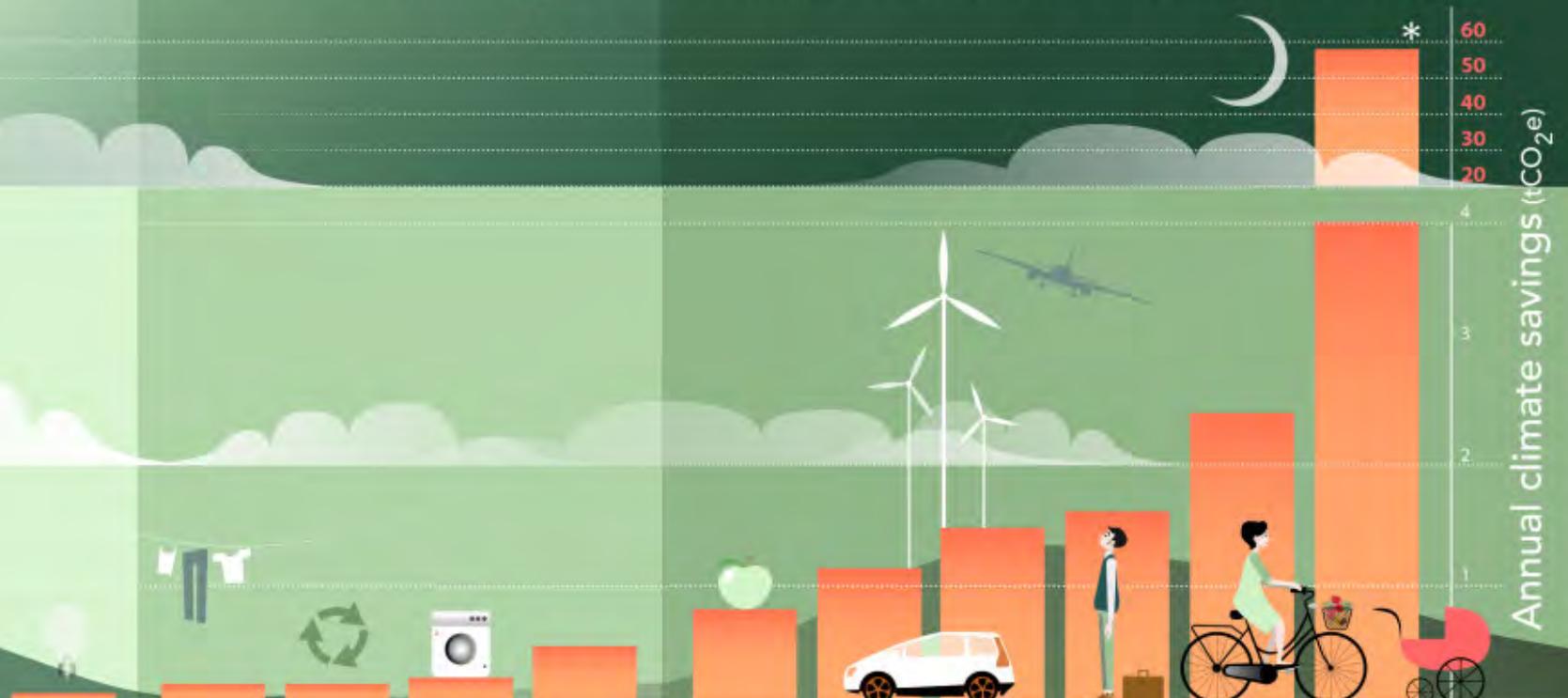
- Every little bit we do can make a big difference.

NO, some actions have incredibly differed impacts (recycling VS avoid flying)

Personal choices to reduce your contribution to climate change

* Cumulative emissions from descendants decreases substantially if national emissions decrease.

Average values for developed countries, based on current emissions.



Annual climate savings (tCO₂e)

Low Impact

< 0.2 tCO₂e

Moderate Impact

0.8-0.2 tCO₂e

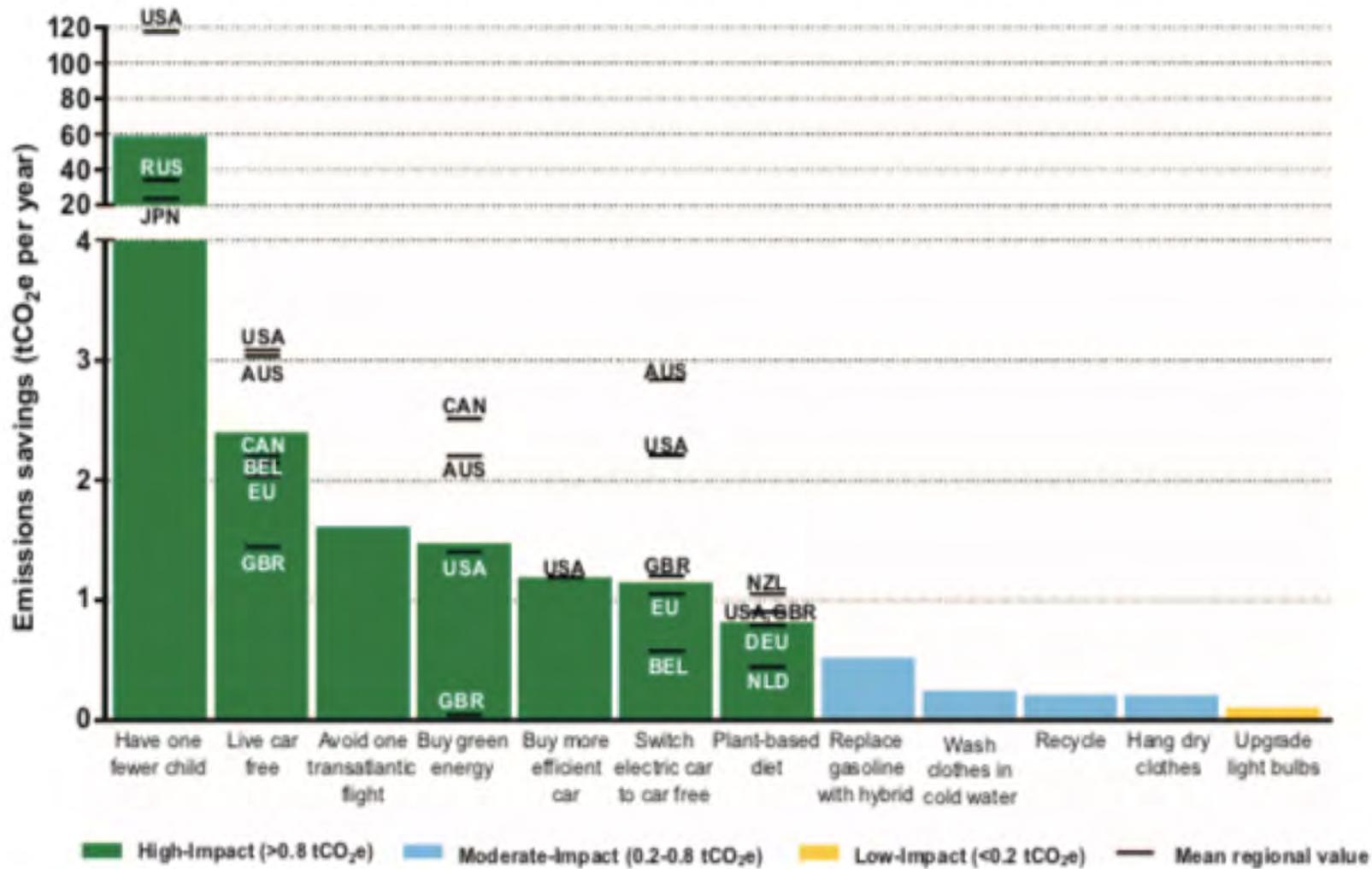
High Impact

> 0.8 tCO₂e

Seth Wynes & Kimberly Nicholas, 2017, Environmental Research Letters

Personal choices to reduce your contribution to climate change (Wynes & Nicholas, 2017). The most effective individual steps to tackle climate change aren't being discussed. A new study has identified the four actions that would have the greatest impact on an individual's greenhouse gas emissions: eating a plant-based diet, avoiding air travel, living car-free, and having fewer children.

<https://www.lunduniversity.lu.se/article/the-four-lifestyle-choices-that-most-reduce-your-carbon-footprint>



Wynes, S. & Nicholas, A. K. (2017). The climate mitigation gap: education and government recommendations miss the most effective individual actions. *Environmental Research Letters*, 12(7)

Figure 1. A comparison of the emissions reductions from various individual actions. The height of the bar represents the mean of all studies identified in developed nations, while black lines indicate mean values for selected countries or regions (identified by ISO codes) where data were available from specific studies. We have classified actions as high (green), moderate (blue), and low (yellow) impact in terms of greenhouse gas emissions reductions. Note the break in the y-axis. See supplementary materials 5 for details.

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- Individual actions don't matter

REMINDER: INDIVIDUAL ACTIONS MATTER



COMBINE INNER TRANSFORMATION AND SUSTAINABILITY DIMENSIONS

(Wamsler et al, 2017)

3 SPHERES OF TRANSFORMATION

(O'Brien, 2018)

COMMUNICATION

(Hackel & Sparkman, 2018)



"It is a common mistake to suppose that hope is the cause of action. Hope is the consequence of action: you act and then, as a result, you begin to hope."

ROBERTO MANGABEIRA UNGER

What does give you hope in these times of global environmental crisis ?

All the beautiful people that I met, talked to & love

uncertainty

people who still take actions despite their hopelessness

people with MISSION & people with PASSION

human beings

MOVEMENTS

YOU



**INDIVIDUAL
PRO-ENVIRONMENTAL
BEHAVIOUR**

**COLLECTIVE
PRO-ENVIRONMENTAL
BEHAVIOUR**





Profiter de la vie en 2030

Quel visage pourra avoir notre société lorsqu'elle aura (soyons optimistes) pris la mesure des changements à engager ? Comment pourrons-nous nous organiser pour vivre à la hauteur de nos moyens – soit en atteignant rapidement le zéro émissions ? Nous avons posé la question à Frédéric Chomé, « créateur de valeurs partagées » chez Factor-X, qui s'est lancé dans une exploration du futur proche. En voici un aperçu.

Pour vivre durablement en 2030, il va falloir réduire les inégalités et offrir à chacun un « pack de départ » qui soit suffisant pour vivre et ne pas simplement survivre, avant de poser les contraintes qui permettront de réduire drastiquement nos émissions de gaz à effet de serre. Ce « pack » assurera à tous la satisfaction de ses besoins de base : se nourrir, se loger, se chauffer, se vêtir, se déplacer, se former, travailler, obtenir un revenu, se soigner... Il vient en remplacement de la plupart des aides sociales actuelles et nous semble plus efficace qu'un revenu de base.

En 2030, nos logements seront plus petits : les 30 premiers m² par personne seront loués à bas prix ou détaxés en cas d'achat. Au-delà, on sera chèrement imposés ! Du coup, nous déménagerons plus volontiers pour adapter nos logements aux variations de notre ménage ou nous rapprocher de notre boulot. Notre employeur est d'ailleurs tenu de nous fournir un logement au tarif plafonné dans un rayon de moins de 25km.

Nous aurons droit gratuitement à une quantité de base d'eau (14m³), d'électricité (350 kWh) et, de façon transitoire, de bois (1m³) – ceux dont le logement a été isolé grâce au plan par arrondissement n'en auront plus besoin. Nous serons pas sés à la semaine de 20 heures,

auxquelles s'ajouteront 5 heures de travail pour le bien commun. Certains préféreront bosser comme des fous la moitié de l'année et plus du tout l'autre moitié, ils seront payés de manière constante toute l'année.

Côté salaire, justement, les choses auront beaucoup changé : le salaire minimum s'élèvera à 1 300 euros nets et le maximum n'excèdera pas plus de quatre fois ce montant de base, même les PDG gagneront 5 200 euros. Et pas question de cumuler deux emplois : l'idée, c'est de libérer du temps de vie agréable !

Pour cultiver par exemple : chaque habitant accèdera à 1 000 m² de terre arable (l'artificialisation des terres, c'est terminé) à moins de 10 km de chez lui pour produire sa nourriture. Les agriculteurs professionnels existeront toujours, mais ce sera un moyen de faire des économies, de prendre du plaisir à travailler la terre ou à s'occuper de ses moutons...

Nous passerons clairement moins de temps à faire les magasins et nos placards seront plus petits et moins pleins : les bibliothèques d'objets, d'outils, de livres, de disques ou de films nous suffiront, et comme les biens seront garantis trente ans et réparables, on achètera beaucoup moins. Il faut noter aussi qu'avec la surtaxation des produits nocifs pour le climat, ceux-ci deviendront hors de prix.

Les voitures qui rouleront encore n'ont plus de place qui leur est laissée diminue de 5 % par an et

le carburant augmente de 0,25€/litre chaque mois) seront partagées et nous les utiliserons peu : les transports publics seront très démocratiques (1 euro par jour par personne), bien développés, et les pistes cyclables agréables. L'assistance électrique deviendra le complément idéal de la force humaine pour les moyennes distances. On ne prendra plus que très rarement l'avion et lorsqu'on partira – deux fois durant sa vie au maximum – ce sera pour une durée minimale de six mois. Avec la disparition en 2020 des moteurs thermiques, la multiplication des forêts comestibles un peu partout et la généralisation de l'agriculture bio, la qualité de l'air sera sans commune mesure avec ce qu'on subissait encore en 2019. Et les problèmes de santé auront sérieusement et heureusement régressé. Les soins seront remboursés jusqu'à 65 ans : comme nous pourrons mieux profiter de la vie en travaillant moins, cet âge sera beaucoup moins attendu. Un dernier détail, important : ceux qui auront pu économiser investiront dans l'économie réelle et positive, et les transactions boursières seront taxées d'autant plus que le placement sera à court terme, carboné, ou complexe. —

En savoir +

L'intégralité de ce travail exploratoire est à découvrir sur notre site : www.imagine-magazine.com

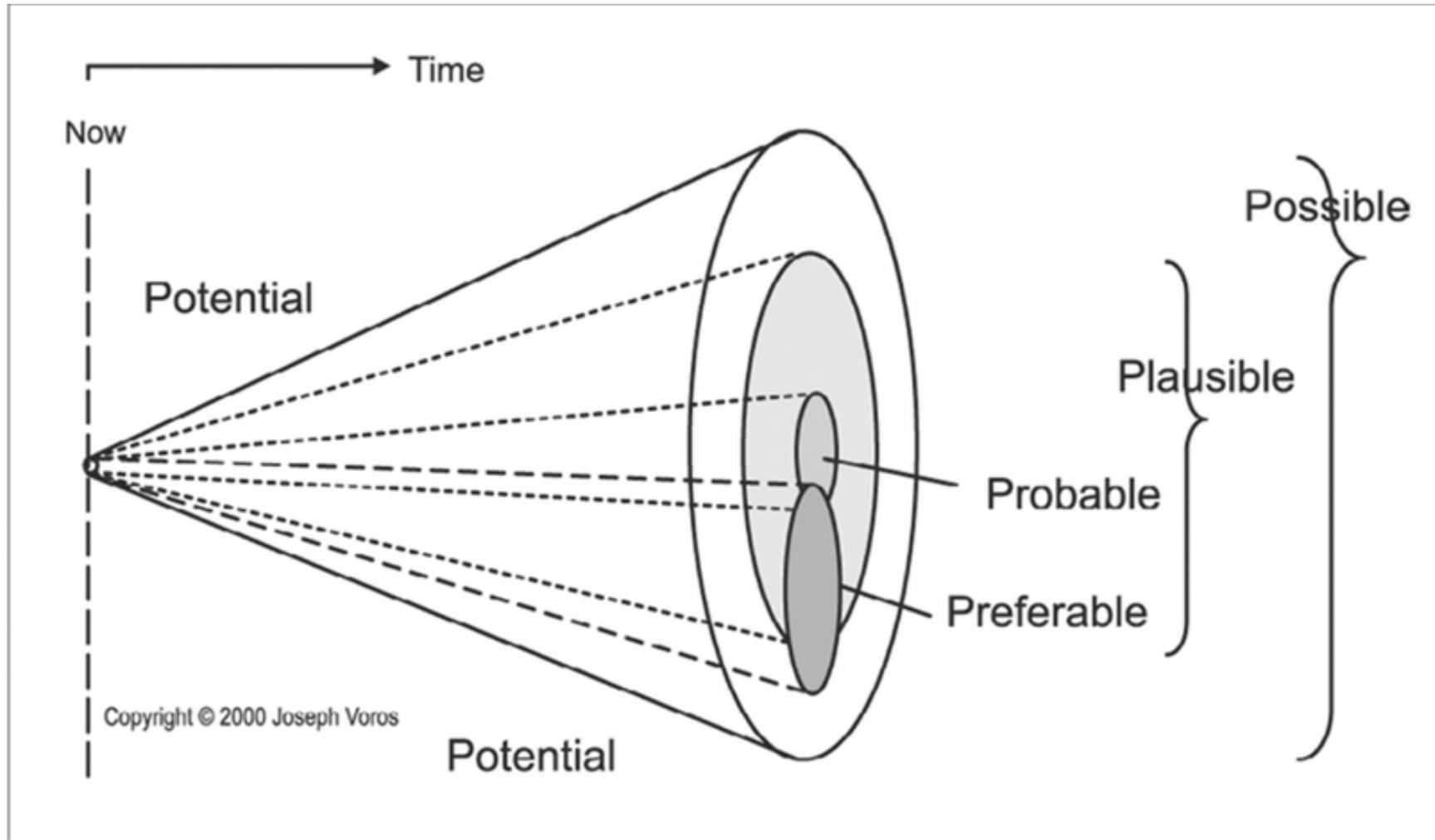


A Scenario of Life for European Citizens in 2030:

An Integrated Vision as a Psychological Tool to
Accompany the Implementation of Stringent
Environmental Policies in the European Union.

“If you want to build a ship, don't drum up the men to gather wood, divide the work, and give orders. Instead, teach them to yearn for the vast and endless sea.”

Antoine de Saint-Exupéry

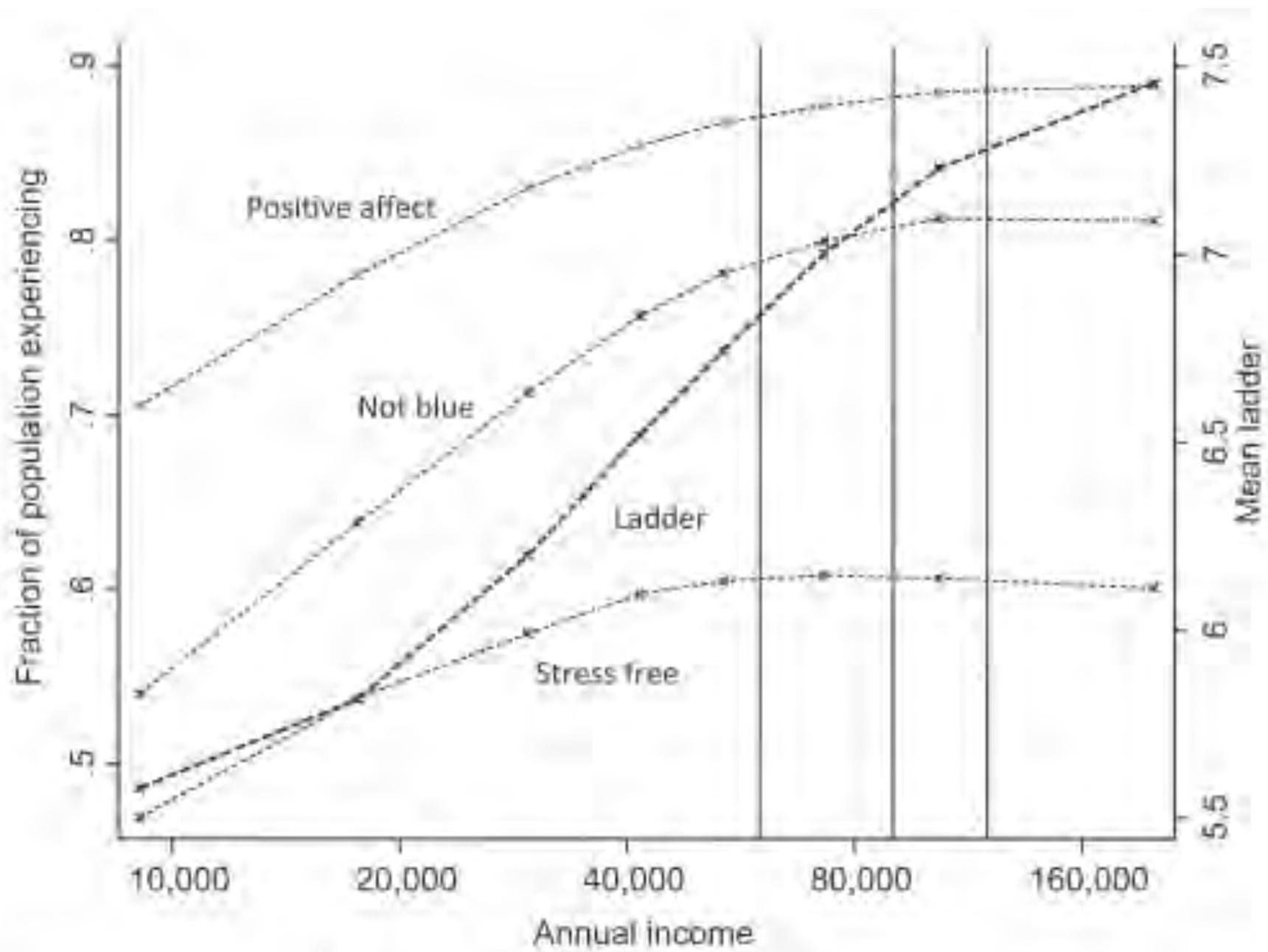


The “Futures Cone”: A generic foresight process framework. (Voros, 2003), based on (Hancock and Bezold, 1994). Potential: Everything beyond the present moment. Possible: Future knowledge “might happen”. Plausible: Current knowledge “could happen”. Probable: Current trends “likely to happen”. Preferable: Desired future “wanted to happen”.

http://www.churchfutures.com/documents/Is_the_Future_Predetermined.pdf

Wider societal mutation: 3 pillars

- **Time** as critical variable of our lives



Positive affect, blue affect, stress and life evaluation in relation to household income. (Kahneman, & Deaton, 2010). Positive affect is the average of the fractions of the population reporting happiness, smiling, and enjoyment. “Not blue” is 1 minus the average of the fractions of the population reporting worry and sadness. “Stress-free” is the fraction of the population who did not report stress for the previous day. These three hedonic measures are marked on the left-hand scale. The ladder is the average reported number on a scale of 0-10, marked on the right-hand scale.

<https://www.pnas.org/content/107/38/16489/tab-figures-data>

Wider societal mutation: 3 pillars

- **Time** as critical variable of our lives
- **Equality** and redefinition of freedom

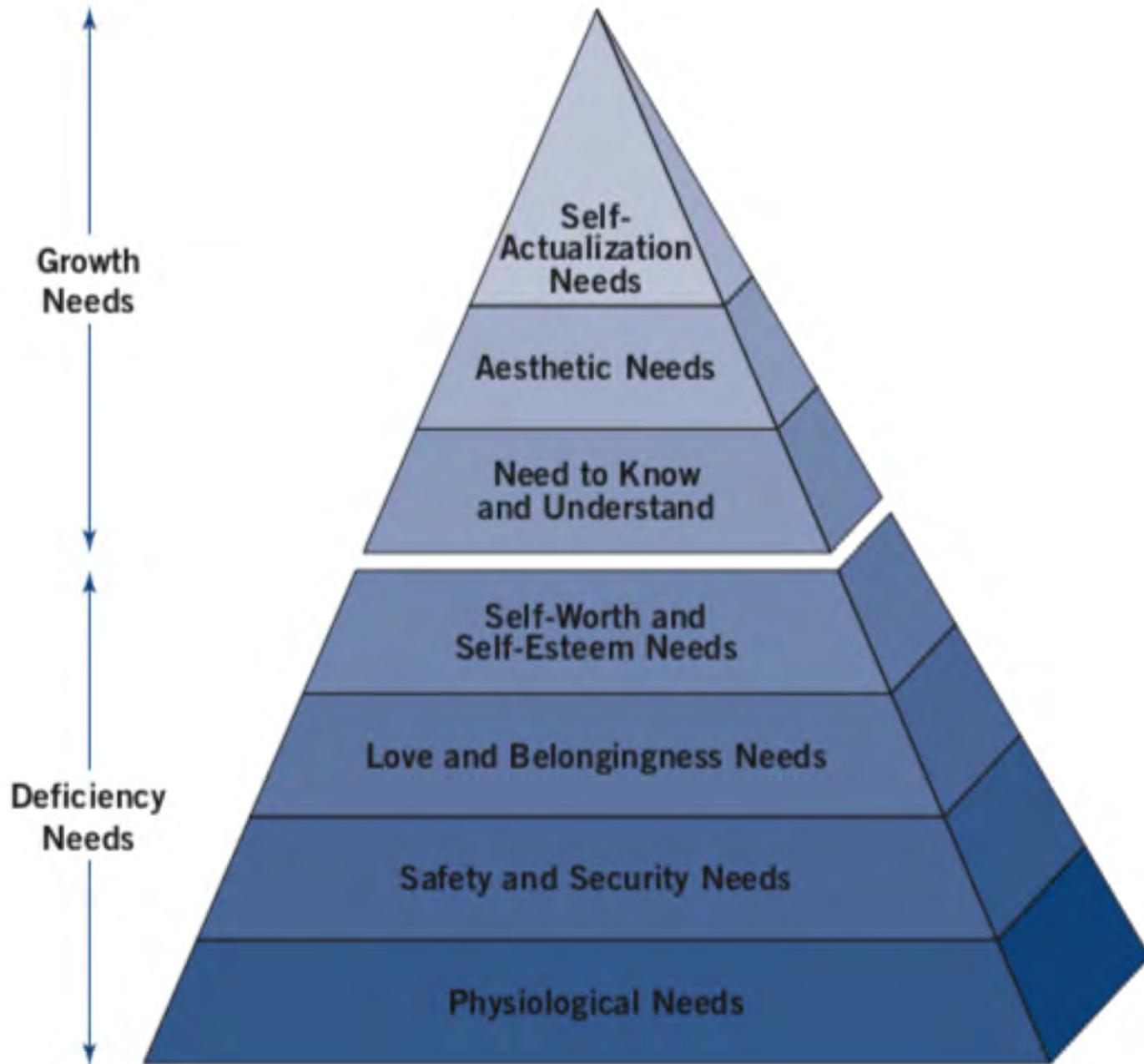


<https://www.egypttoday.com/Article/2/61066/What-next-for-France-s-yellow-vest-protest-movement>

Wider societal mutation: 3 pillars

- **Time** as critical variable of our lives
- **Equality** and redefinition of freedom
- **Basic security pack** -> housing, water, electricity and heat access, but also mobility, education, a decent mean of subsistence, healthcare

BUT also: safety, belonging and love, self-consideration and finally self-actualisation



Maslow's hierarchy of needs (Maslow, 1943).

https://www.cengage.com/resource_uploads/downloads/0495570540_162121.pdf

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- Renovate our democracy

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- Renovate our democracy
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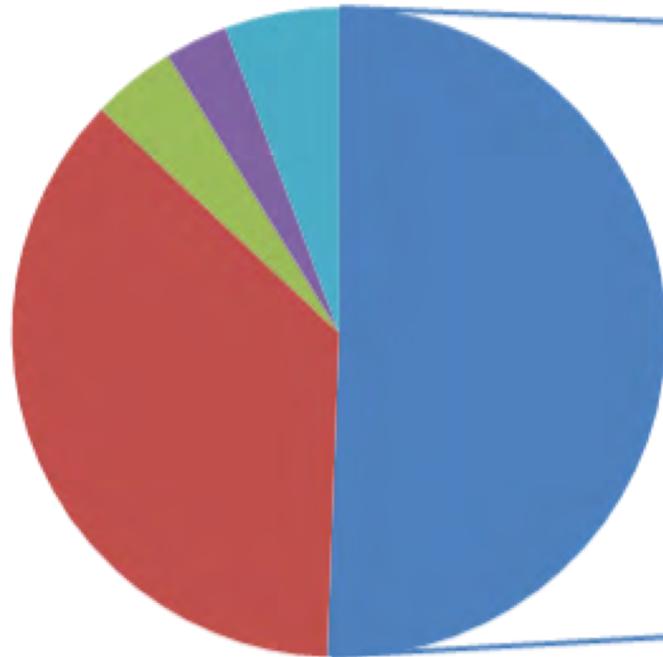
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- Control the market globalisation

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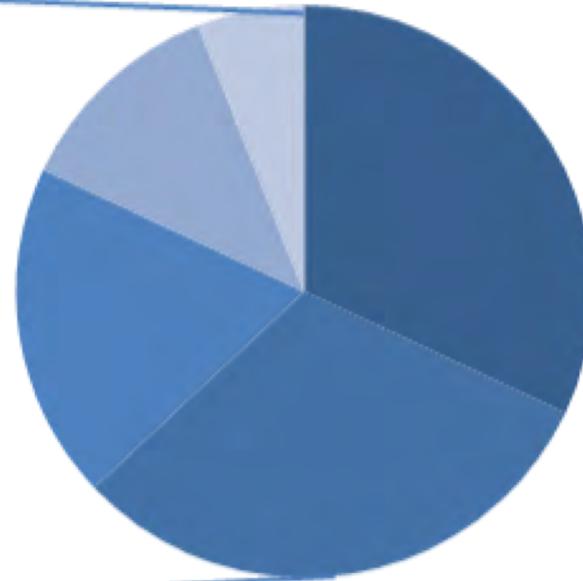
- Renovate our democracy
- Implement a fair carbon taxation system
- Control the market globalisation
- Change and re-localise our agriculture, and readjust our diet

Greenhouse gases from the food system



- Direct emissions
- Indirect emissions
- Refrigeration
- Storage, packaging and transport
- Other post-production activities

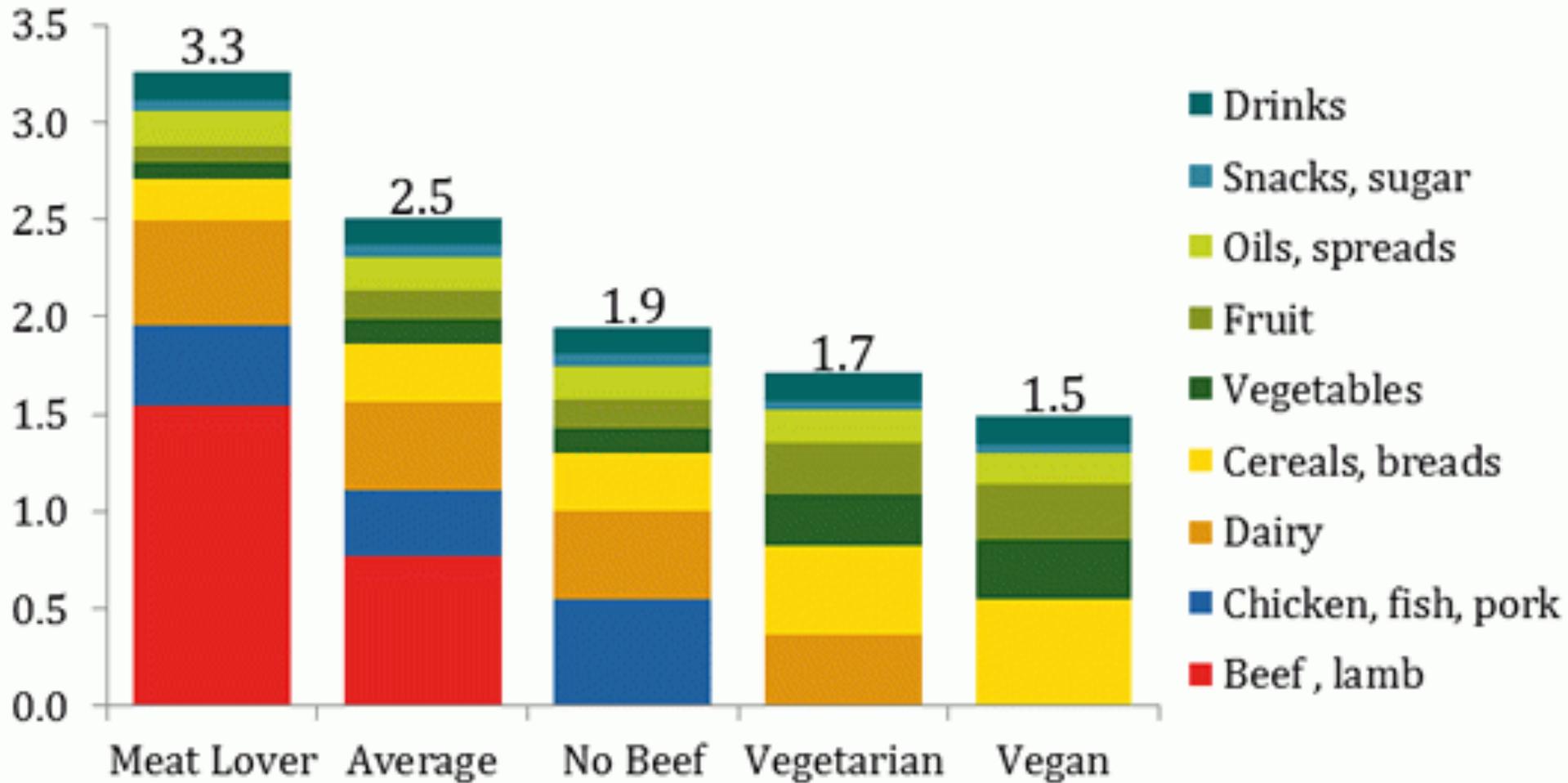
Direct greenhouse gases from agriculture



- Agricultural soils
- Enteric fermentation
- Other emissions
- Rice cultivation
- Manure management

Greenhouse gases emissions from the food system and direct greenhouse gas emissions from agriculture (CCAFS, 2013)
<https://www.semanticscholar.org/paper/Analysing-the-Carbon-Footprint-of-Food-Insights-for-Röös/3b72c3ffd07159079563fb6af094d06ed66382b3/figure/0>

Foodprints by Diet Type: t CO₂e/person

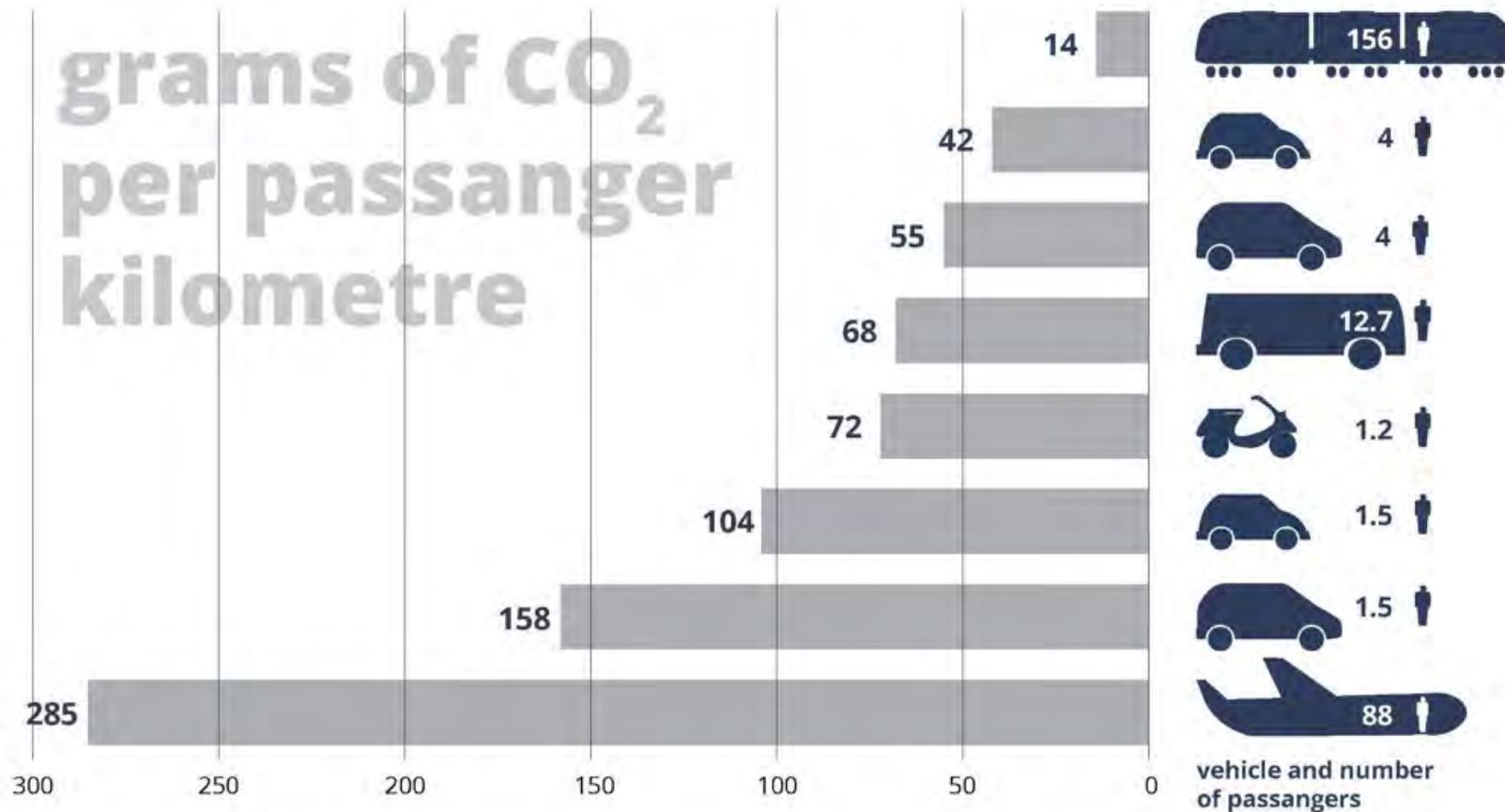


Estimation of food production emissions (including for supply chain losses, consumer waste, and consumption) based on 2,600 kcal of food consumed per day in the US. (Shrink that footprint, 2015), data from ERS/USDA, various LCA, and EIO-LCA . <https://www.slideshare.net/petermumford2/carbon-footprints-presentationv4>

What are the political steps to be implemented with urgency?

- Renovate our democracy
- Implement a fair carbon taxation system
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- Change and re-localise our agriculture, and readjust our diet
- Change our transportation system (land, air, sea)

CO₂ emissions from passenger transport



Note: The figures have been estimated with an average number of passengers per vehicle. The addition of more passengers results in fuel consumption – and hence also CO₂ emissions – penalty as the vehicle becomes heavier, but the final figure in grams of CO₂ per passenger is obviously lower. Inland ship emission factor is estimated to be 245 gCO₂/pkm but data availability is still not comparable to that of other modes. Estimations based on TRACCS database, 2013 and TERM027 indicator.

Source: EEA report TERM 2014
eea.europa.eu/transport

CO₂ emissions from passenger transport. (European Environmental Agency, 2014). Grams of CO₂ per passenger per kilometre for different means of transportation.
<https://twitter.com/euenvironment/status/542314833203695616>

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- Renovate our democracy
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- Change and re-localise our agriculture, and readjust our diet
- Change out transportation system (land, air, sea)
- Stop land artificialisation

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- Stop land artificialisation
- Renovate and adapt our buildings

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- Renovate and adapt our buildings
- Exercise State control on industries

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- Change and re-localise our agriculture, and readjust our diet
- Change out transportation system (land, air, sea)
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- Renovate and adapt our buildings
- Exercise State control on industries
- Financial and investment system

The fossil fuel bailout: G20 subsidies for oil, gas and coal exploration



**PRIVATE
COMPANY
INVESTMENT**

By top 20 global oil
and gas producers

\$37
BILLION A YEAR

\$88
BILLION A YEAR



**G20
GOVERNMENT
SUPPORT**

FOSSIL FUEL EXPLORATION

odi.org/g20-fossil-fuel-subsidies

Source: ODI and Oil Change International, Rystad Energy (2014). Figures in US\$ for 2013.

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- Change and re-localise our agriculture, and readjust our diet
- Change out transportation system (land, air, sea)
- Stop land artificialisation
- Renovate and adapt our buildings
- Exercise State control on industries
- Financial and investment system
- Coordinate different levels of power and governance

“As for the future, your task is not to foresee it, but to enable it.”

Antoine de Saint Exupéry

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