How much meat can we eat – sustainably?

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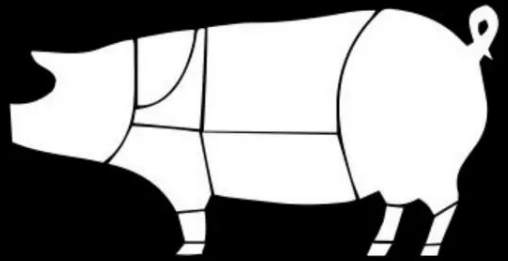
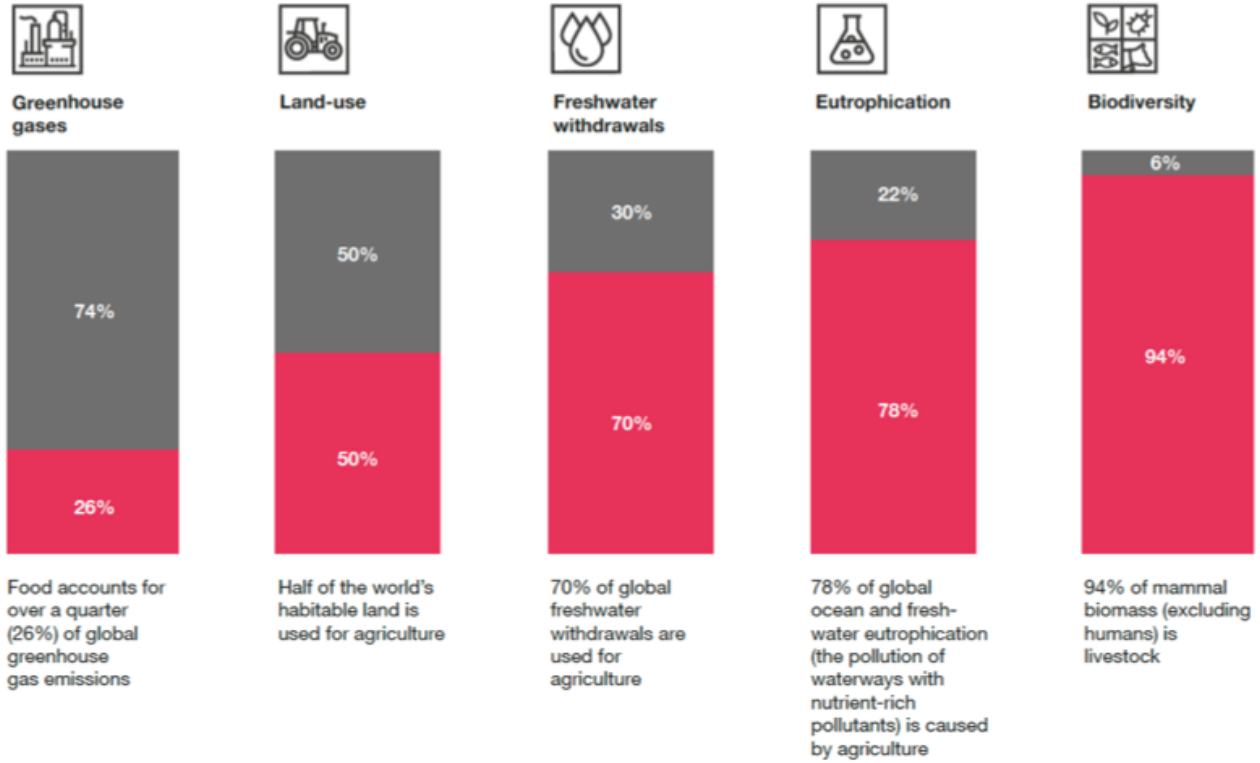


Meat

*noun \ ’mēt *

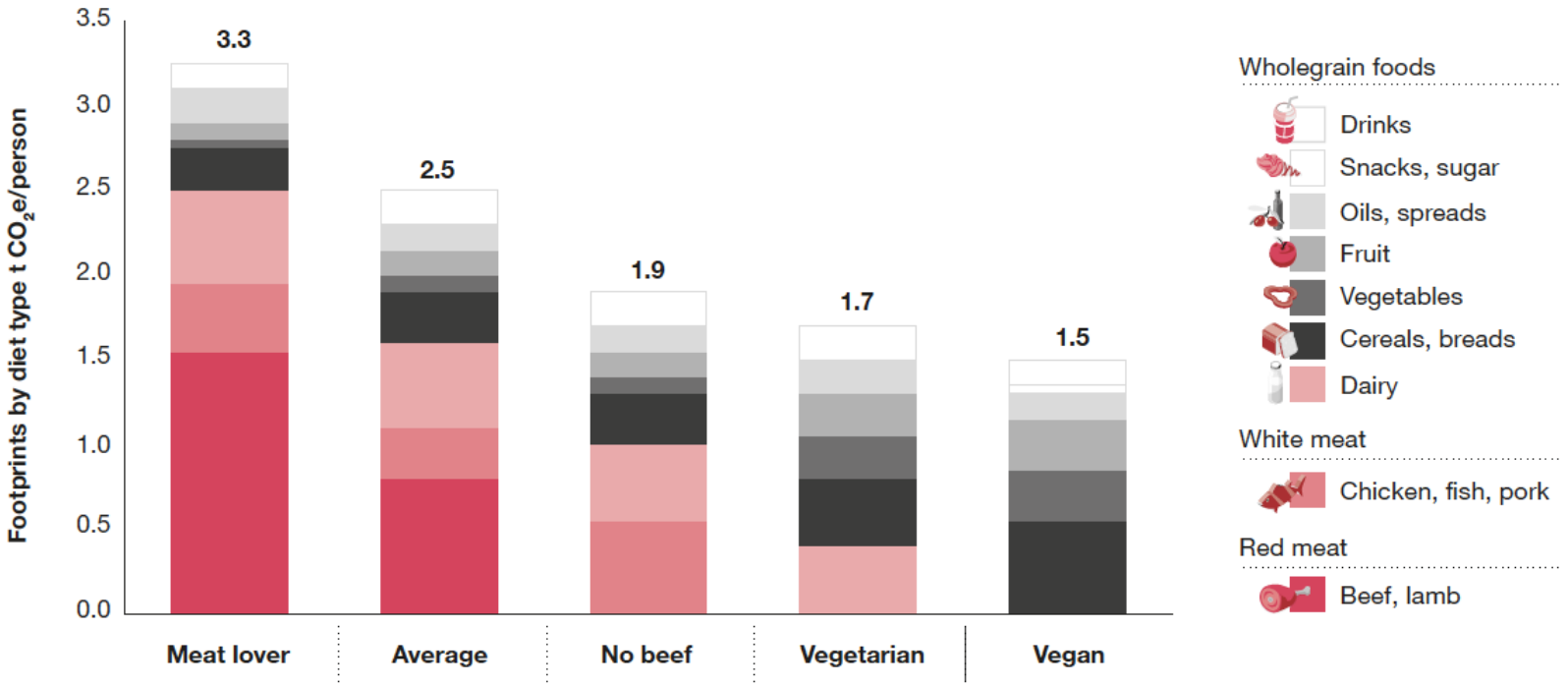
Flesh and other edible parts of animals, particularly mammals, used for food.

The environmental impact of food across the globe



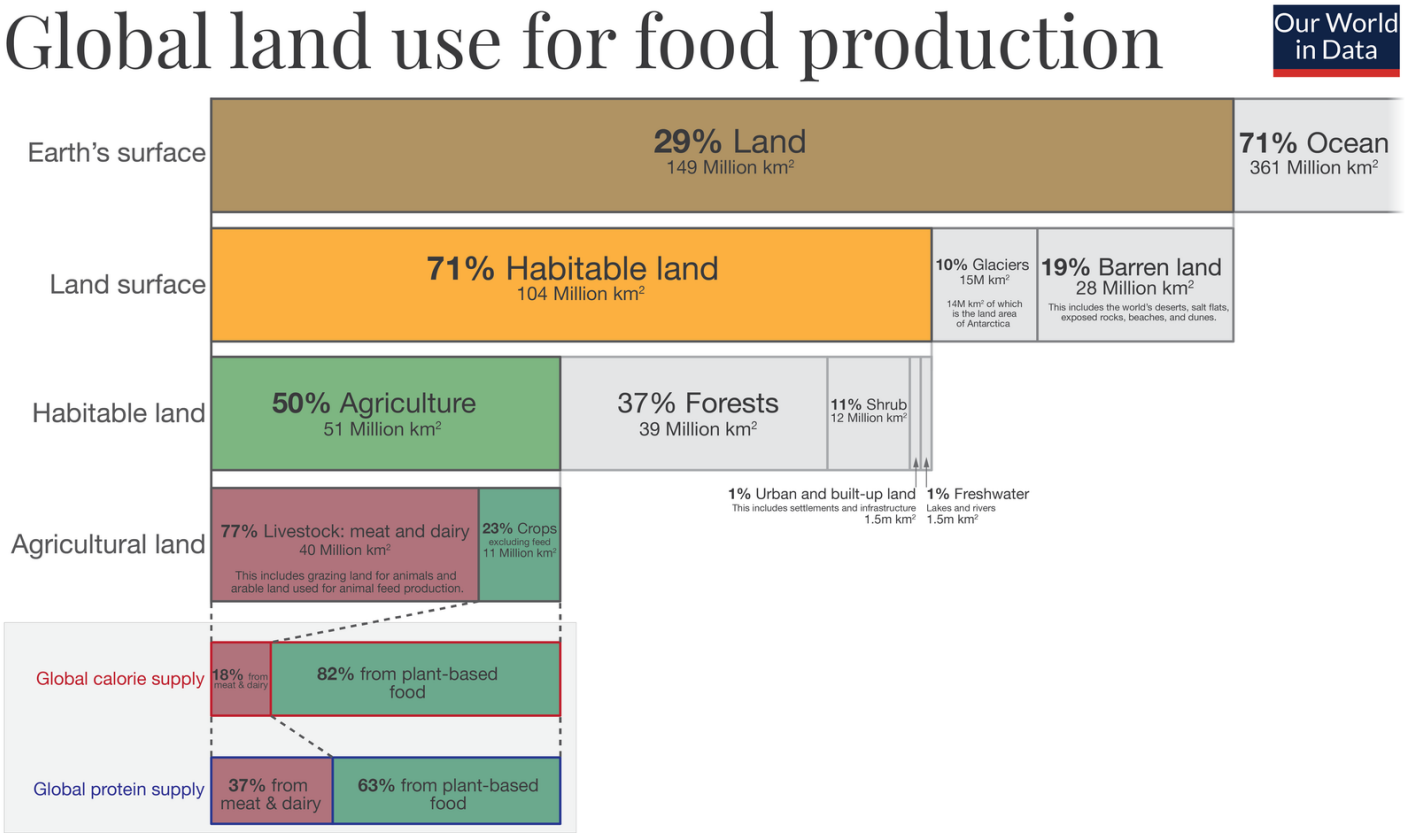
Sources: Poore and Nemecek (2018); UN FAO; UN AQUASTAT; Bar-On et al. (20218); Our World In Data

Carbon footprint of typical diets



Note: All estimates based on average food production emissions for the U.S. Footprints include emissions from supply chain losses, consumer waste and consumption.
Each of the four example diets is based on 2,600 kcal of food consumed per day, which in the U.S. equates to around 3,900 kcal of supplied food.
Sources: https://shrinkthatfootprint.com/food-carbon-footprint-diet/; ERS/USDA, various LCA and EIO-LCA data, Weber and Matthews 2008, Poor & Nemecek 2018

Global land use for food production



Data source: UN Food and Agriculture Organization (FAO)

OurWorldinData.org – Research and data to make progress against the world's largest problems.

Vegan farming - the future?

A closer look…

The Food and Agriculture Organization of the United Nations (FAO) stated in 2022 that indeed livestock provide only 34 percent of the world's total protein intake, it also pointed out that 86 percent of the world's livestock feed intake consists of resources that are inedible to humans…

A closer look…

- Windisch (2021) explains that if inedible biomass is taken into account, the environmental impact of livestock production is completely different.
- The avoidance of food competition clearly puts ruminants (e.g. dairy cows) in the foreground, because they can transform the already available, non-edible biomass into high-quality food in a largely emission and climate-neutral way if fed correctly.

A closer look…

- Seemingly particularly environmentally friendly livestock such as fattening poultry, on the other hand, are dependent on high-quality feed.
- These would have to be grown on arable land and would largely also be edible by humans.

A closer look…

- Limiting livestock feed to non-edible biomass and refraining from excessive cultivation of feed on arable land should automatically be accompanied by a reduction in the number of animals.
- In contrast to a blanket cap on livestock numbers, limiting livestock to non-edible biomass would promote agricultural innovation in the efficiency of transforming available feed into high-quality food.

A closer look…

Solutions

- The DBV (2021) states that grassland makes an important contribution to the domestic protein supply of ruminants and horses and thus reduces the need for protein feed imports.
- For example, one hectare of high-yielding grassland in a favorable location in Germany could potentially replace two hectares of soybean.

Solutions

- Under local conditions, one hectare of high-yielding grassland is the protein equivalent of 2.6 hectares of rapeseed or 2.1 hectares of wheat.
- In addition, according to the soil status survey, the preservation of permanent grassland is an important contribution to climate protection.

Solutions

A 2021 study by consulting firm McKinsey indicates that methane emissions from livestock can be reduced by about 30% by 2050 compared to 2017 levels. Three options exist:

- The use of additives in the feed of cattle
- Breeding
- Adjustment of feeding

Synopsis

- Creating a sustainable agriculture and food sector requires a holistic and coordinated approach that takes into account environmental, social and economic aspects.
  - It is crucial to combine these factors to ensure long-term sustainability.
- For the players in the agricultural and food industry, this means that their activities with regard to sustainable action and social responsibility would be put to the test more than ever.

Synopsis

- The methods for measuring and accounting for sustainability criteria need to be refined and further developed.
- Sustainable consumption must be enabled and promoted.
- Technological innovations and precision agriculture must be promoted and harnessed.

Synopsis

- Animal foods are a valuable source of nutrition.
- By selectively supplementing a plant-based diet with animal proteins, a sustainable nutritional turnaround can succeed.

THANK YOU!

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