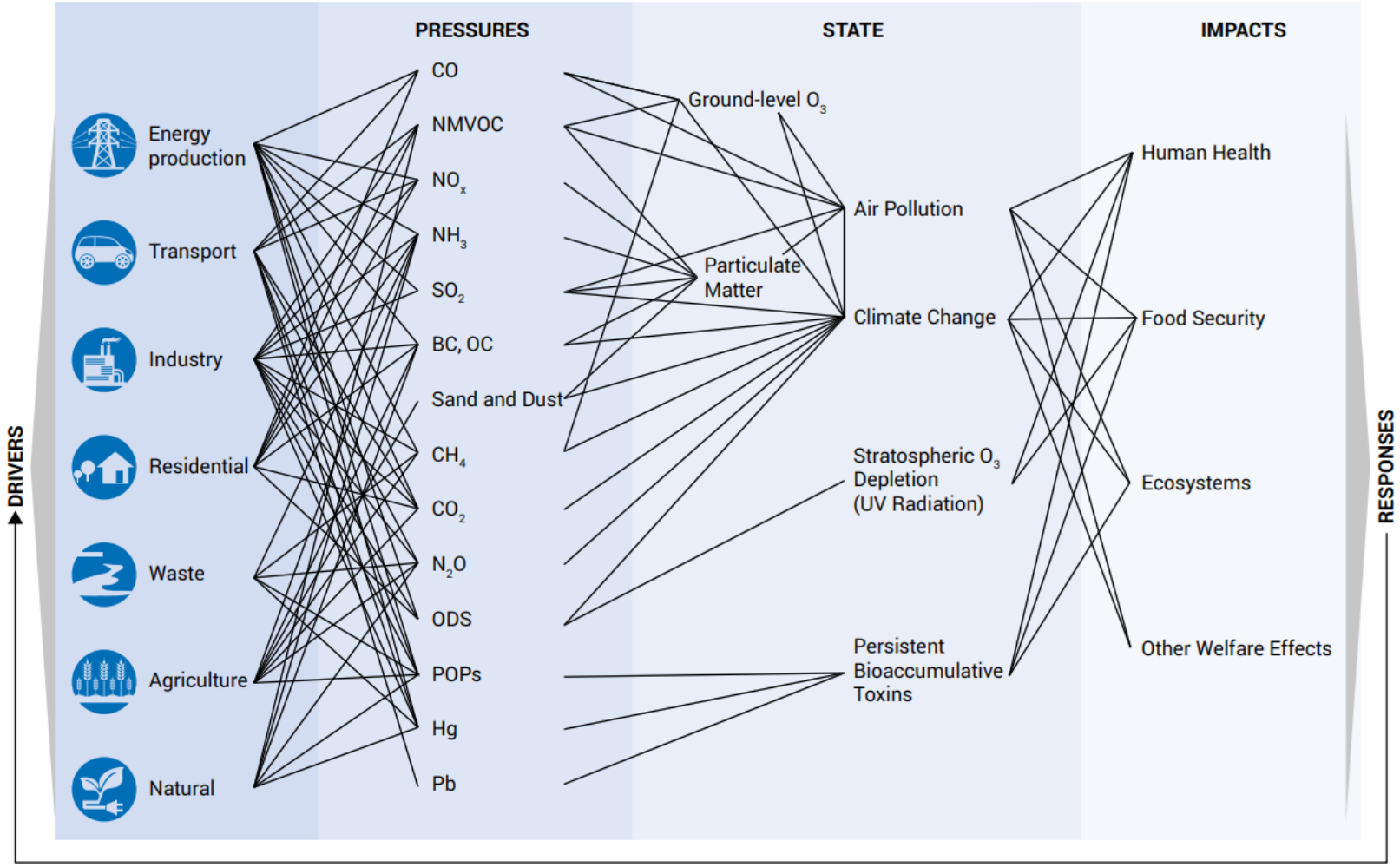
01 Introduction

State of the global environment

„... over the last few decades, human activities … have transformed the Earth´s natural systems, exceeding their capacity and disrupting their self-regulatory mechanisms, with irreversible consequences for global humanity…“ – UN Environment Programme, GEO6.

State of the global environment - Air



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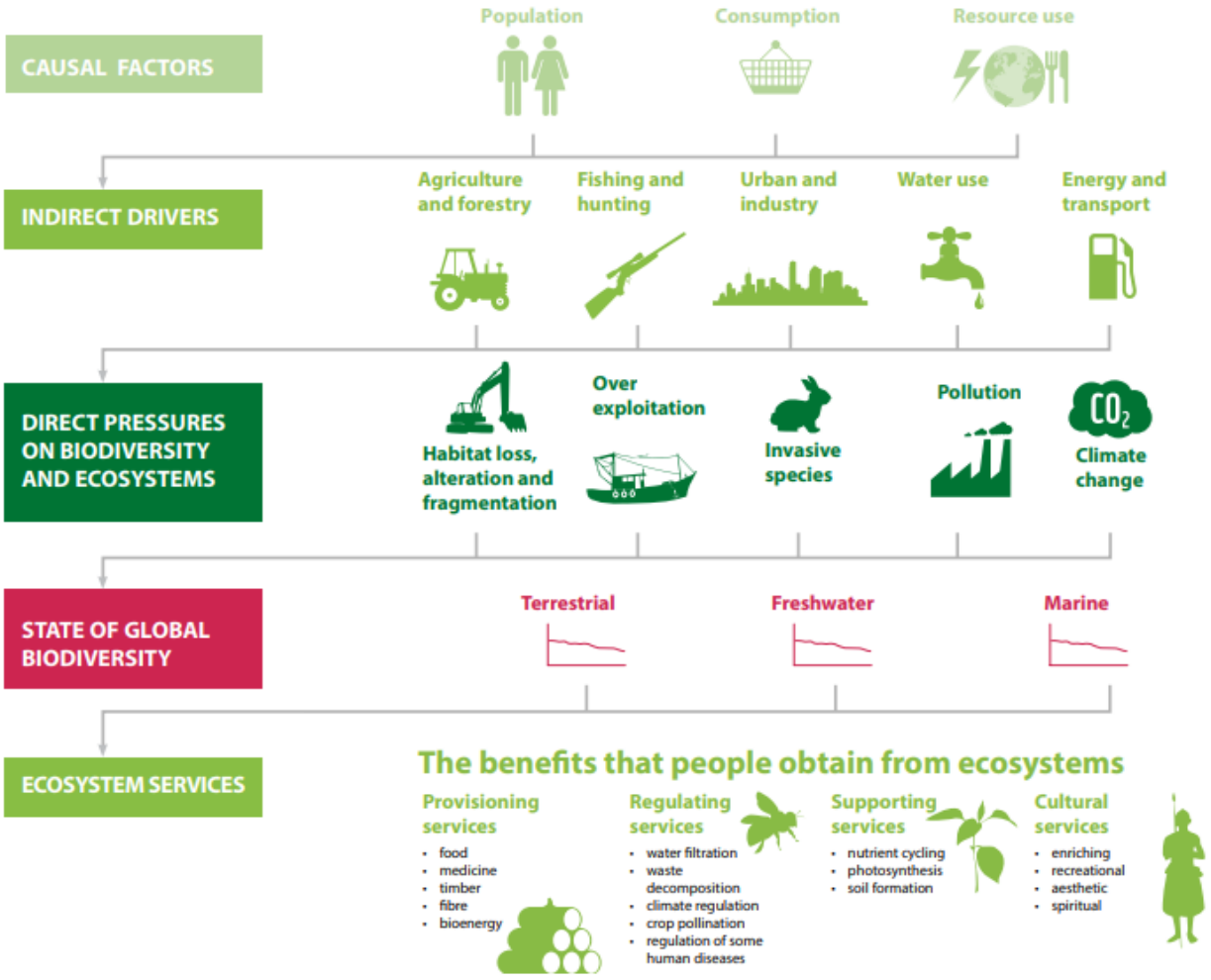
State of the global environment - Biodiversity



Source: World Wide Fund for Nature (WWF) *et al.* (2012).

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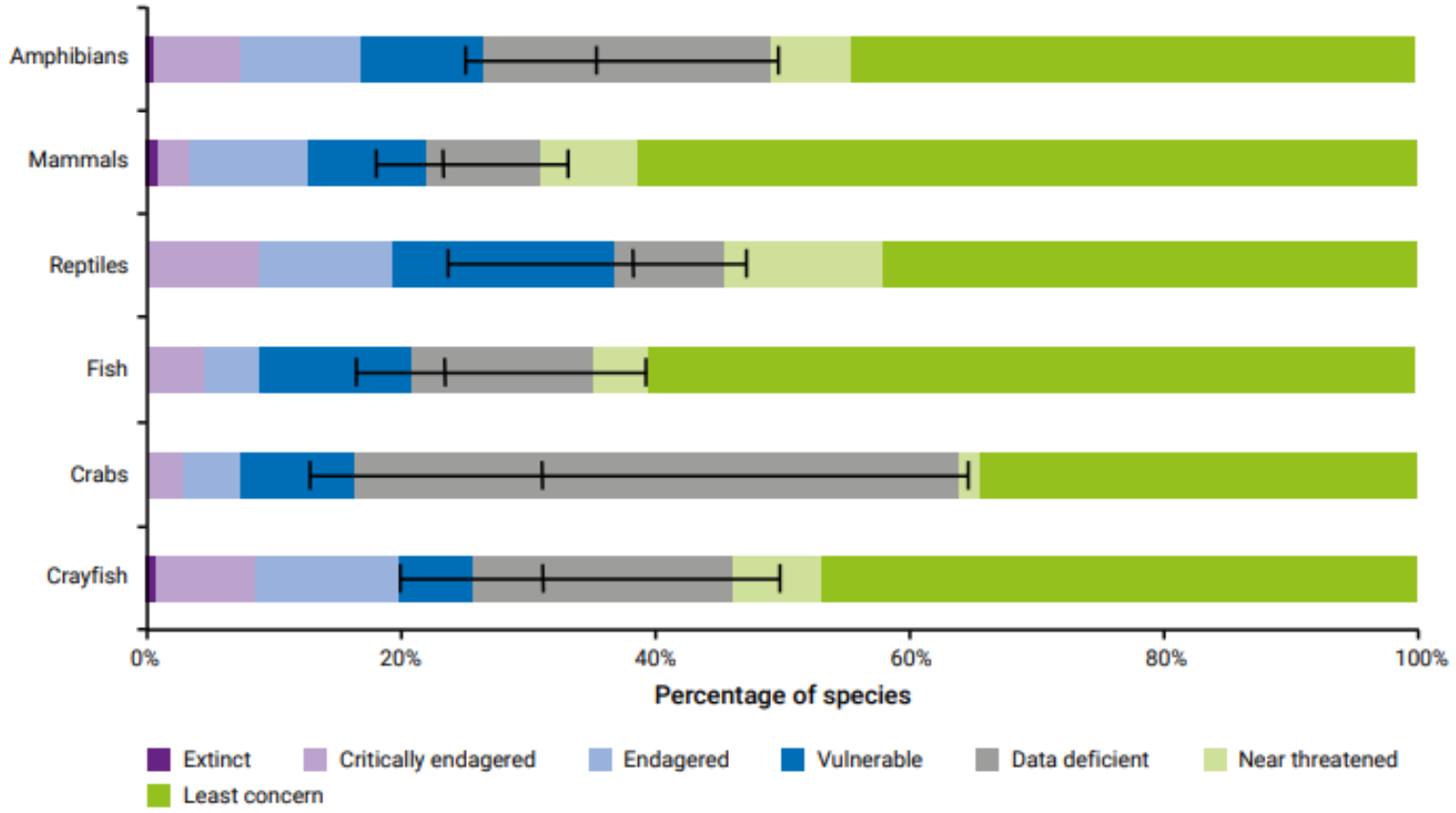
State of the global environment - Biodiversity

Figure 6.18: Extinction risk of global freshwater fauna by taxonomic group



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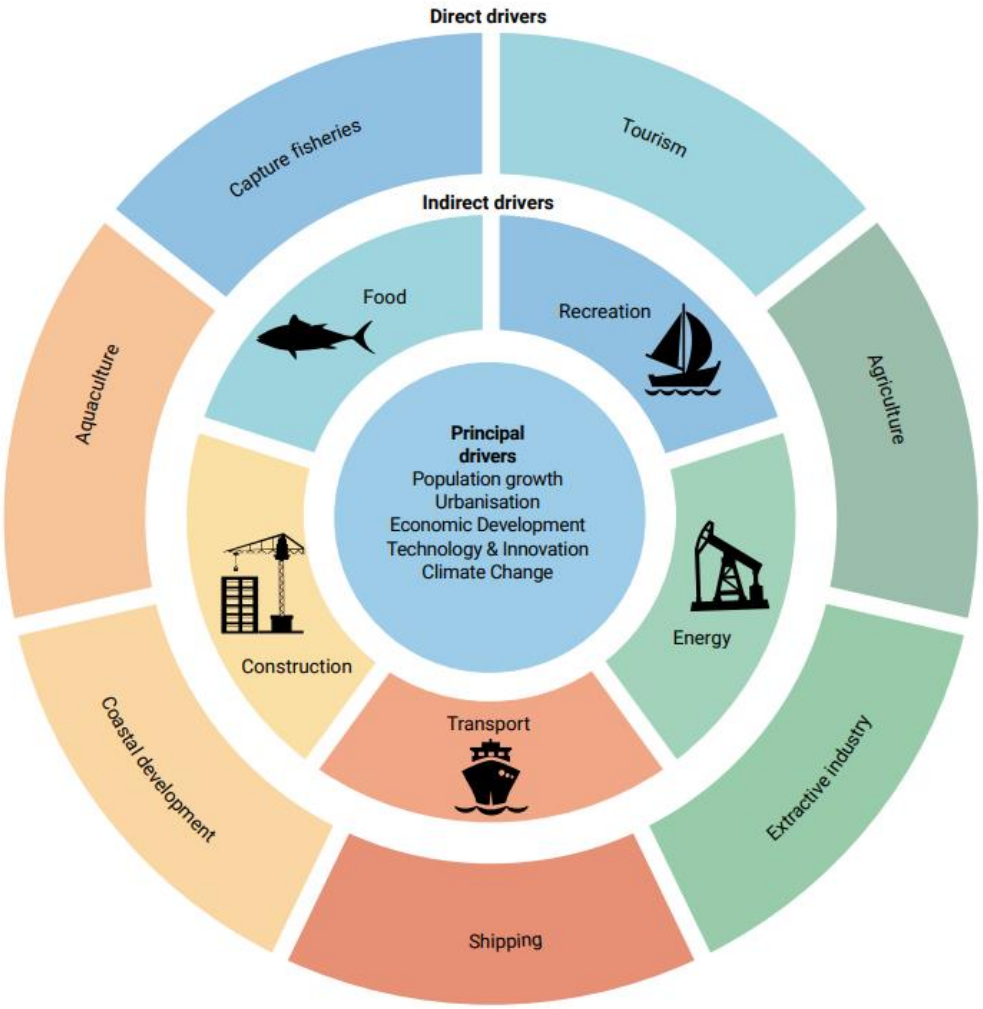
State of the global environment – Oceans and coasts



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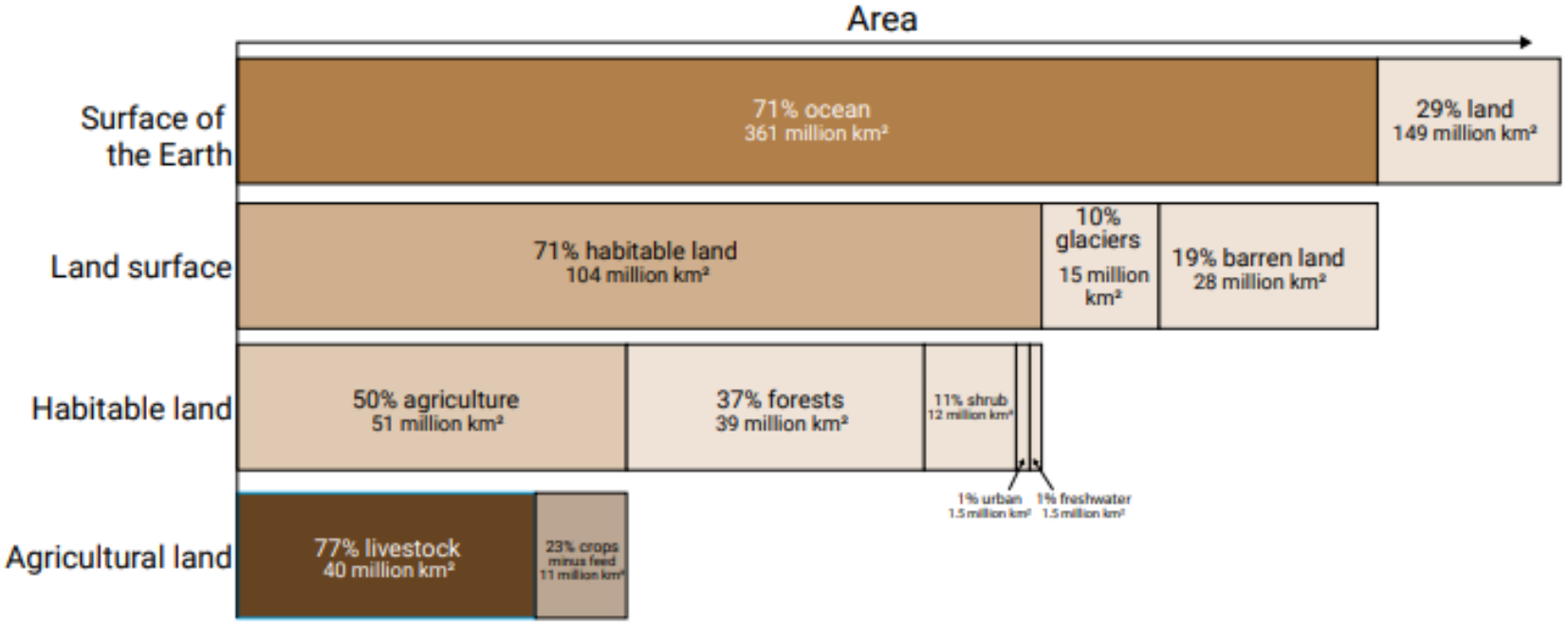
State of the global environment – Land and soil

Figure 8.6: Global area allocation for food production

The breakdown of the surface of the Earth by functional and allocated uses, down to agricultural land allocation for livestock and food crop production, measured in millions of square kilometres. The area for livestock farming includes land for animals, and arable land used for animal feed production.



Source: FAO (2017b); Roser and Ritchie (2018).

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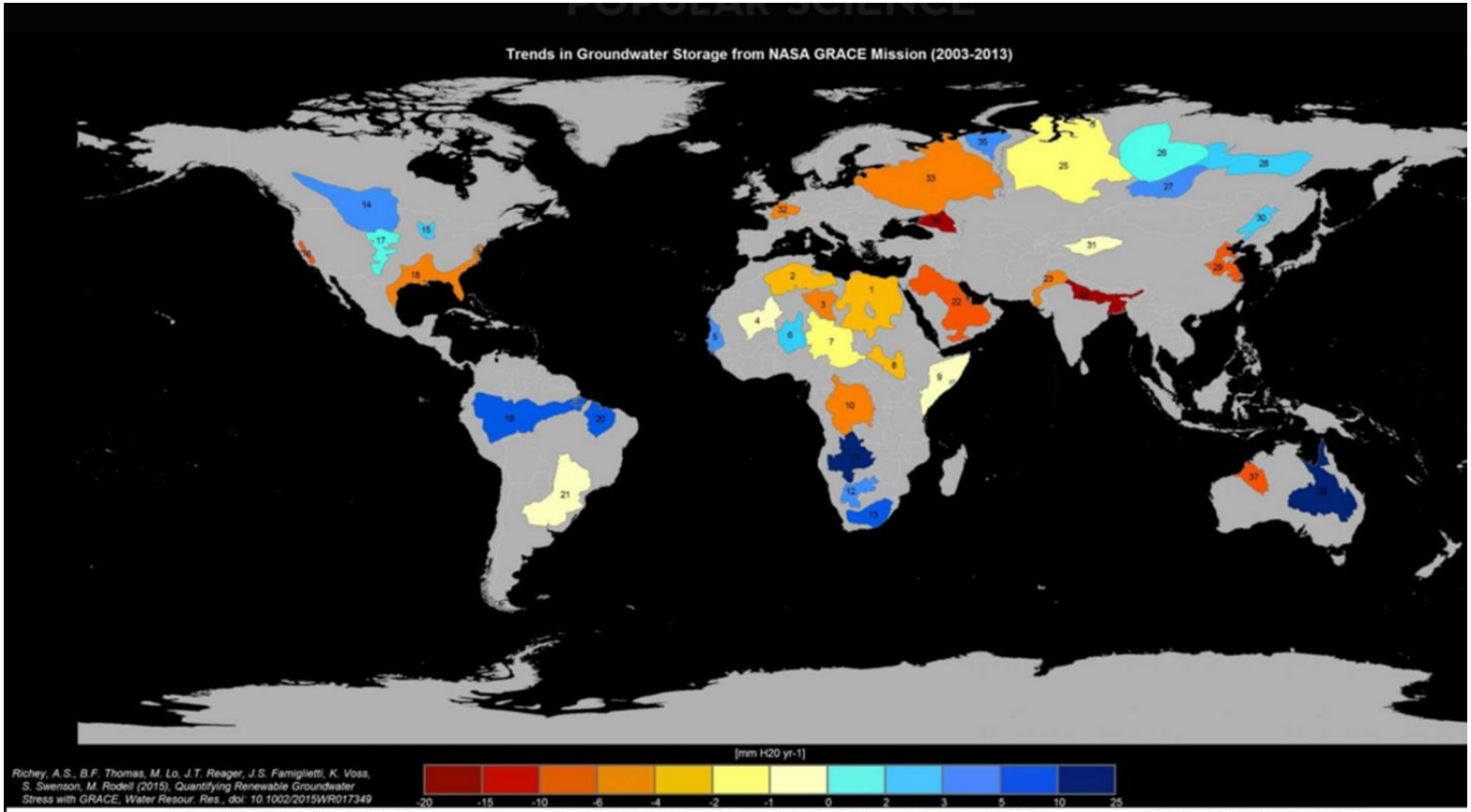
State of the global environment - Freshwater



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Equador – rain forest for sale

- Yasuní National Park, a hostspot of biological diversity. Two uncontacted tribes,UNESCO site.
- About 850 million barrels of oil.
- 35% of Ecuadorians below the poverty line.
- If international community paiys 3.6 billion US dolars (in 2014), half of the value of oil, it will be preserved.
- 13 million gathered only.
- Drilling started in 2016.

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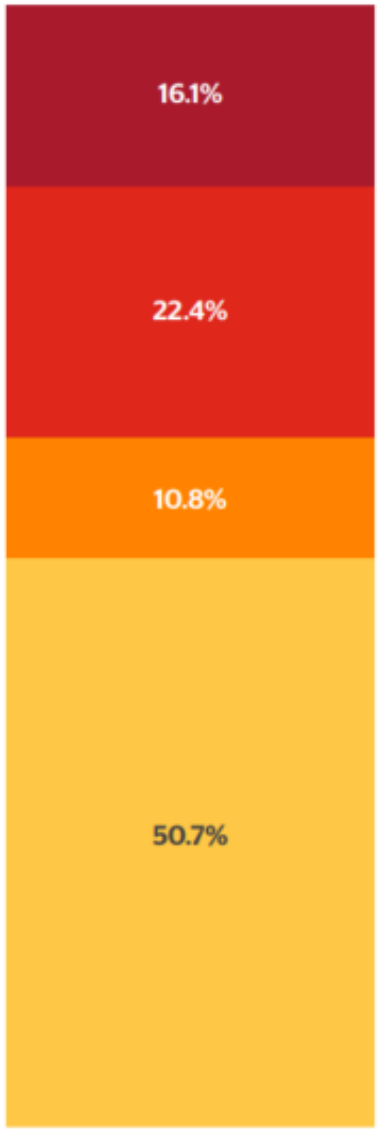
Nature's contributions to people

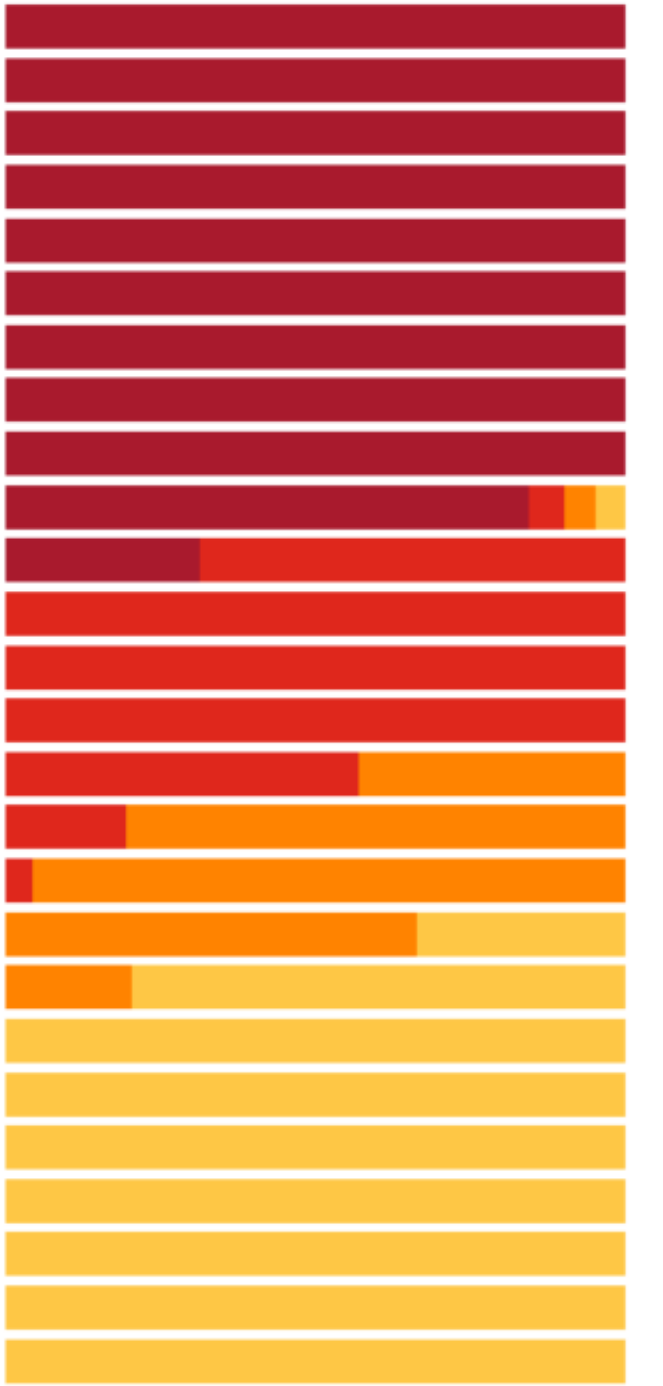
Interactions between biodiversity and physical processes such as soil and water chemistry, temperature, and humidity create a stable and liveable planetary system for all life. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) assesses 18 categories of Nature's Contributions to People (NCP) under three headings: regulating, material, non-material.

Regulating	Climate, air quality, pollination and natural propagation, soil formation, habitat formation and maintenance, fresh water quality, hazard prevention
Material	Energy, food, labour, medicinal
Non-material	Identity, inspiration, and physical and psychological experiences like happiness, or improved mental health

Australian economy by GVA

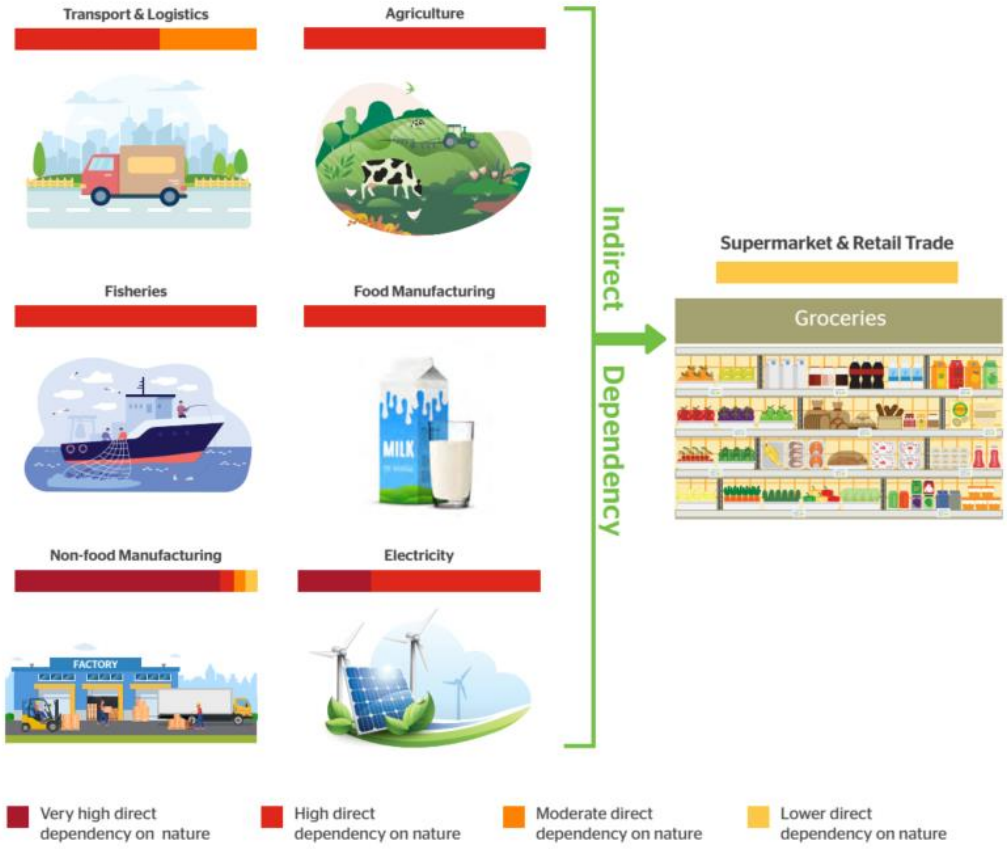


% of Australian GVA



Forestry
Crop Agriculture
Livestock Agriculture
Horticulture and Viticulture
Fishery and Aquaculture
Meat and Dairy Manufacturing
Construction
Water and Waste Services
Other Food Product Manufacturing
Non-Food Product Manufacturing
Electricity
Fossil Fuel Mining
Metal Ore and Mineral Mining
Real Estate
Transport and Logistics
Accomodation and Hospitality
Oil and Gas
Media and Telecommunications
Arts and Recreation
Health Care and Social Services
Financial Services and Insurance
Wholesale and Retail Trade
Professional and Technical Services
Public Administration
Education
Other Administrative and Support Services

Ecosystem services



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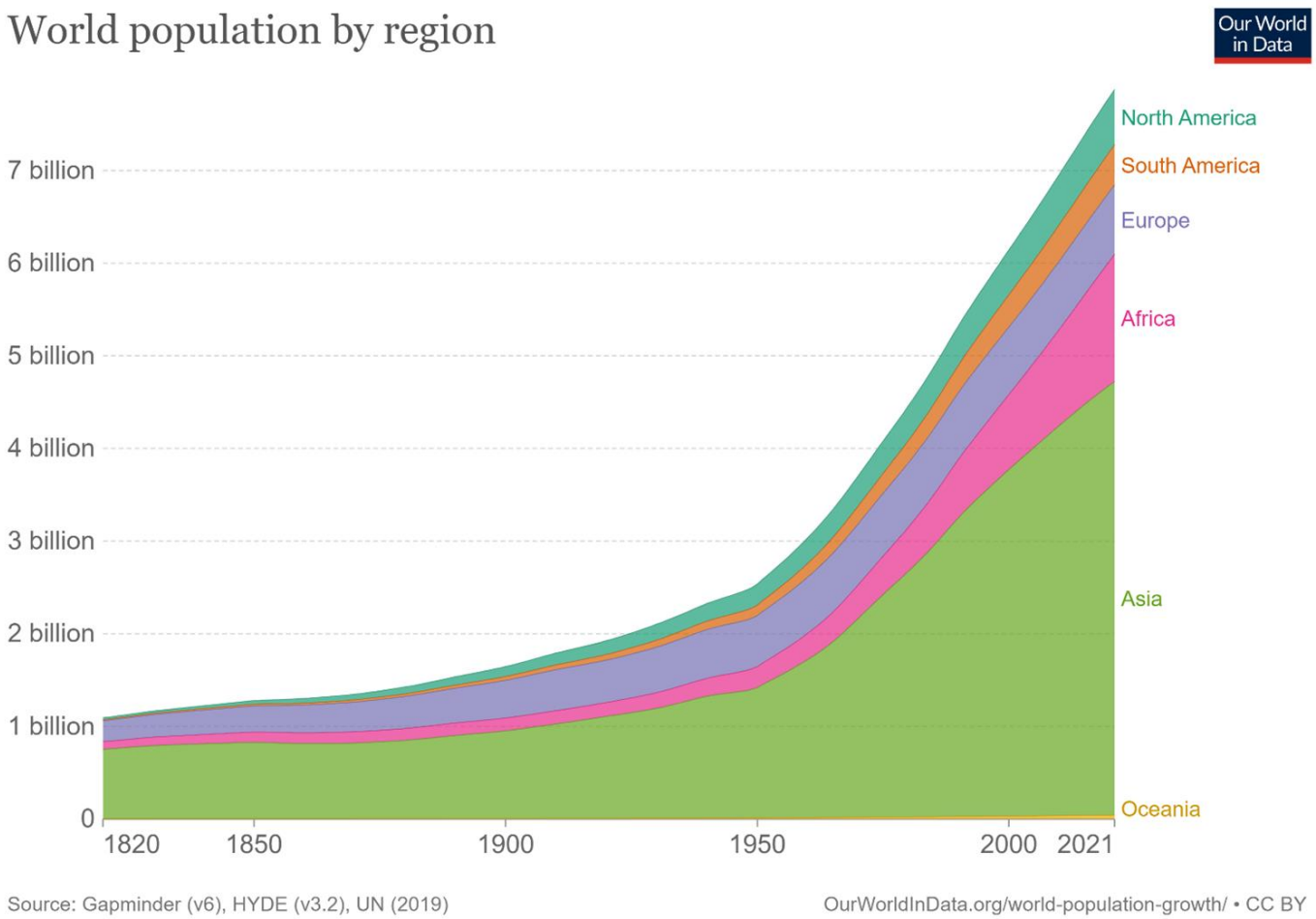
Society



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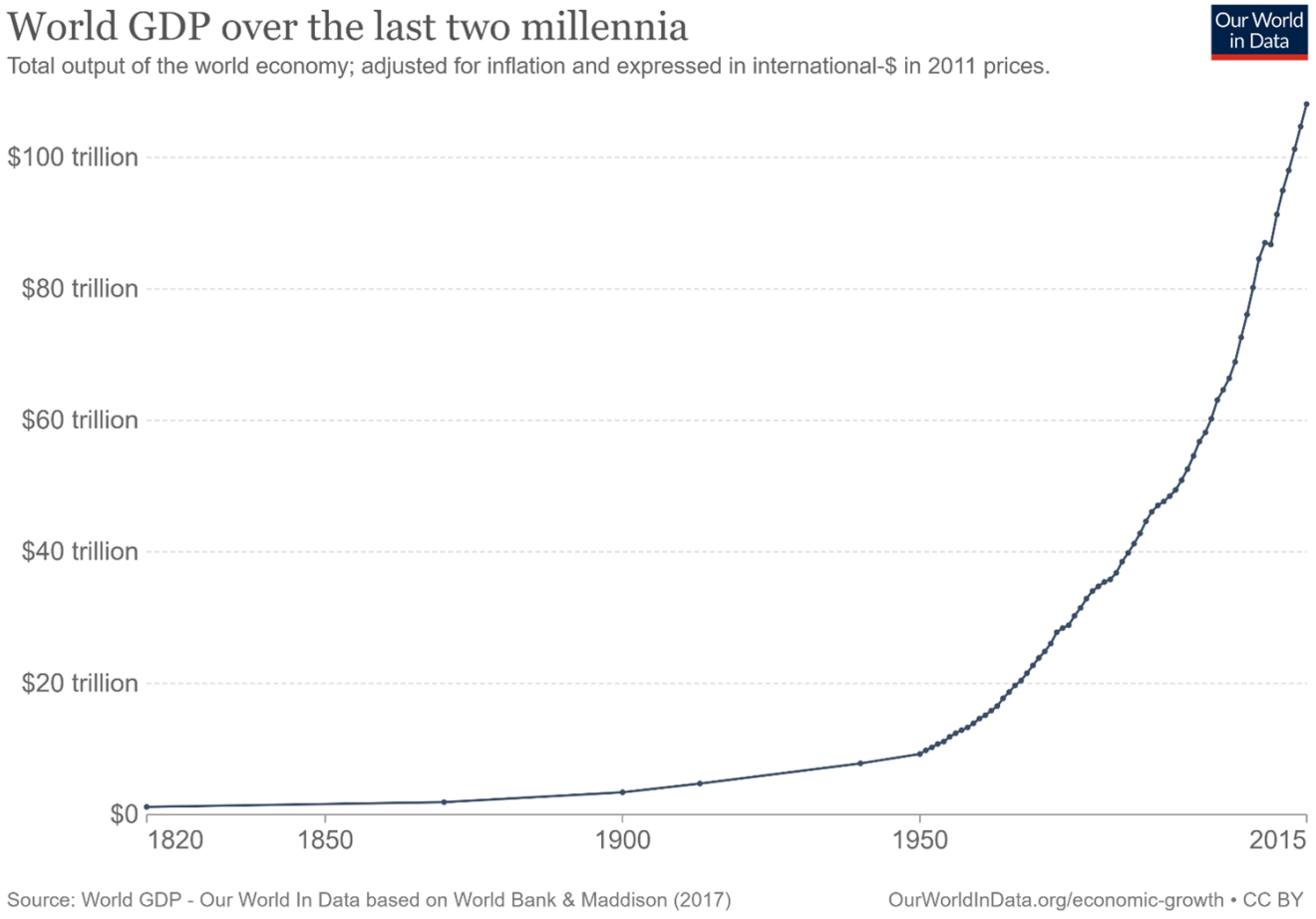
Society



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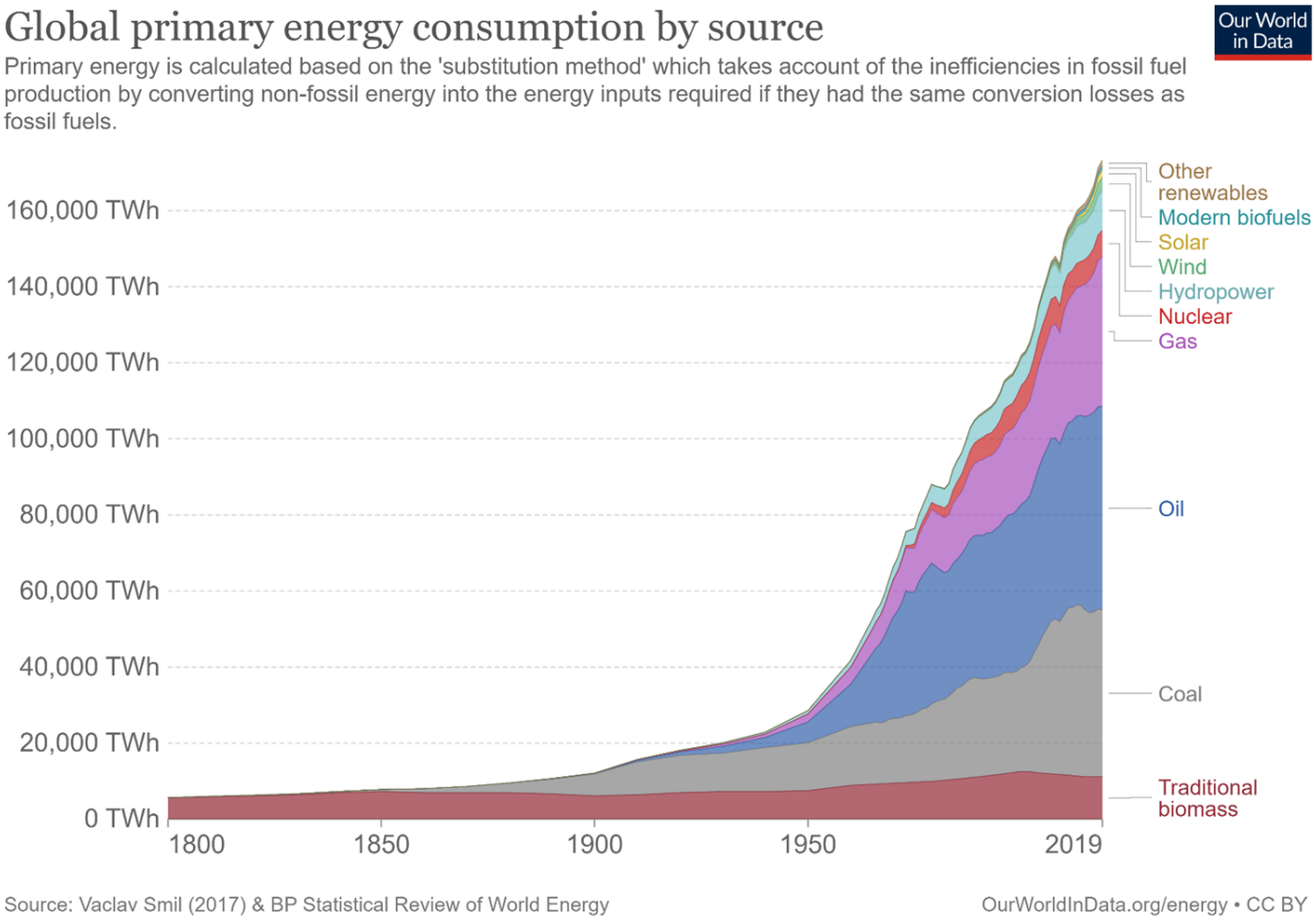
What does this have to do with energy?



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Logic and structure of the course

Final lobbying paper

- 30 points = 50 % of final grade
- Teams of 2 students
- You are expected to write a policy paper addressing the following situation: The national, local, or municipal government is about to change, introduce or cancel some environmentally relevant legislative act and you would like to lobby relevant decision-makers to protect the interests of your institutiton.
- Sample papers in interactive syllabus

Final lobbying paper

- 3 deadlines:
  - 2nd October
    - Topic selection
  - 23rd October
    - Set-up
  - 11th December
    - Policy paper
- 5 points penalty will be assessed for each day (or fraction of the day) that either the set-up or the final paper is late

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Final lobbying paper

- Topic selection
  - Only real and ongoing cases
- Set-up
  - 5400 characters
  - Choose an act relevant to the topic of the course (strategic guideline, legislative act, governmental decision,…) and briefly introduce it
  - Define your position – you may represent industry, environmental NGOs… Specify your interests regarding the issue
  - Define and explain the relevance of the audience of your paper – what decision-maker would you like to lobby? (Ministry of Industry/Environment/Finance…)

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Final lobbying paper

- Policy paper
  - 24 000 characters of the text itself (incl. spaces and footnotes, +/- 10 %) + brief introductory letter + references
  - Correct arguments and evidence in support of your position are crucial
  - A policy paper is a research paper focusing on some specific policy issues; it should provide clear recommendations for policy-makers. It is neither a historical analysis nor an opininon essay
- English, Czech or Slovak language is allowed

Sources

- Mechteacher.com: Thermodynamic System and its Types
- Botkin, D.B.; Keller, E.A.: Environmental Science: Earth as a Living Planet.
- Teach the Earth: Complex systems. https://serc.carleton.edu/NAGTWorkshops/complexsystems/index.html
- Dartmouth College: Introduction to Environmental Science (Systems and Feedbacks) – Dart.ENVS.01.X
- Tietenbert, T.; Lewis, L.(2012): Environmental and Natural Resource Economics.

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