

°CICERO



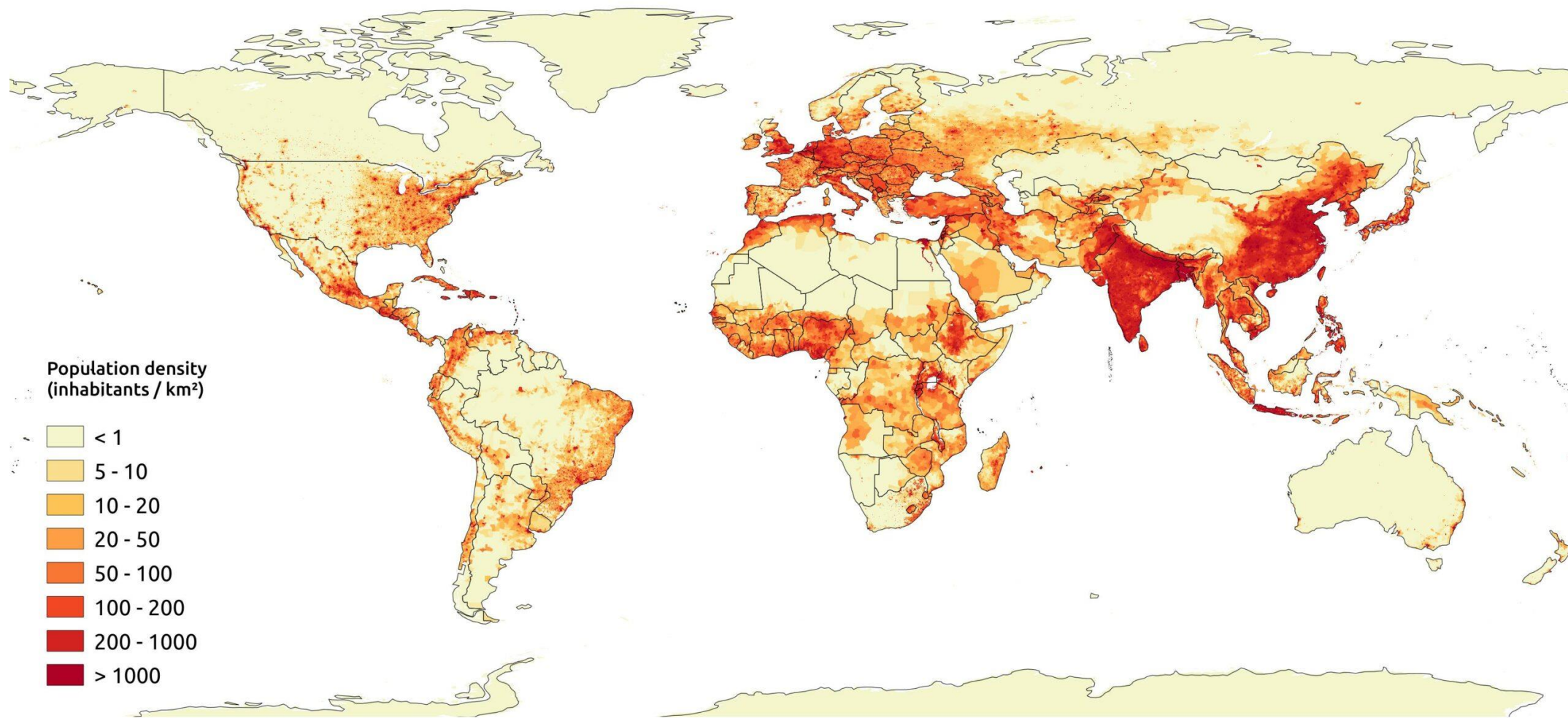
Klimakrisen

Hva den er, hvor den går,
og hvordan vi kan møte den

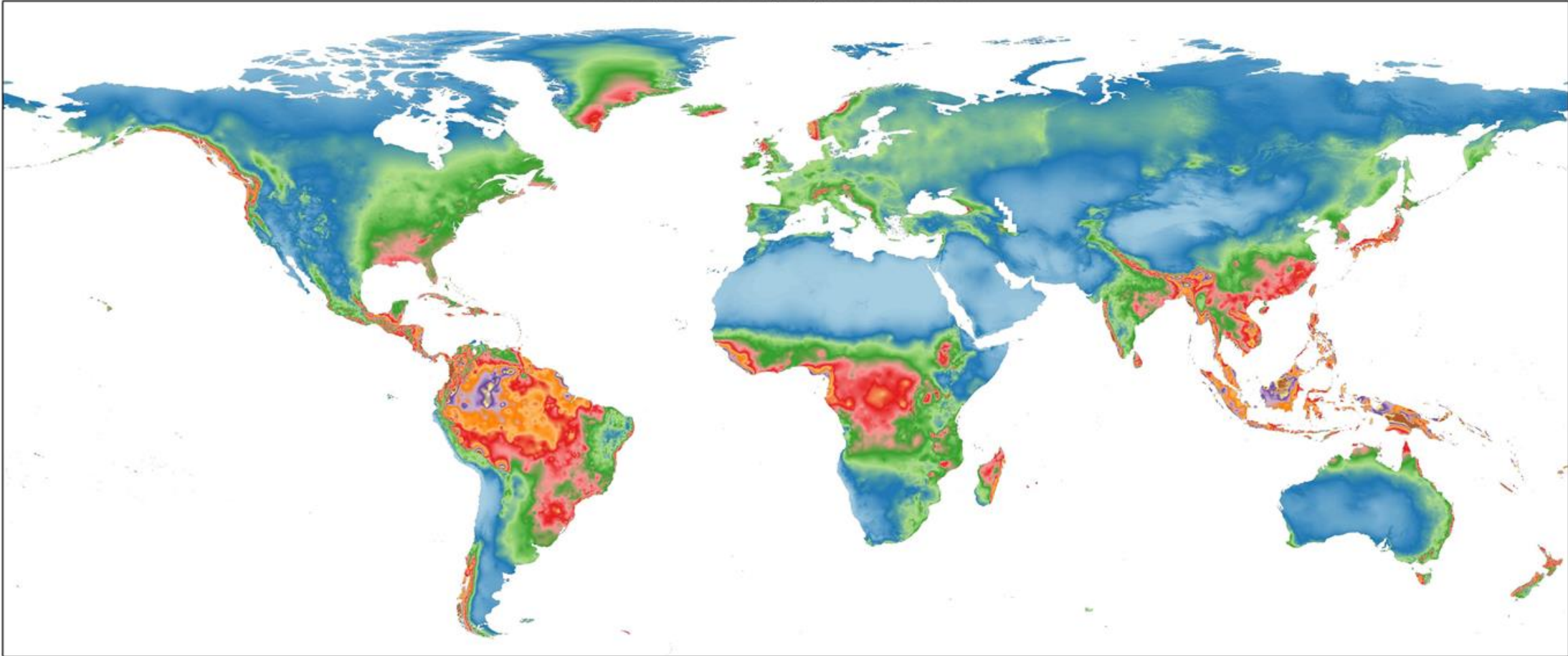
Bjørn H. Samset, CICERO

BEST 2022

Oslo, 2.6.2022

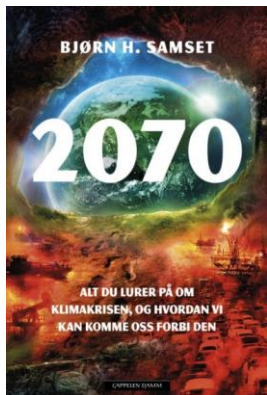
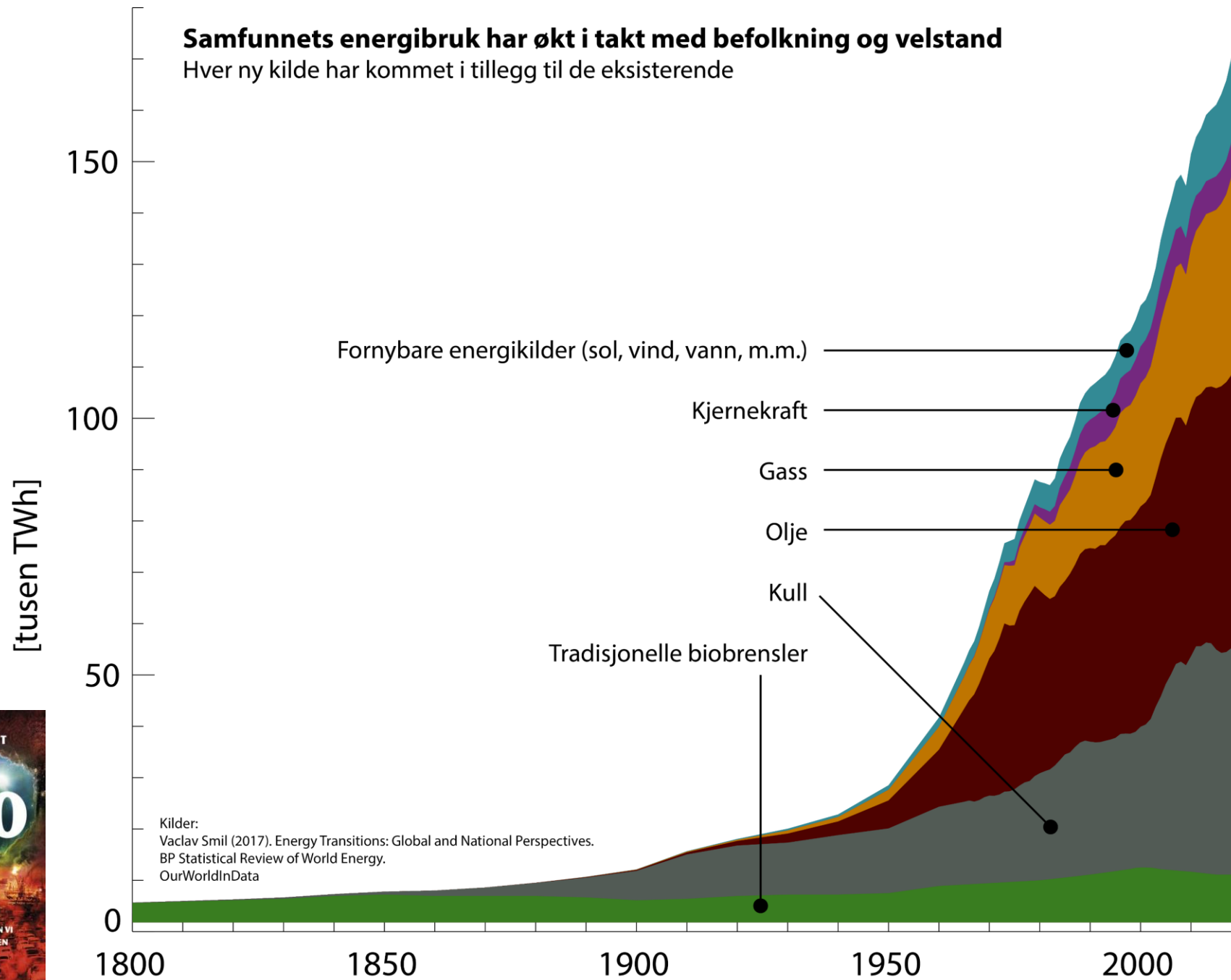


Annual precipitation [mm], source: WorldClim



Samfunnets energibruk har økt i takt med befolkning og velstand

Hver ny kilde har kommet i tillegg til de eksisterende



Klimakrisen:

Vi kan ikke fortsette å hente energi fra olje, kull og gass, for det ødelegger grunnlaget vi har bygget samfunnet på.

Vi kan ikke slutte å hente energi fra olje, kull og gass, for et ødelegger grunnlaget vi har bygget samfunnet på.

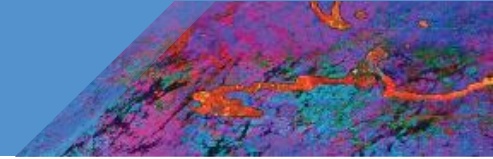
Så hva gjør vi?





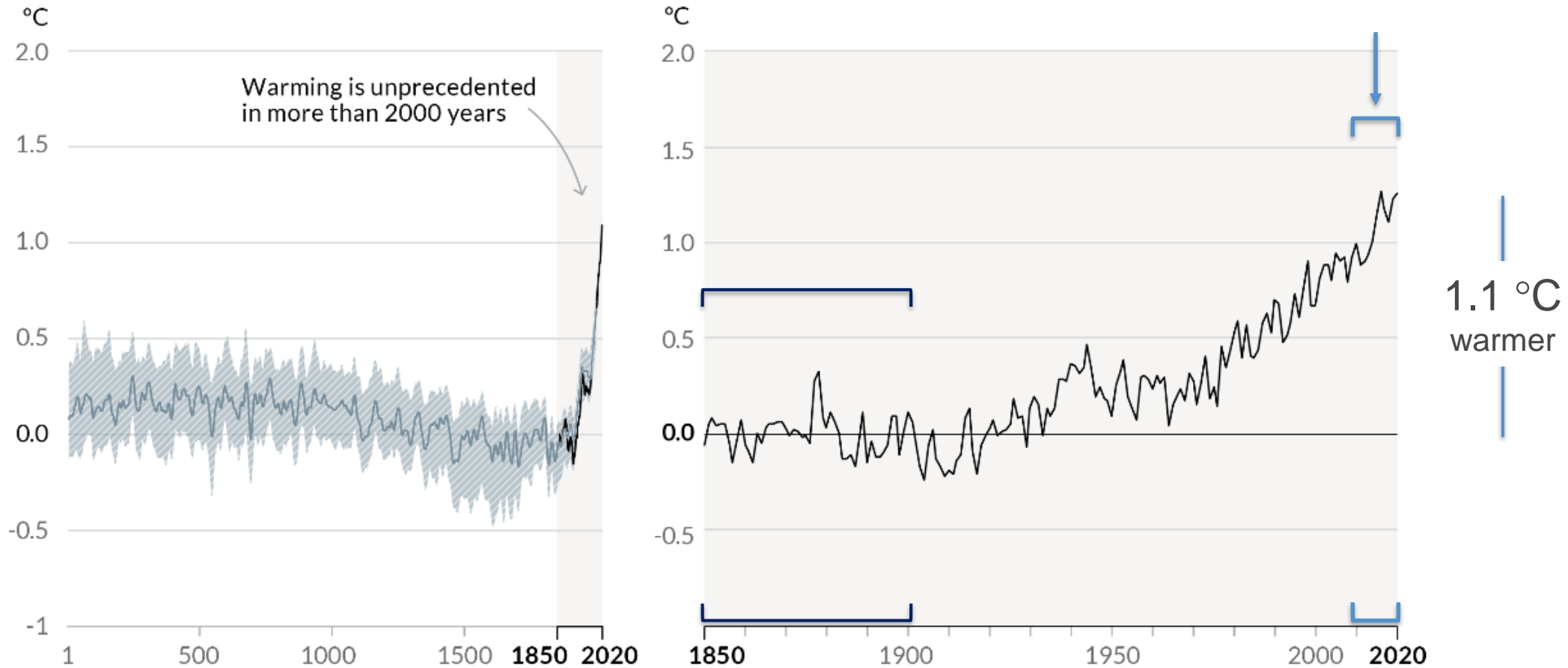
[Credit: NASA]

“Recent changes in the climate are widespread, rapid, and intensifying, and unprecedented in thousands of years.”

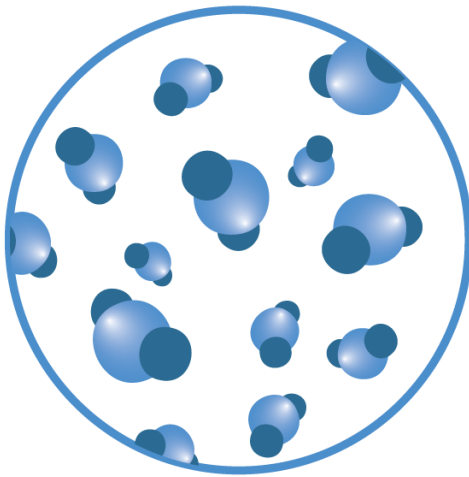


Human influence has warmed the climate at a rate that is unprecedented in at least the last 2000 years

Changes in global surface temperature relative to 1850-1900



CO₂ concentration



Highest

in at least

2 million years

Sea level rise

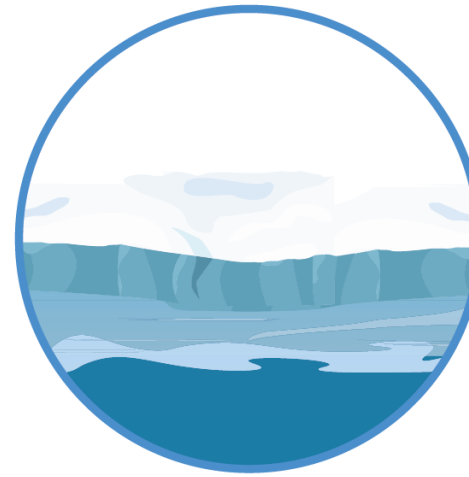


Fastest rates

in at least

3000 years

Arctic sea ice area



Lowest level

in at least

1000 years

Glaciers retreat



Unprecedented

in at least

2000 years



Extreme heat

More frequent

More intense



Heavy rainfall

More frequent

More intense



Drought

Increase in some
regions



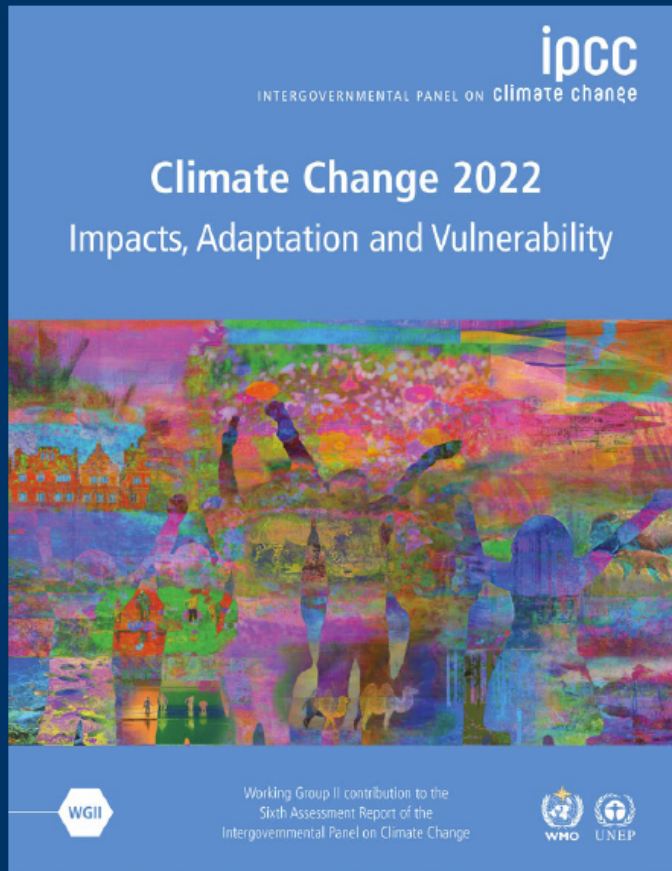
Fire weather

More frequent



Ocean

Warming
Acidifying
Losing oxygen



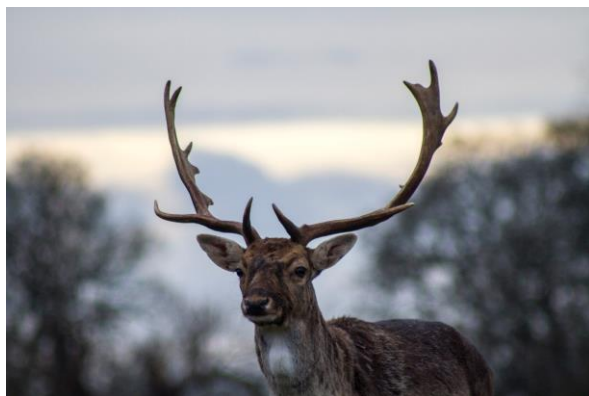
The scientific evidence is unequivocal: climate change is a threat to human well-being and the health of the planet.

Any further delay in concerted global action will miss the brief, rapidly closing window to secure a liveable future.

This report offers solutions to the world.

IPCC WG2: Klimaendringer har allerede konsekvenser for natur og samfunn

Utfordringene blir vanskeligere å håndtere fordi flere endringer har begynt å skje samtidig.



Økosystemer

Sammensetning og funksjonalitet
Lokale artstap
Arter migrerer nordover

Mer alvorlig enn tidligere rapportert



Mat og vann

Redusert vann- og matsikkerhet
Blandede effekter på jordbruk
Negative effekter på marin matproduksjon



Helse og velvære

Sykdommer
Dødelig hete
Forurensning
Feilernæring
Mental helse
Migrasjon



Byer, bosetninger og infrastruktur

Oversvømmelser
Skader på kystområder
Skader på infrastruktur
Økonomiske tap

Mange effekter forsterkes i byer

Hvordan møte klimakrisen:

1. Bli kvitt utslipp av drivhusgasser, så klimaendringene blir så milde som mulig
2. Tilpasse oss et varmere, våtere og villere klima
3. Velge løsninger for å oppnå de to første punktene, som ikke skaper ytterligere problemer i årene som kommer



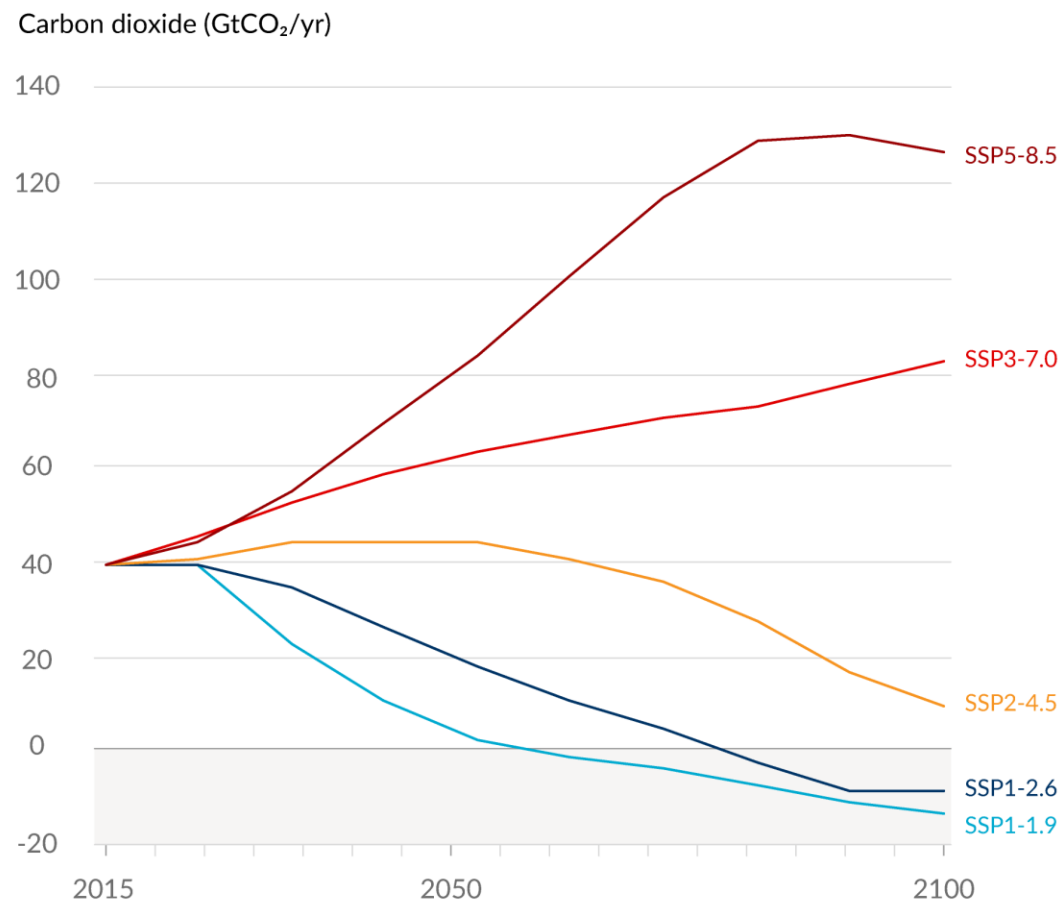


[Credit: Peter John Maridable]

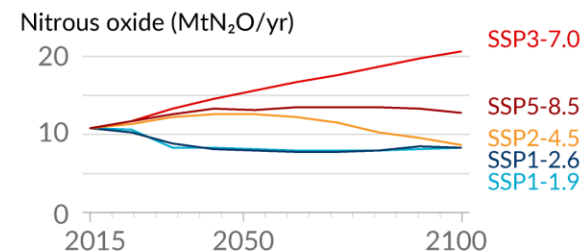
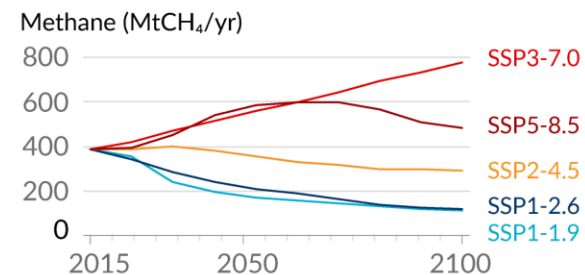
“ Unless there are immediate, rapid, and large-scale reductions in greenhouse gas emissions, limiting warming to 1.5°C will be beyond reach.

Illustrerende veibaner for utslipp, som spenner ut mulighetene

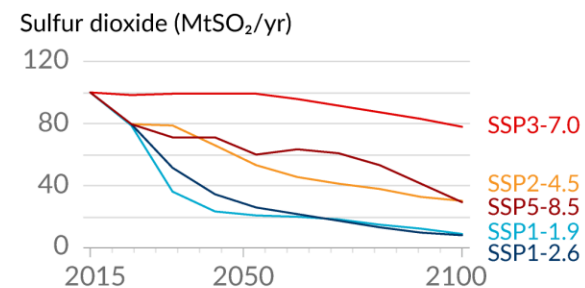
a) Future annual emissions of CO₂ (left) and of a subset of key non-CO₂ drivers (right), across five illustrative scenarios



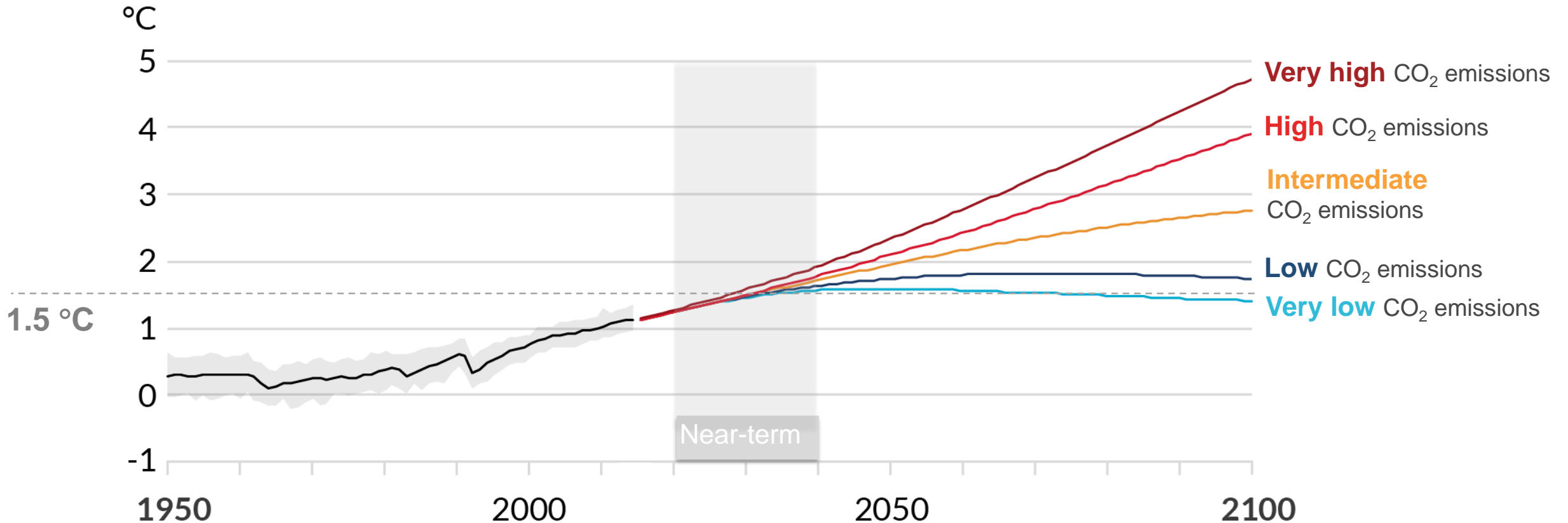
Selected contributors to non-CO₂ GHGs

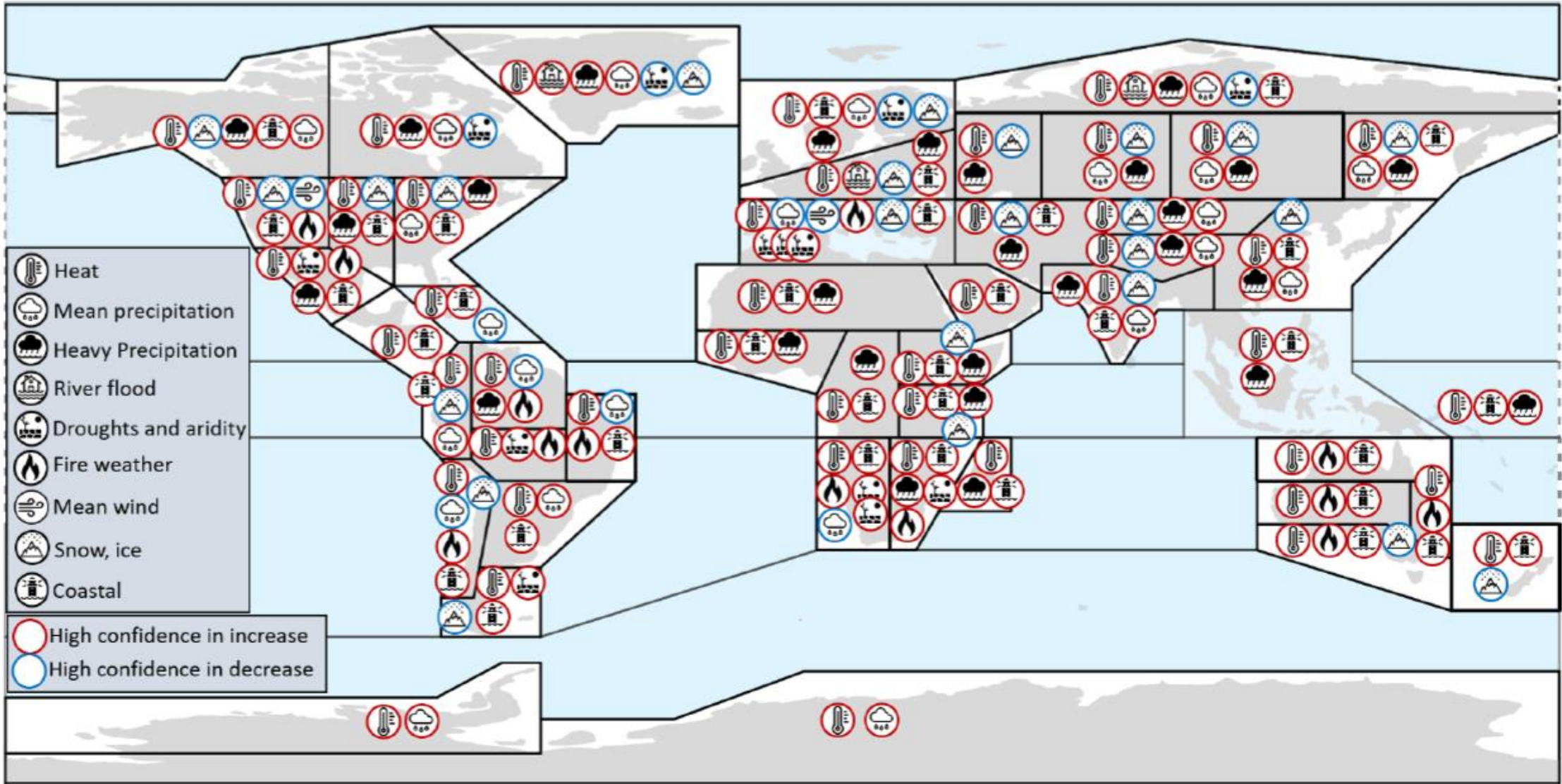


One air pollutant and contributor to aerosols



Future emissions cause future additional warming







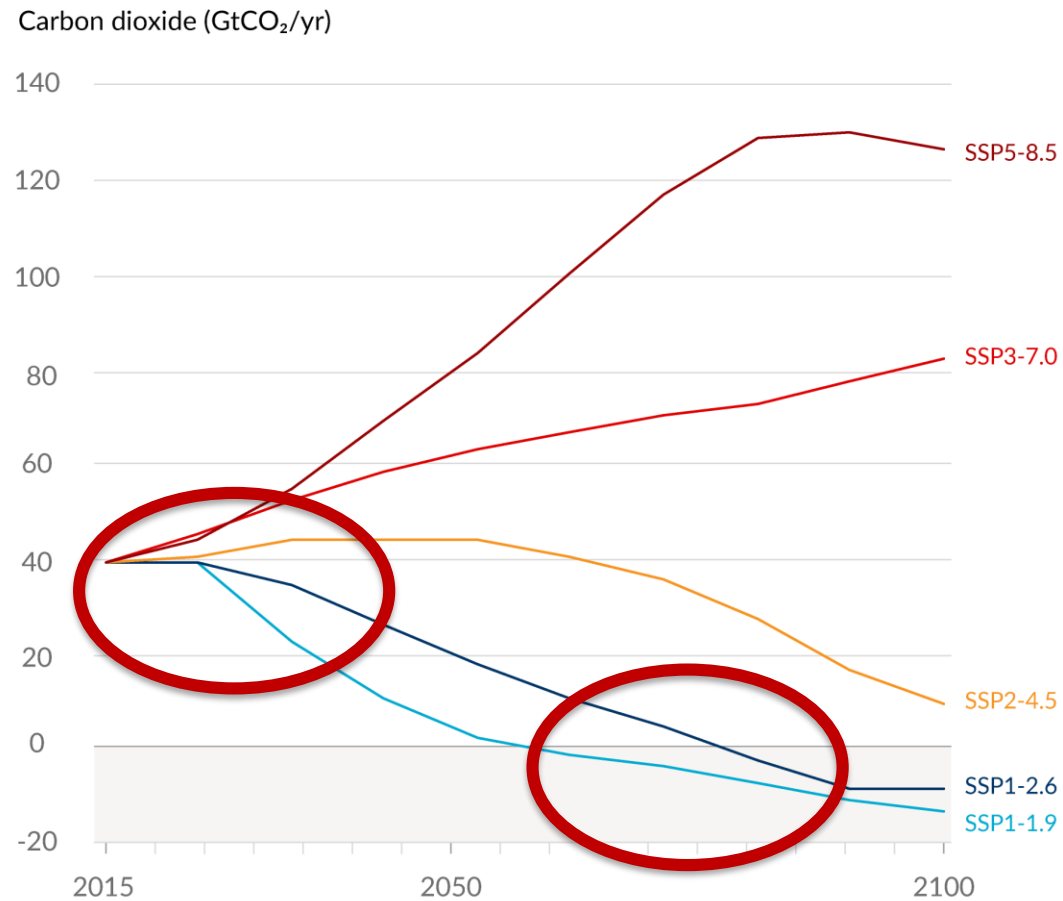
“Climate change is contributing to humanitarian crises where climate hazards interact with high vulnerability”

3.3-3.6 mrd. Mennesker bor i «hotspots» med høy sårbarhet til klimaendringer

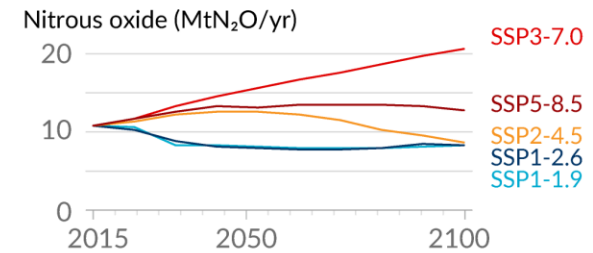
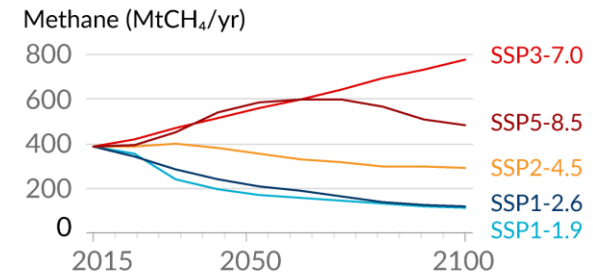


Foto: Ninno Jack Jr., Unsplash

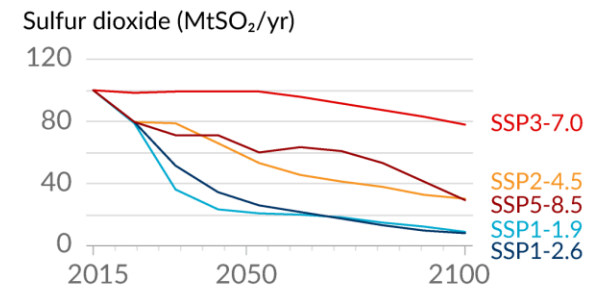
a) Future annual emissions of CO₂ (left) and of a subset of key non-CO₂ drivers (right), across five illustrative scenarios



Selected contributors to non-CO₂ GHGs



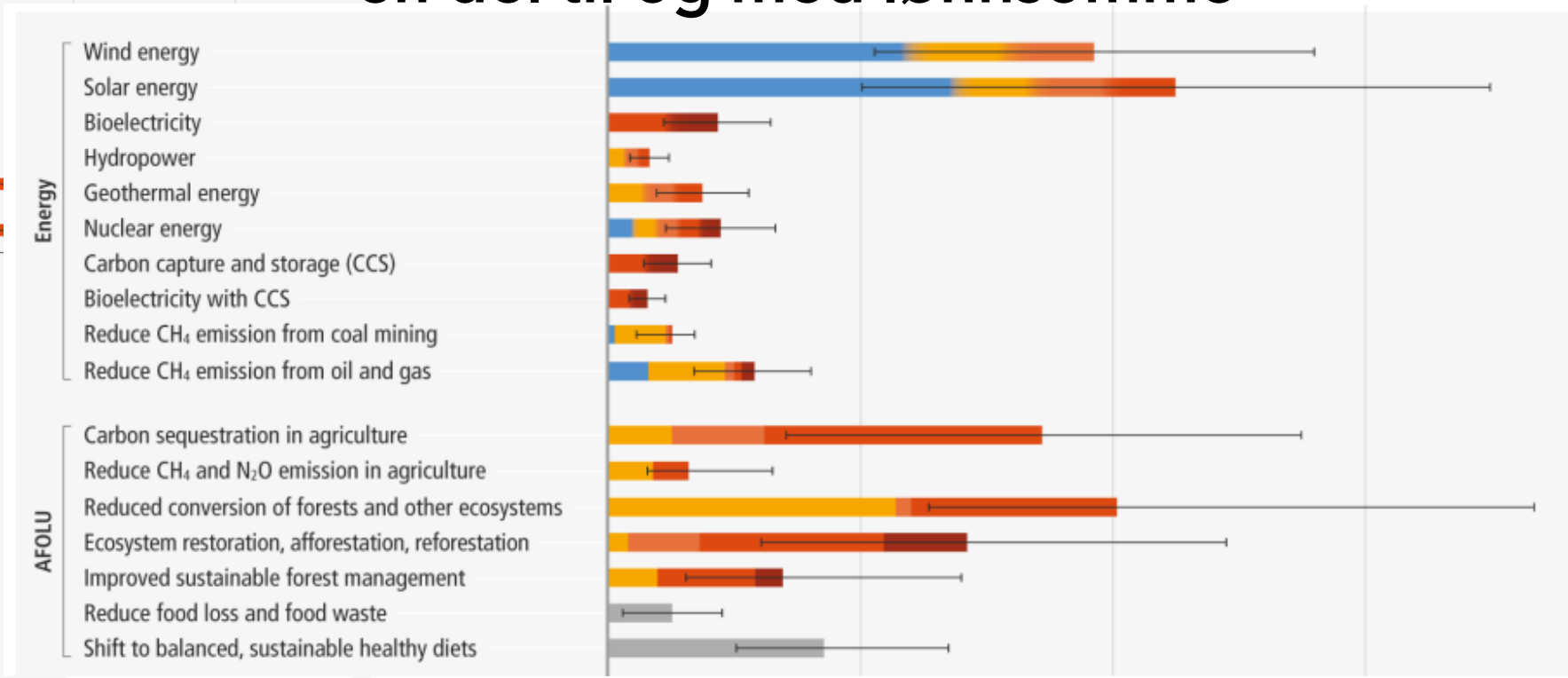
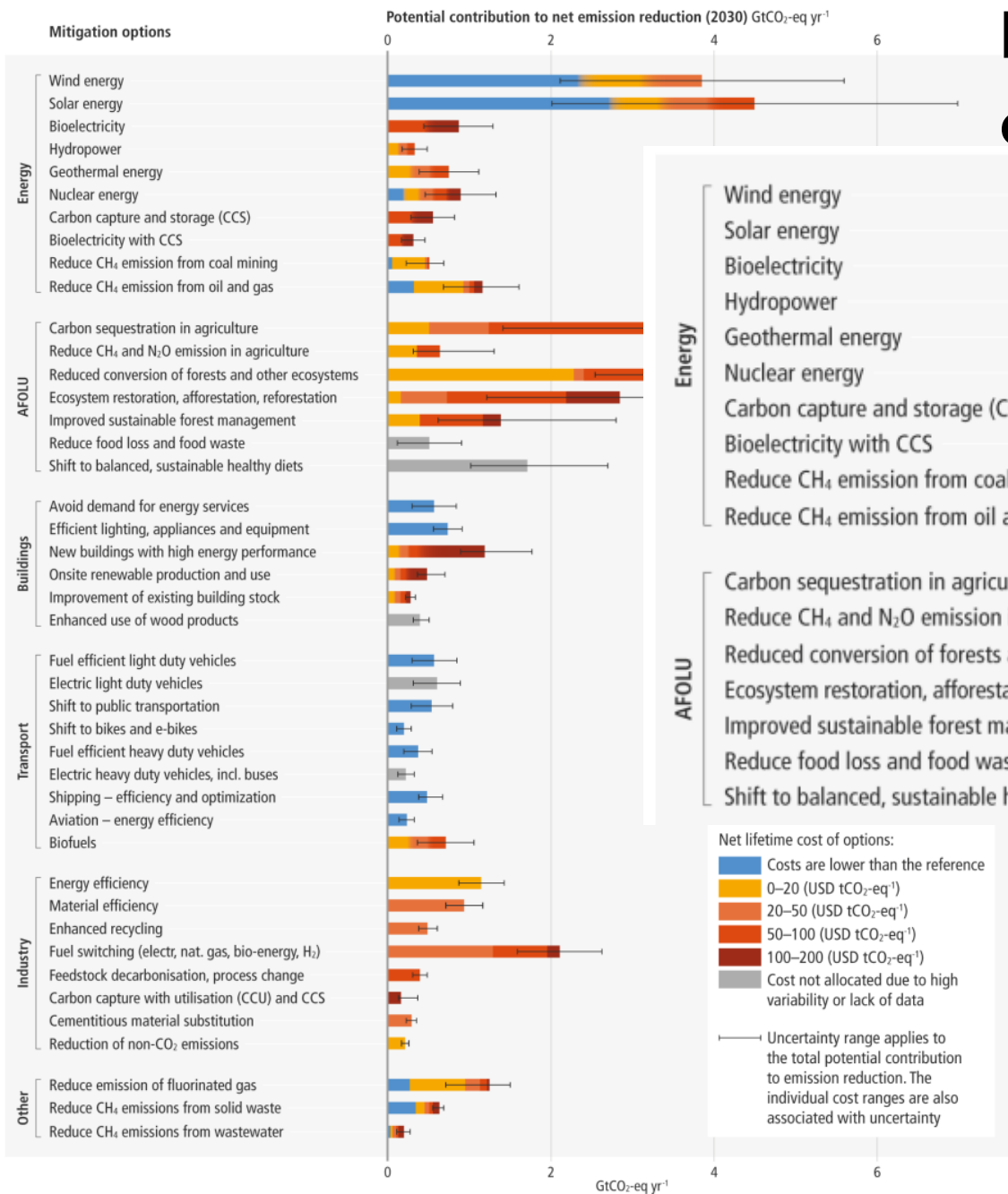
One air pollutant and contributor to aerosols



Many options available now in all sectors are estimated to offer substantial potential to reduce net emissions by 2030. Relative potentials and costs will vary across countries and in the longer term compared to 2030.

Hvordan kommer vi i gang?

Mange typer raske utslippskutt er billige, en del til og med lønnsomme



Klimakrise og naturkrise:

To sider av samme problem,
og som krever felles løsninger

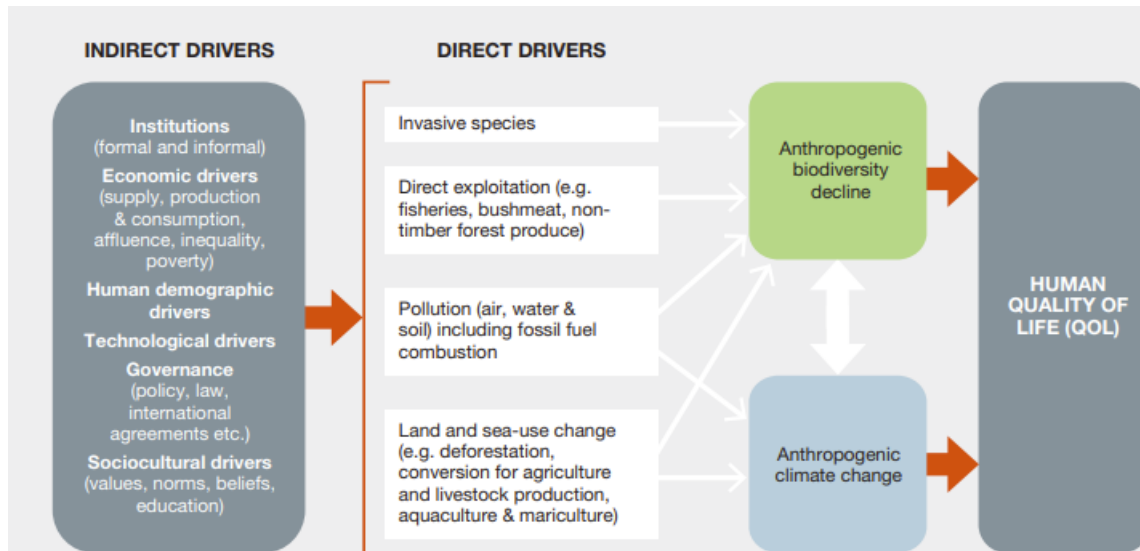


Figure 1 3 Indirect and direct drivers of biodiversity loss and climate change due to human activities.

Climate change and biodiversity loss share common underlying drivers, and both impact (mostly in negative ways) people's quality of life.

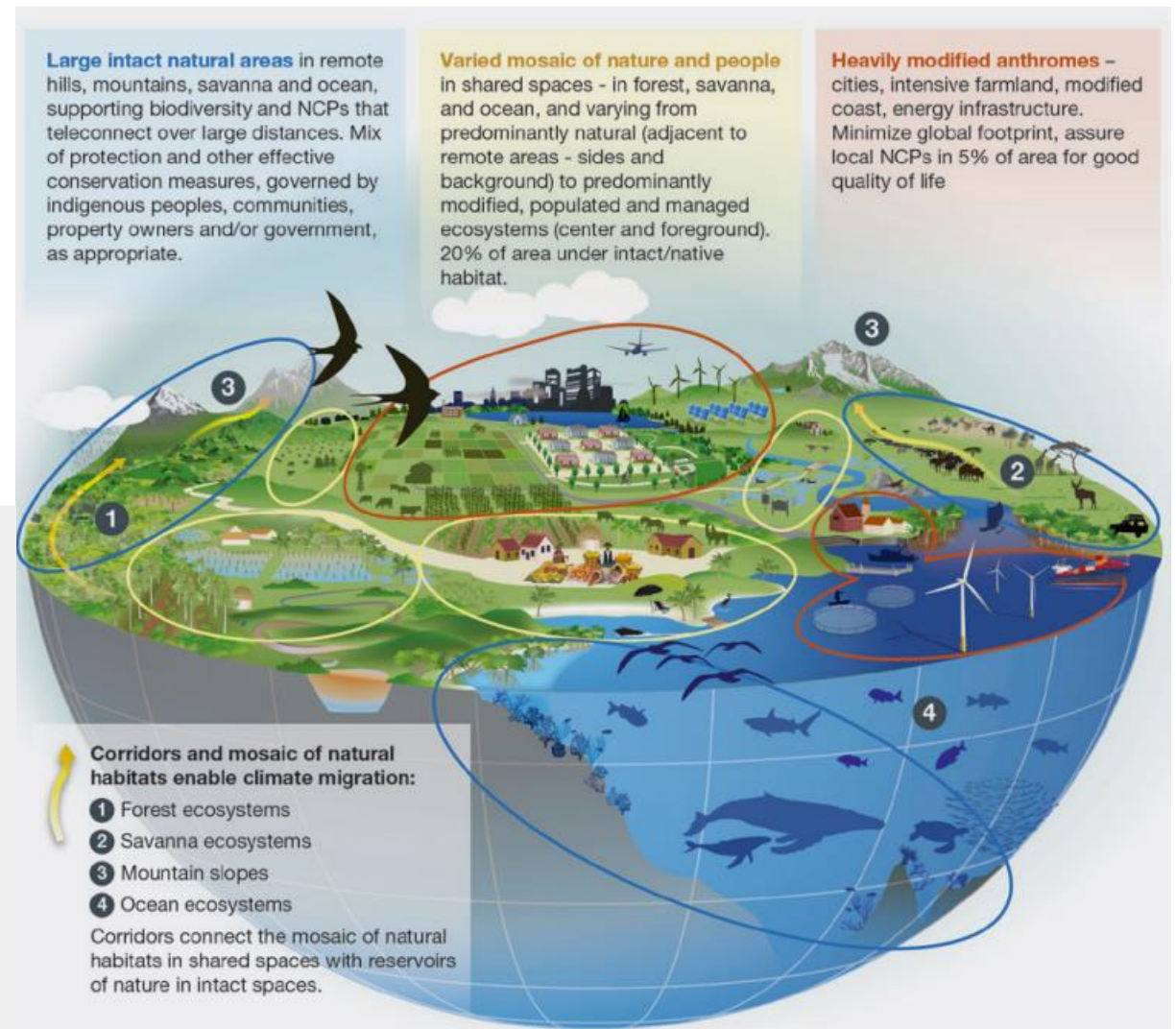


Figure 2 2 A multifunctional 'scape across land, freshwater and marine biomes, including large, intact wilderness spaces (blue circles), shared spaces (yellow circles) and anthromes (red circles).

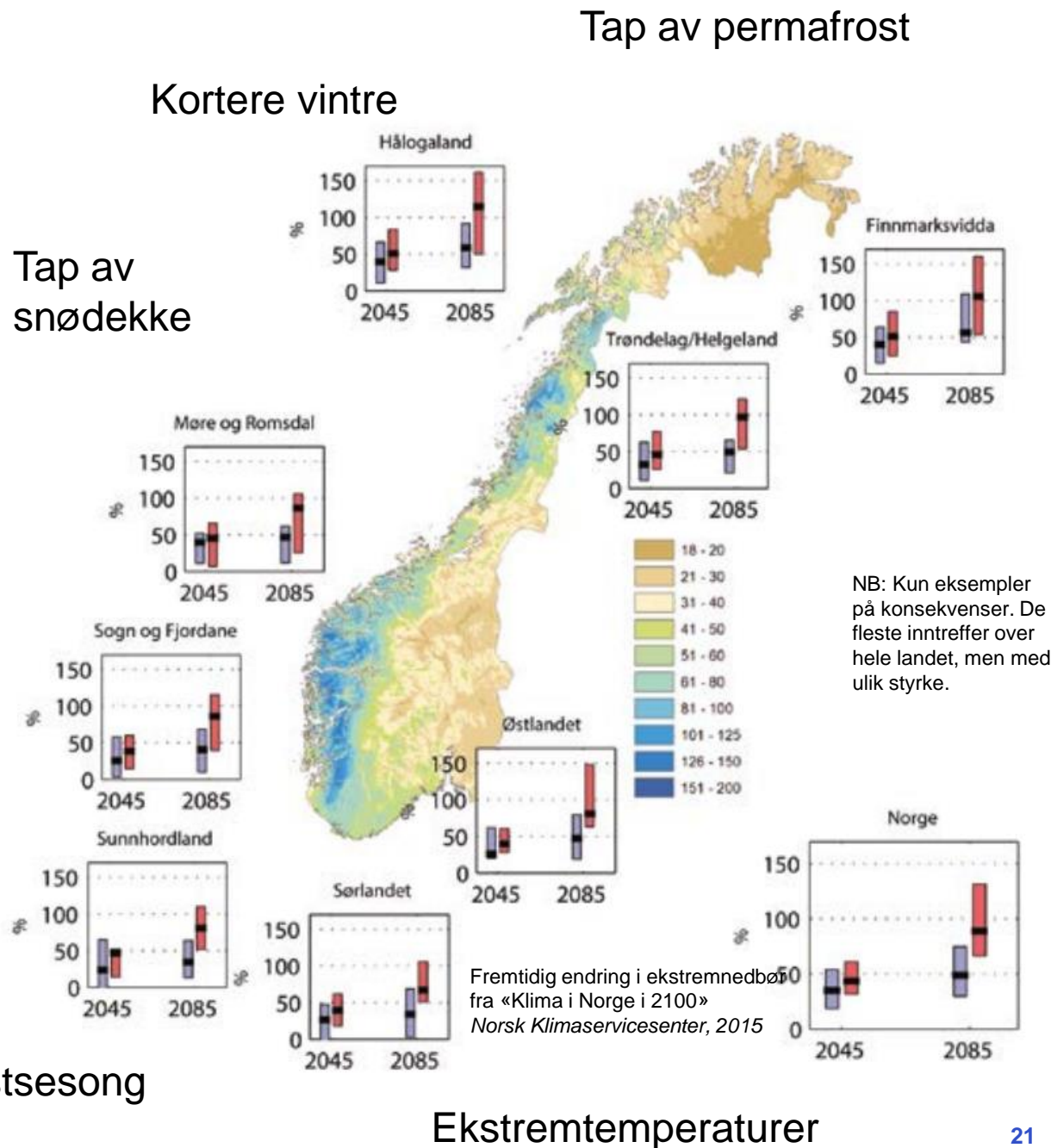
In shared spaces the mosaic of intact natural habitat provides critical contributions from nature to people. Corridors of natural habitat (yellow arrows) are illustrated facilitating climate migration of species up elevational gradients. This multifunctional 'scape concept can assist integrating global and large-scale targets within local geographies.

Norge...

- Er langstrakt og variert
- Vil oppleve et antall ulike fysiske endringer
- Har ulik sårbarhet forskjellige steder

Klimarisiko må håndteres lokalt, med det nyeste av framskrivinger som underlag.

I tillegg må også våre utslipp til (netto) null.





... RESTEN
ER OPP TIL
DEG ...

Takk for oppmerksomheten!

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