



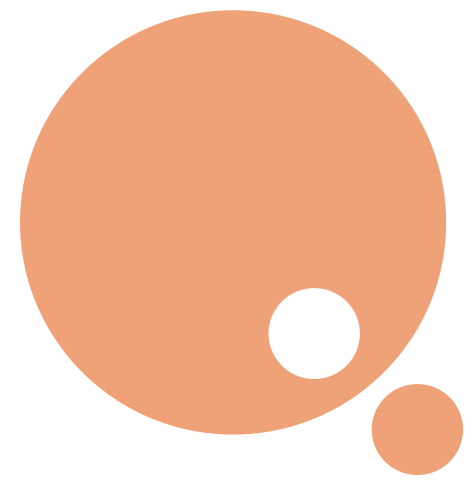
International Forum on  
**QUALITY & SAFETY**  
in **HEALTHCARE**  
**LONDON**

10-12 April 2024

**Together to Regenerate  
Health and Care**

**@QualityForum #Quality2024**





International Forum on  
**QUALITY & SAFETY**  
in **HEALTHCARE**  
**LONDON**

# MAUREEN BISOGNANO

President Emerita and Senior Fellow, Institute for Healthcare Improvement (IHI)

@QualityForum #Quality2024





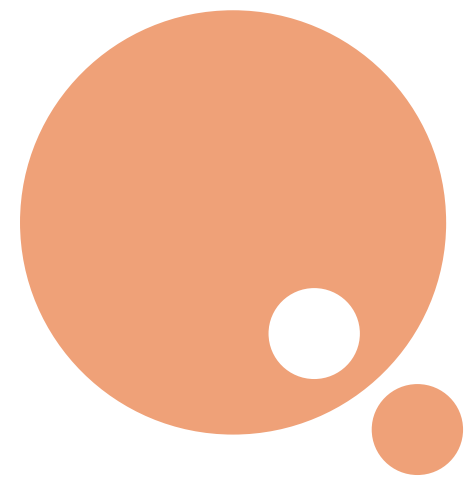
International Forum on  
**QUALITY & SAFETY**  
in **HEALTHCARE**  
**LONDON**

10-12 April 2024

**Together to Regenerate  
Health and Care**

**@QualityForum #Quality2024**





International Forum on  
**QUALITY & SAFETY**  
in **HEALTHCARE**  
**LONDON**

**DAZE AGHAJI**

Environmental Activist, Regenerative Cultures Advocate, Artist, Speaker, and Essayist

@QualityForum #Quality2024





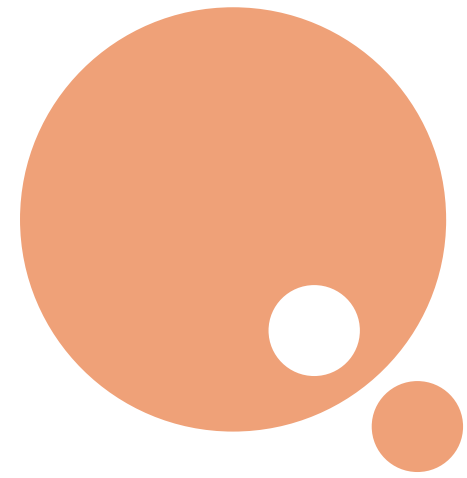
International Forum on  
**QUALITY & SAFETY**  
in **HEALTHCARE**  
**LONDON**

10-12 April 2024

**Together to Regenerate  
Health and Care**

**@QualityForum #Quality2024**





International Forum on  
**QUALITY & SAFETY**  
in **HEALTHCARE**  
**LONDON**

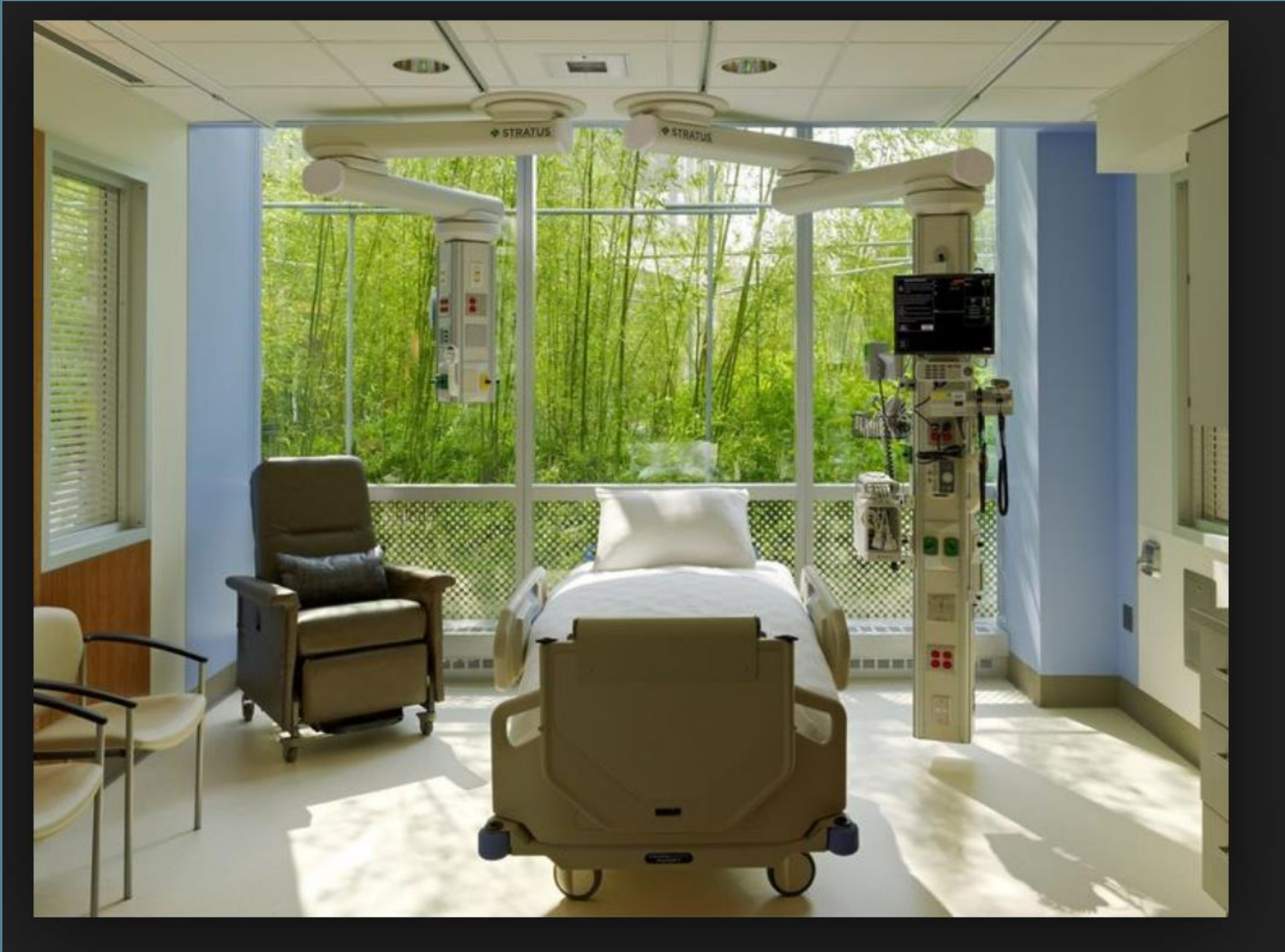
**ANTHONY COSTELLO**

Professor of Global Health and Sustainable Development, University College London

@QualityForum #Quality2024



# WHAT CAN HEALTH AND CARE SYSTEMS DO TO MITIGATE THE GLOBAL CLIMATE EMERGENCY?



---

# THREE THEMES

Climate change and health 2024: how it should inspire immediate affordable action, not denial or despair.

Key actions and solutions for health care resilience

Health (Children) in All Policies as a key strategy for mitigation





# Health, Climate Change & The Lancet



**THE LANCET**  
June, 2015  
Health and climate change  
"Tackling climate change is a global health opportunity."  
A Commission by The Lancet

**THE LANCET**  
November, 2016  
The Lancet Countdown: Tracking Progress on Health and Climate Change  
A Review by The Lancet

**THE LANCET**  
October, 2017  
The 2017 report of the Lancet Countdown: Tracking Progress on Health and Climate Change  
A Review by The Lancet

**THE LANCET**  
November, 2018  
The 2018 report of the Lancet Countdown: Tracking Progress on Health and Climate Change  
"The nature and scale of the response to climate change is the determining factor in shaping the future of the world in the centuries to come."  
A Review by The Lancet

**THE LANCET**  
November, 2019  
The 2019 report of the Lancet Countdown: Tracking Progress on Health and Climate Change  
"An unprecedented challenge demands a response, and it will take the world currently alive to ensure that the future is not defined by a changing climate."  
A Review by The Lancet

**THE LANCET**  
December, 2020  
The 2020 report of the Lancet Countdown: Tracking Progress on Health and Climate Change  
"Unless the global COVID-19 response to climate change target laid out in the Paris Agreement is met, the health of the world in the short term will be severely impacted."  
A Review by The Lancet

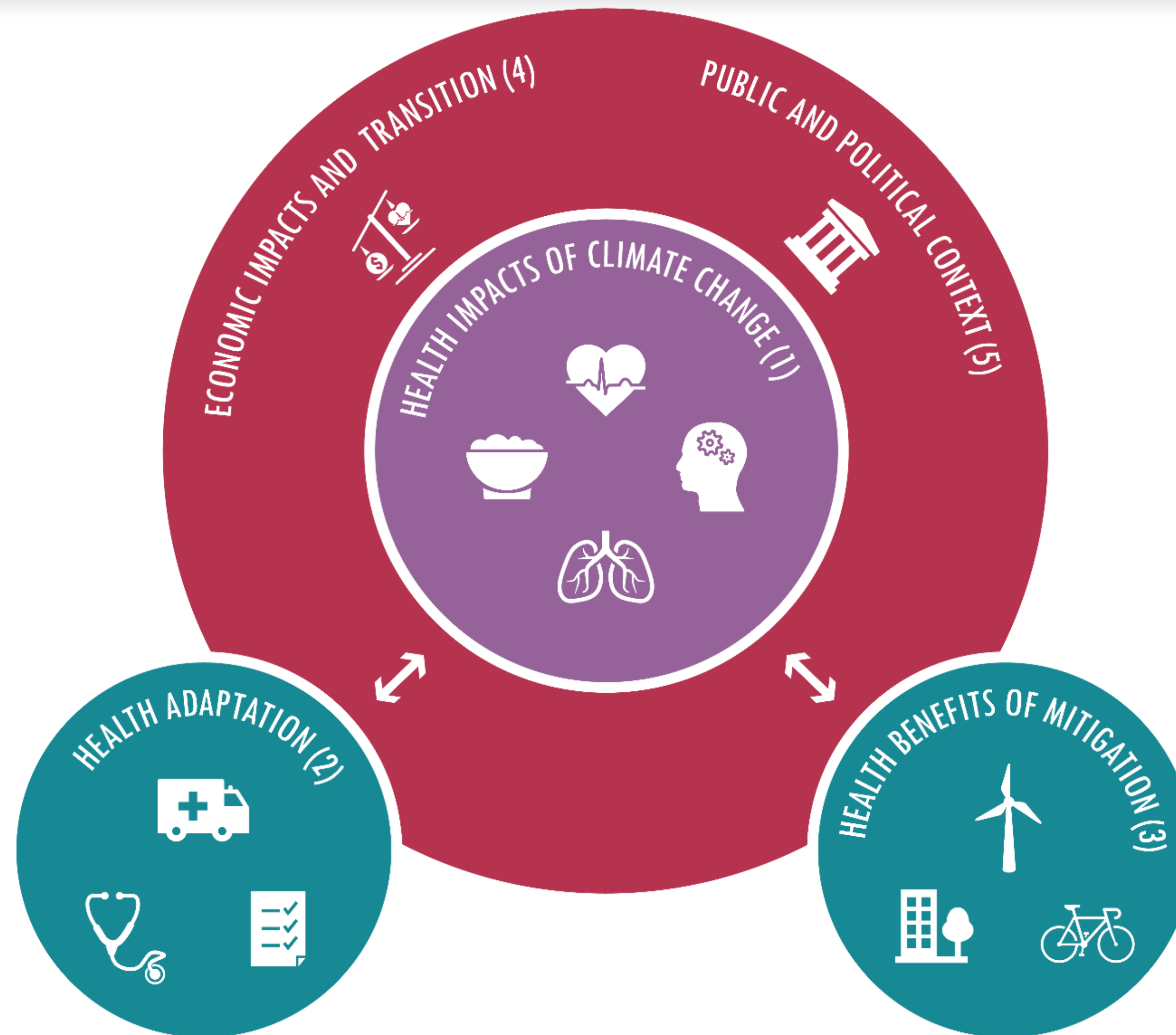
**THE LANCET**  
October, 2021  
The 2021 report of the Lancet Countdown: Tracking Progress on Health and Climate Change  
"Leaders of the world have an unprecedented opportunity to deliver a future of improved health, reduced inequality, and economic and environmental sustainability. It will only be possible if the world acts together and no person is left behind."  
A Review by The Lancet

**THE LANCET**  
October, 2022  
The 2022 report of the Lancet Countdown on health and climate change  
"Countries and companies continue to make choices that threaten the health and survival of people in every part of the world...At this critical juncture, an immediate, health-centred response can still secure a future in which world populations can not only survive, but thrive."  
A Review by The Lancet

# Lancet Countdown Partners around the world

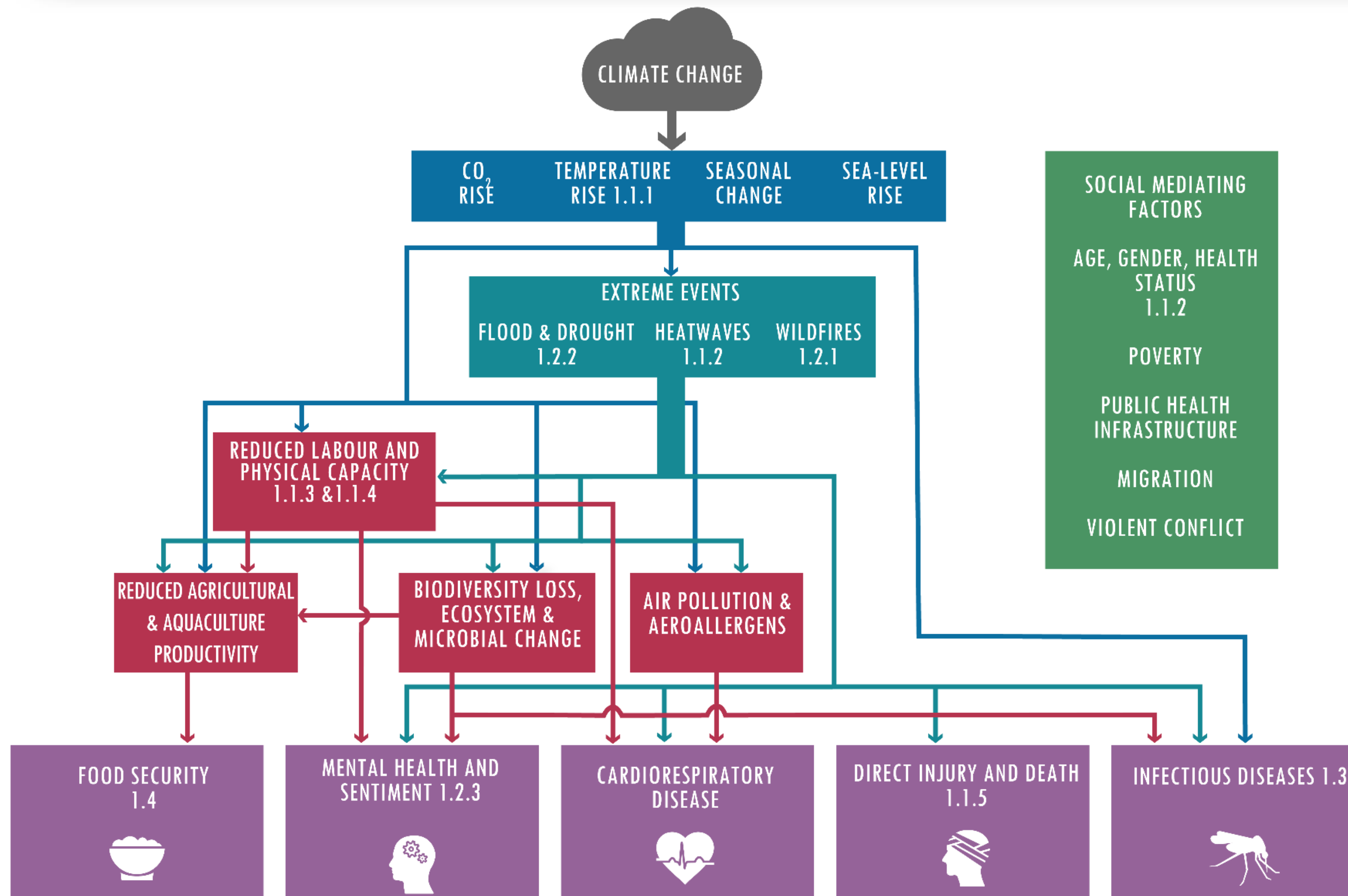


# The five working groups of the Lancet Countdown





# Health Hazards, Exposures, and Impacts



## 1.1 – Heat and Health:

1.1.1: Exposure to Heating

1.1.2: Exposure of Vulnerable Populations to Heatwaves

1.1.3: Heat and Physical Activity

1.1.4: Change in Labour Capacity

1.1.5: Heat-related Mortality

## 1.2 – Health and Extreme Weather Events:

1.2.1: Wildfires

1.2.2: Drought

1.2.3: Extreme Weather and Sentiment

1.3: Climate Suitability for Infectious Disease Transmission

1.4: Food Security and Undernutrition



# 1.1.2: Exposure to Heatwaves

## Headline Finding:

Exposure to extremes of heat can lead to death, with a significant increase in heatwave days. In 2013-2022, infants and people aged 65+ were exposed to 108% more days of heatwaves per year than in 1986-2007.

### CLIMATE CHANGE

## Extreme heat affects Indian women more than men; analysis finds spike in deaths due to high heat since 2005

For women, the percentage change in mortality rate increased by 4.63% in 2000 to 2010 and 9.84% between 2010 and 2019

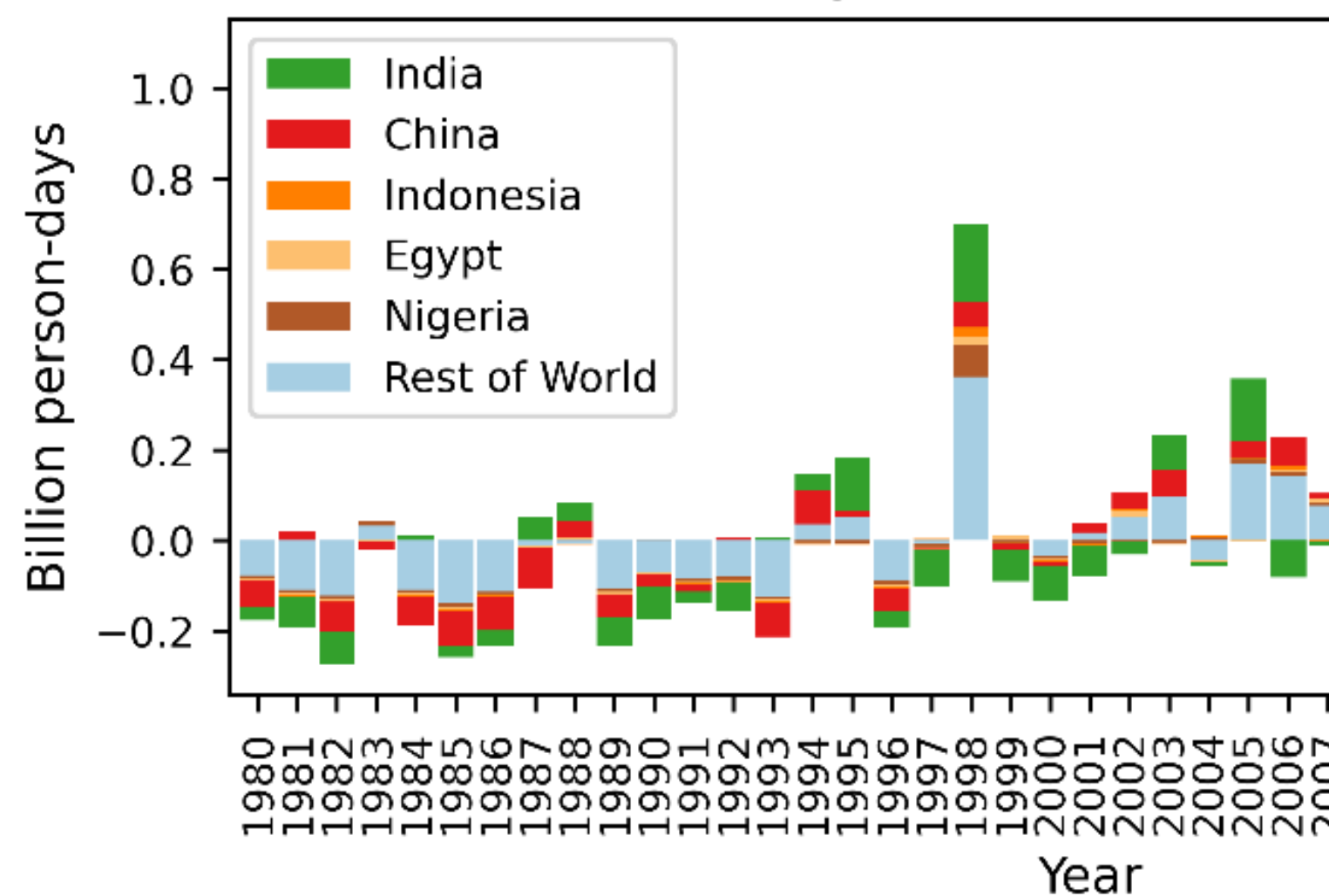


By [Rohini Krishnamurthy](#)  
Published: Saturday 06 April 2024

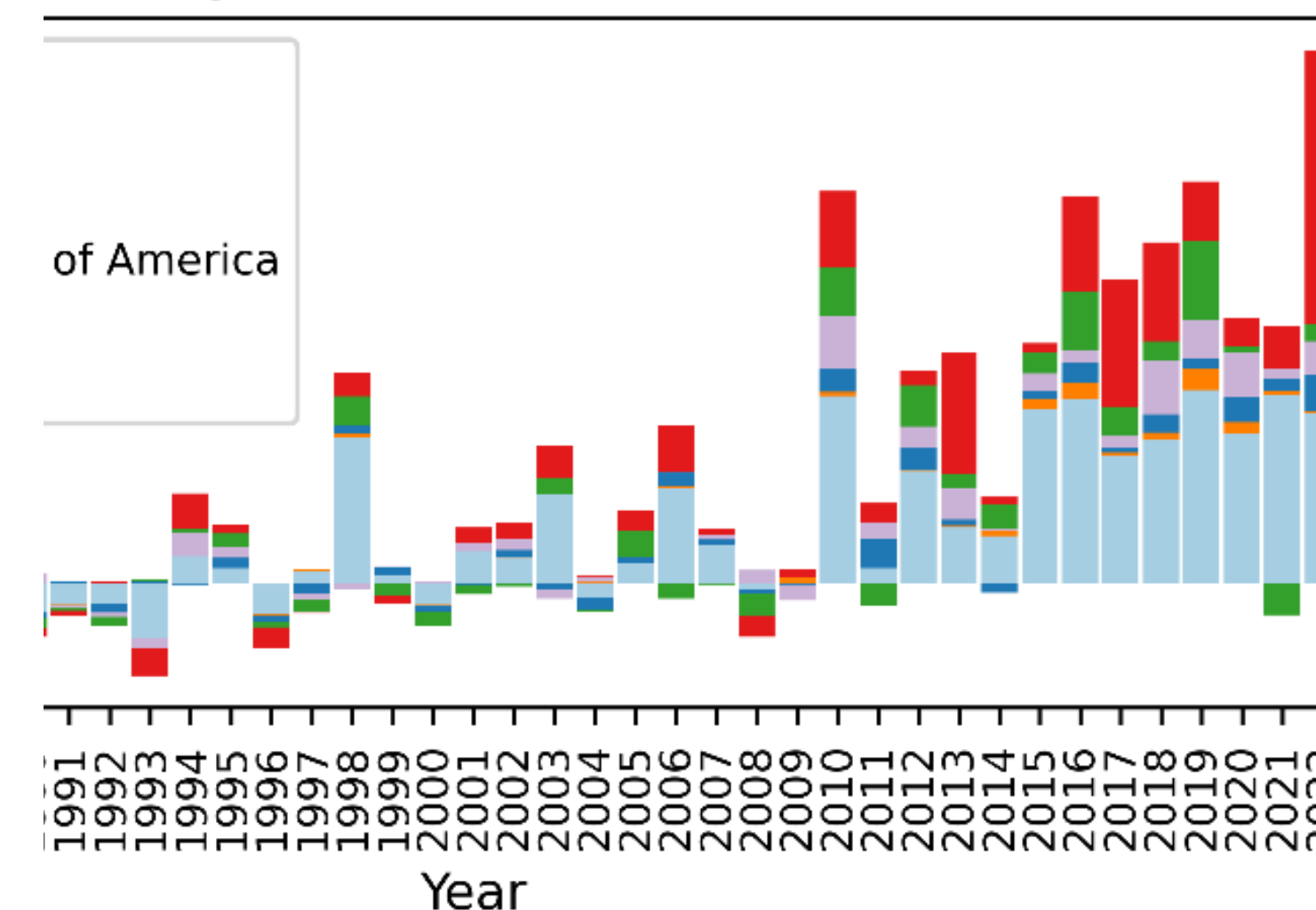


Infants and people aged 65+ were exposed to 108% more days of heatwaves per year than in 1986-2007, on average, 108% more days of heatwaves per year than in 1986-2007.

Exposures of infants to change in heatwave occurrence



Exposures of over 65s to change in heatwave occurrence

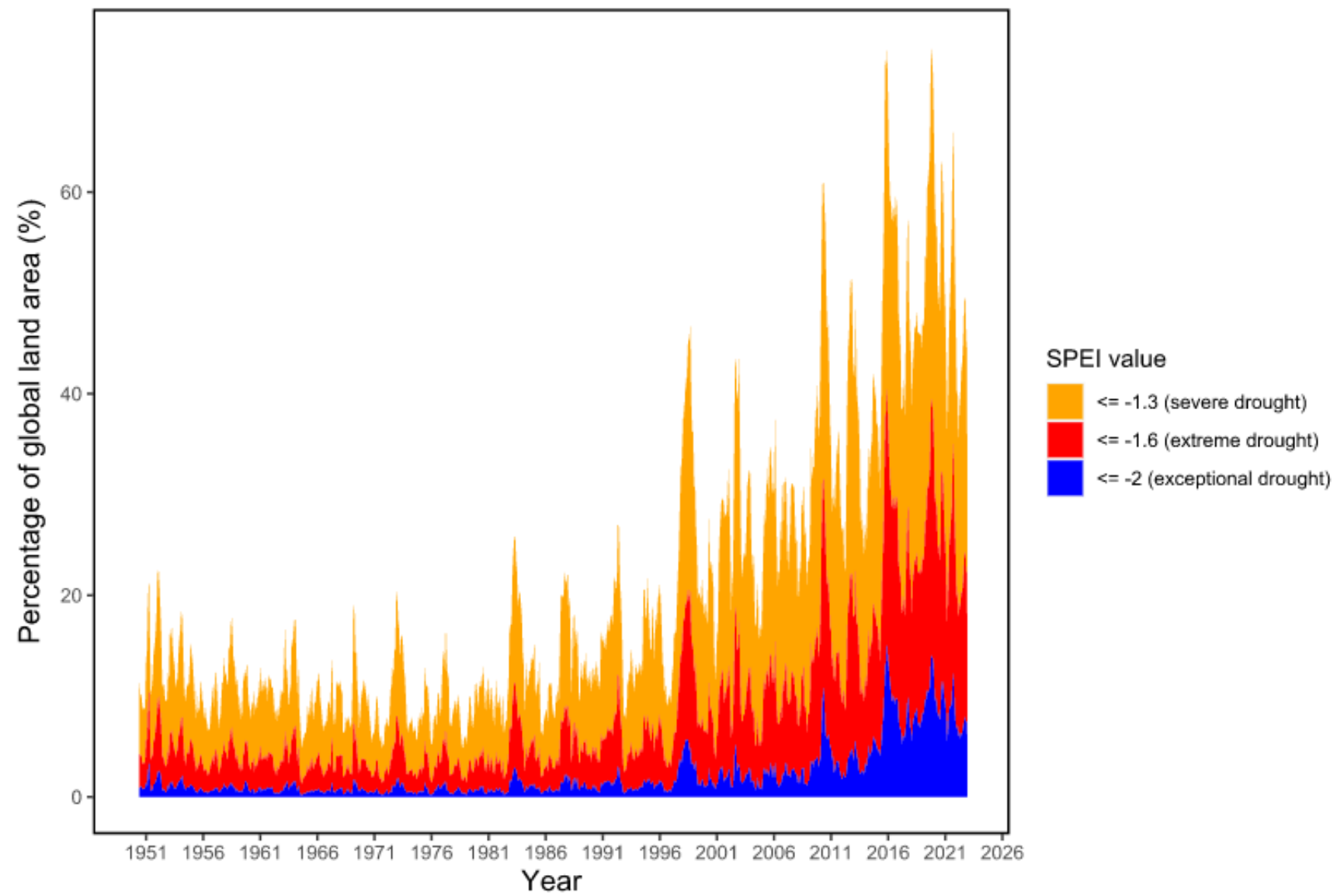




## 1.2.2: Drought

### Headline Finding

The global land area affected by extreme drought per year **increased to 47% in 2013–22 from 18% in 1951–60.**



Percentage of global land area affected by drought events per month from 1951-2022.

# Nepal suffers another winter drought

Climate impact: 8 of last 12 winters had prolonged drought affecting agriculture and sparking wildfires

17 January 2024 Ramesh Kumar

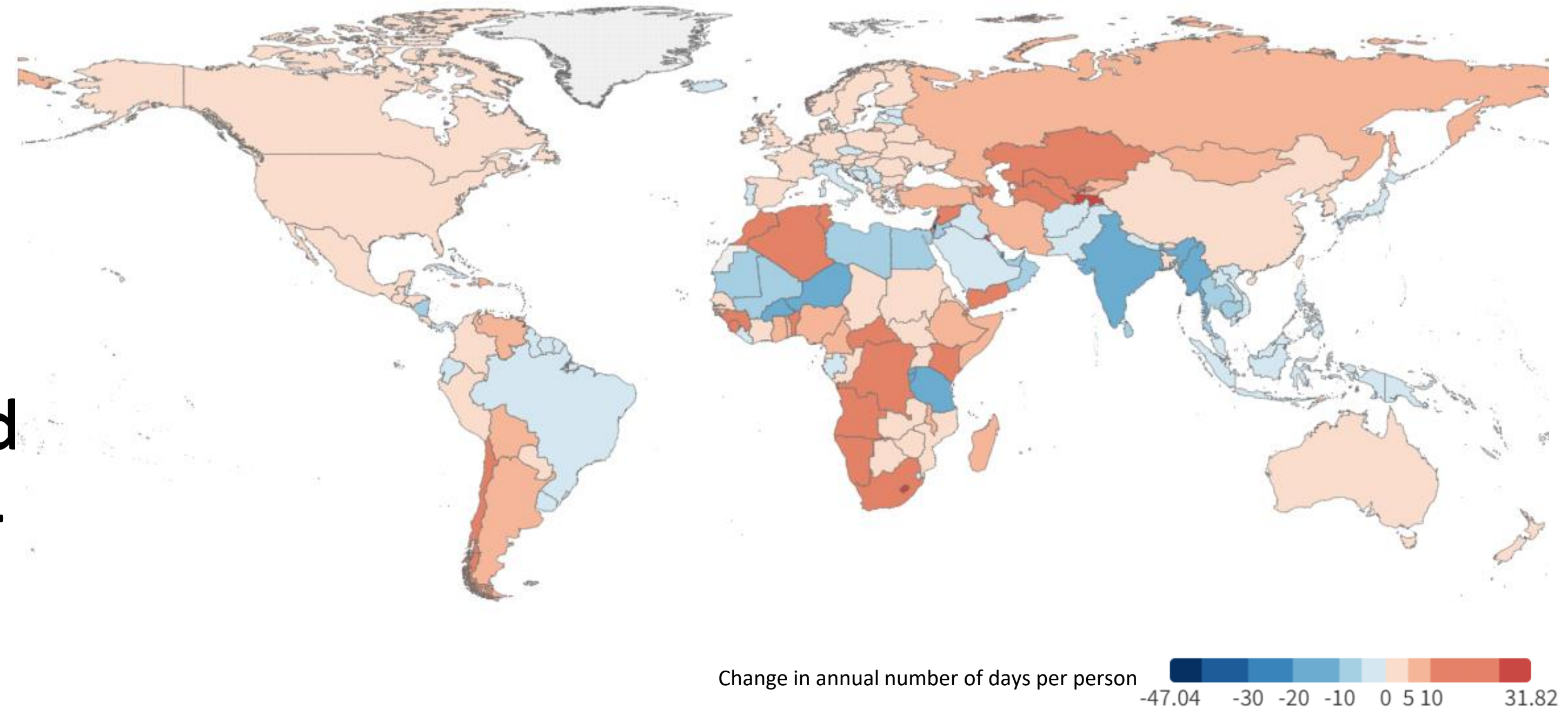




## 1.2.1: Wildfires

### Headline Finding

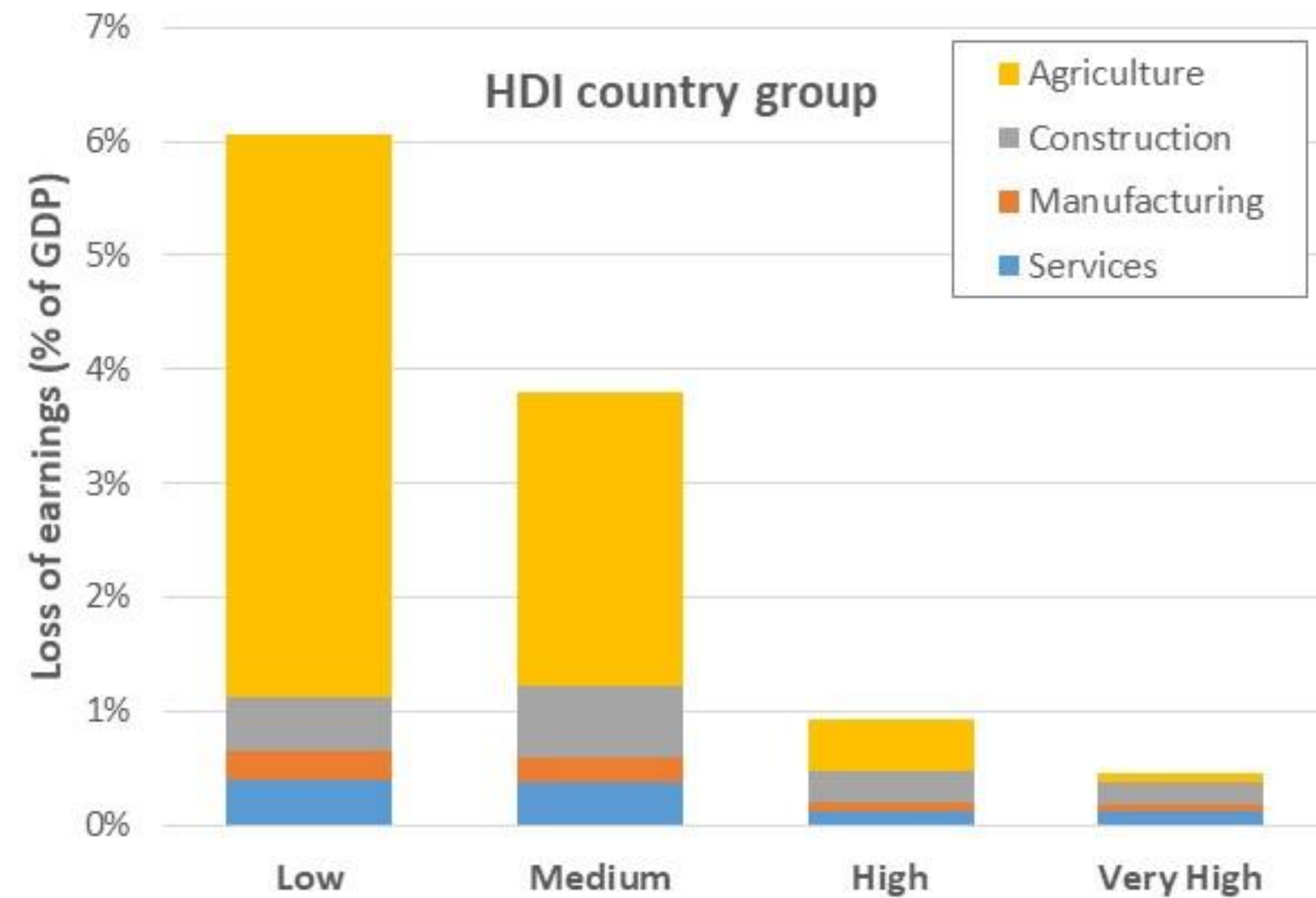
The number of days in which people were exposed to very high or extremely high fire danger **increased in 57% of countries between 2003–07 and 2018–22.**



Population-weighted mean changes in very high and extremely high fire danger days in 2018-2022 compared with 2003-2007.



## 4.1.3: Loss of Earnings from Heat-Related Reduction in Labour Capacity



Average potential loss of earnings due to heat exposure in 2022, by HDI group.



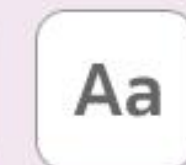


## 2.3.3: Migration, Displacement Levels

# Death toll from Indian Himalayan flash floods rises to 42, scores still missing

By Subrata Nag Choudhury and Aftab Ahmed

October 6, 2023 6:22 PM GMT+1 · Updated 6 months ago



Population

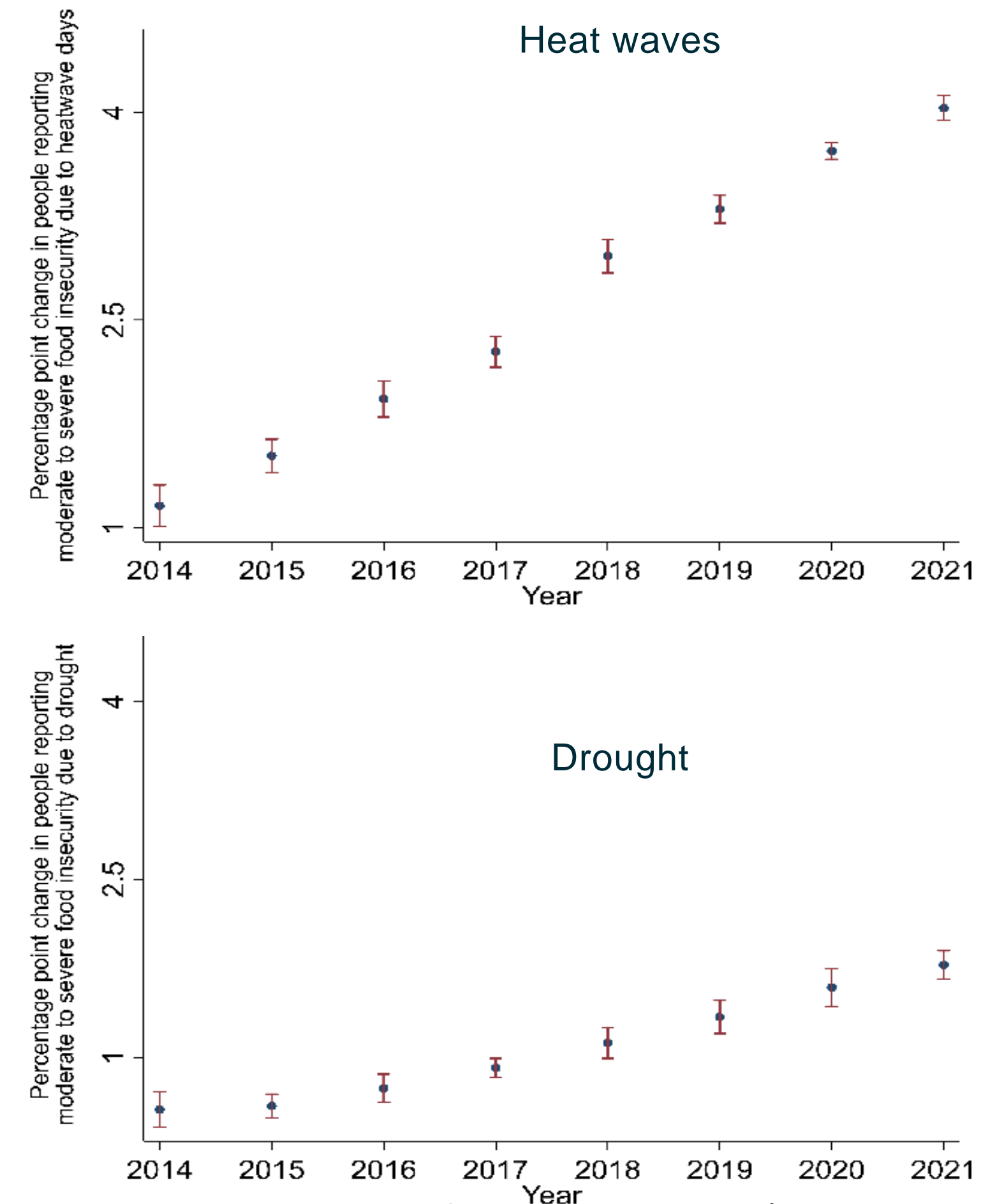


# 1.4: Food Security and Undernutrition

## Headline Finding

Globally, 735 million people experienced chronic hunger in 2022.

Compared with 1981–2010, higher frequency of heatwave days and drought months was associated with 127 million more people experiencing moderate or severe food insecurity in 2021.



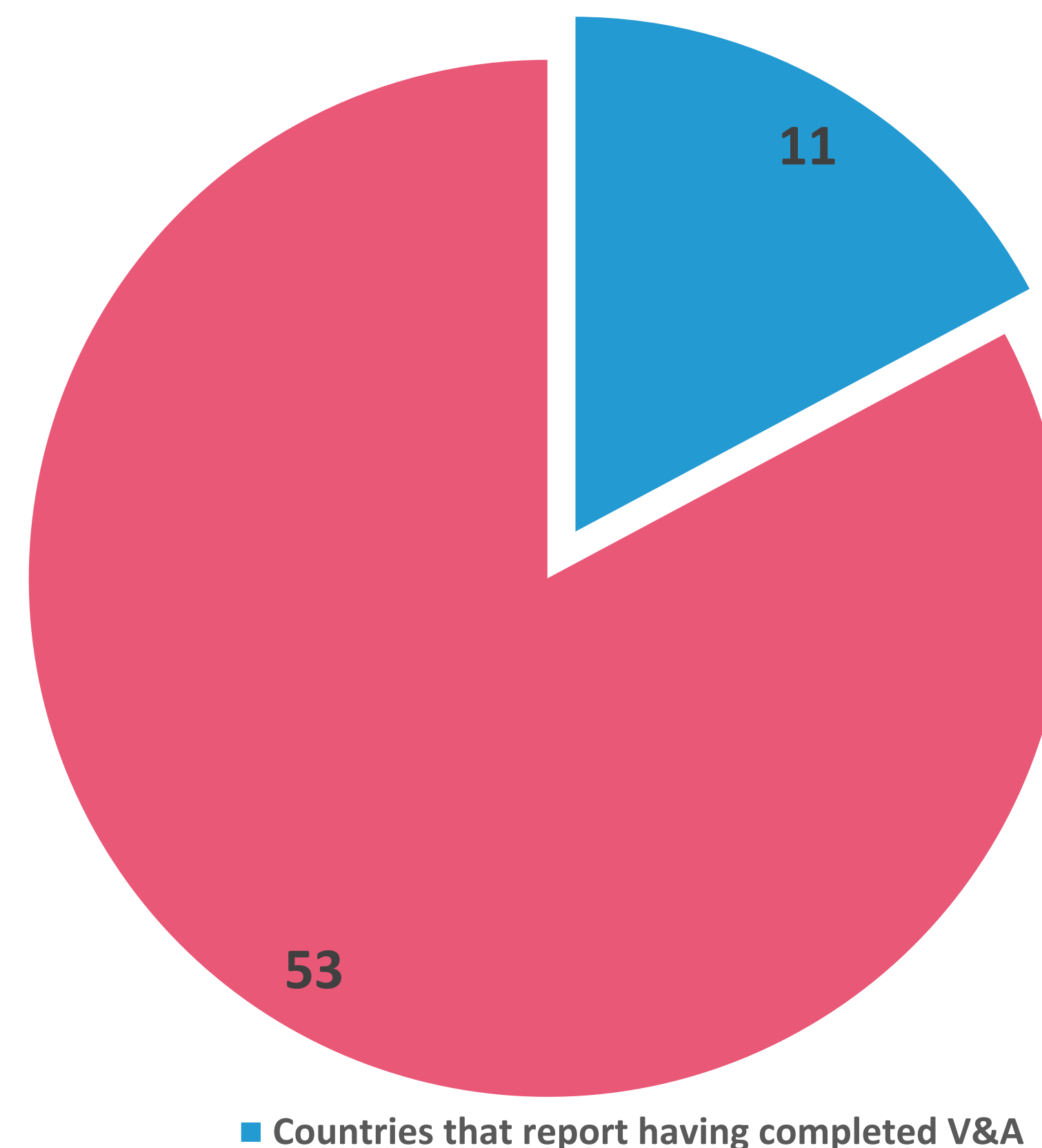
Change in the share of the population (percentage point) reporting moderate or severe food insecurity due to change in heatwave days (upper), & frequency of drought months (lower), compared to 1981-2010.



## 2.1.1: National Assessments of Climate Change Impacts, Vulnerability and Adaptation for Health

### Headline Finding:

In 2022, only 11 of the 64 countries that have committed to the COP26 Health Programme reported having completed a V&A. This number is rapidly increasing.



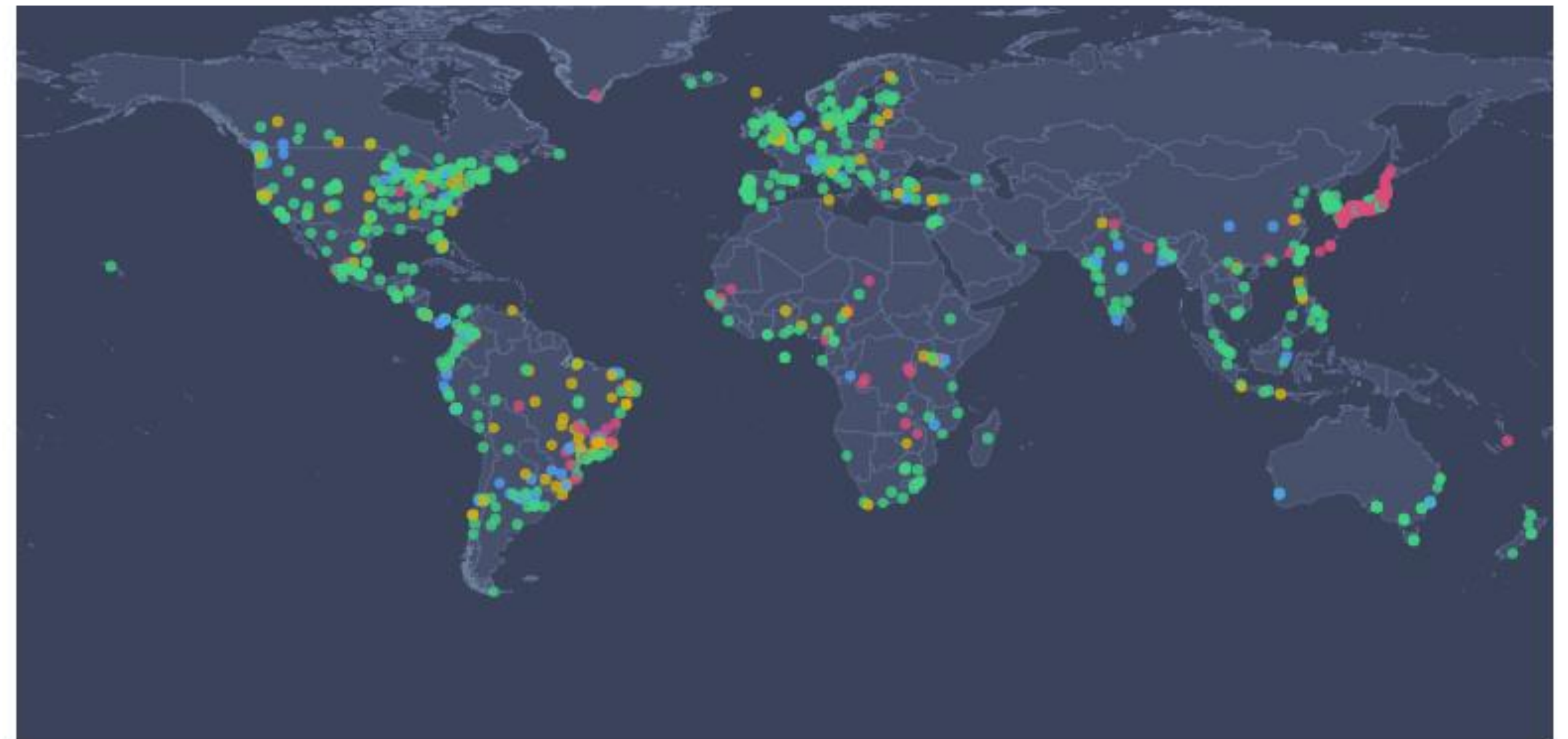


## 2.1.3: City-Level Climate Change Risk Assessments

Headline Finding:

Urban centres are home to **55% of the world's population**. City-level interventions, are essential to design effective interventions to protect the health of local populations.

In 2022, **94%** of cities (848/898) reported to the CDP annual Cities Questionnaire were **undertaking a city-level climate change risk assessment**, up from 78% (725/930) in 2021.



Assessment done Assessment in progress Intending to undertake assessment  
Not intending to undertake/ No answer / Do not know

Status of climate change risk assessments in cities in 2021.

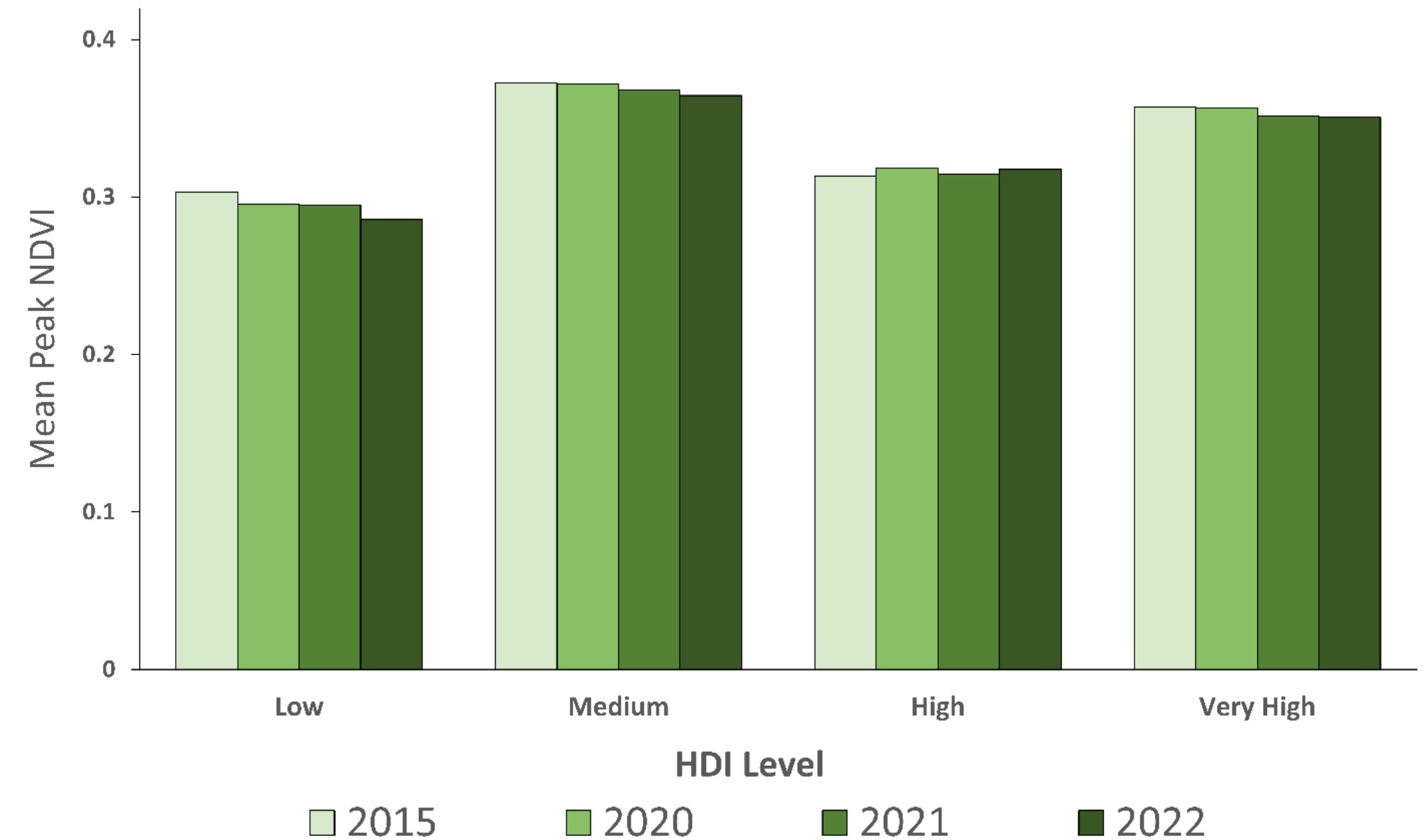


## 2.2.3: Urban Green Space

### Headline Finding:

Green spaces can reduce heat intensity in urban centres, positively affect physical and mental health, improve air quality, and cut the risk of urban floods by reducing water runoff.

The proportion of urban centres with moderate or higher levels of greenness decreased from 18% in 2015 to 13% in 2022 in low HDI countries, with little variation across other HDI groups.



Mean, population-weighted, peak-season Normalised Difference Vegetation Index, by Human Development Index category and year.



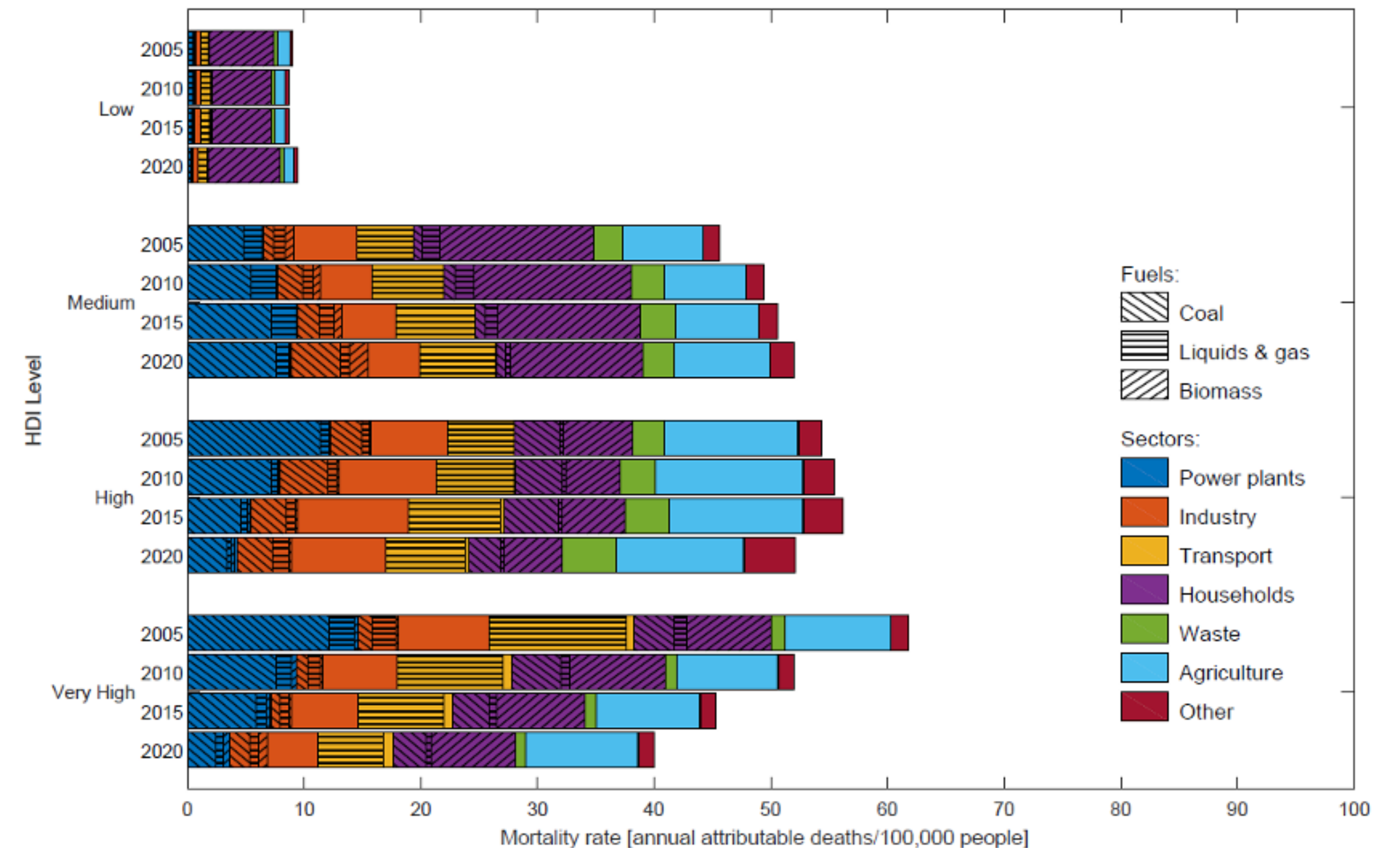
## 3.2.1: Mortality from Ambient Air Pollution

Headline Finding:

Exposure to air pollution increases **the risk of respiratory and cardiovascular disease, cancer, diabetes, neurological disorders, and adverse pregnancy outcomes.**

**WHO: 7 million deaths** per year

Global deaths **attributable to fossil fuel-derived PM2.5 decreased** from 1.4 million in 2005 to 1.2 million in 2020. Reduced coal pollution contributed to about 80% of the decrease.



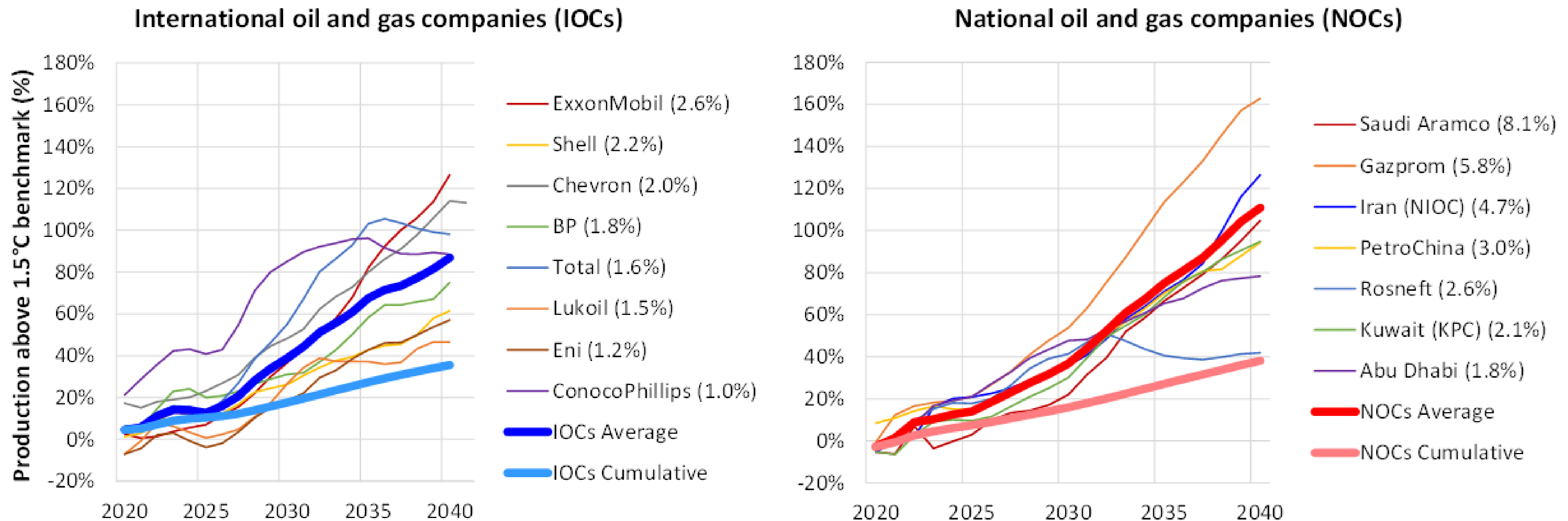
Mortality rate attributable to PM2.5 concentration by fuel, sector, year, and HDI country level.



## 4.2.6: Compatibility of Fossil Fuel Company Strategies with the Paris Agreement

### Headline Finding:

The current strategies of 15 of the largest oil and gas companies would lead to production exceeding levels consistent with limiting global average surface temperature rise to 1.5°C by 37% in 2030, and 103% in 2040.



Compatibility of large oil and gas company production strategies with Paris 1.5°C climate target.



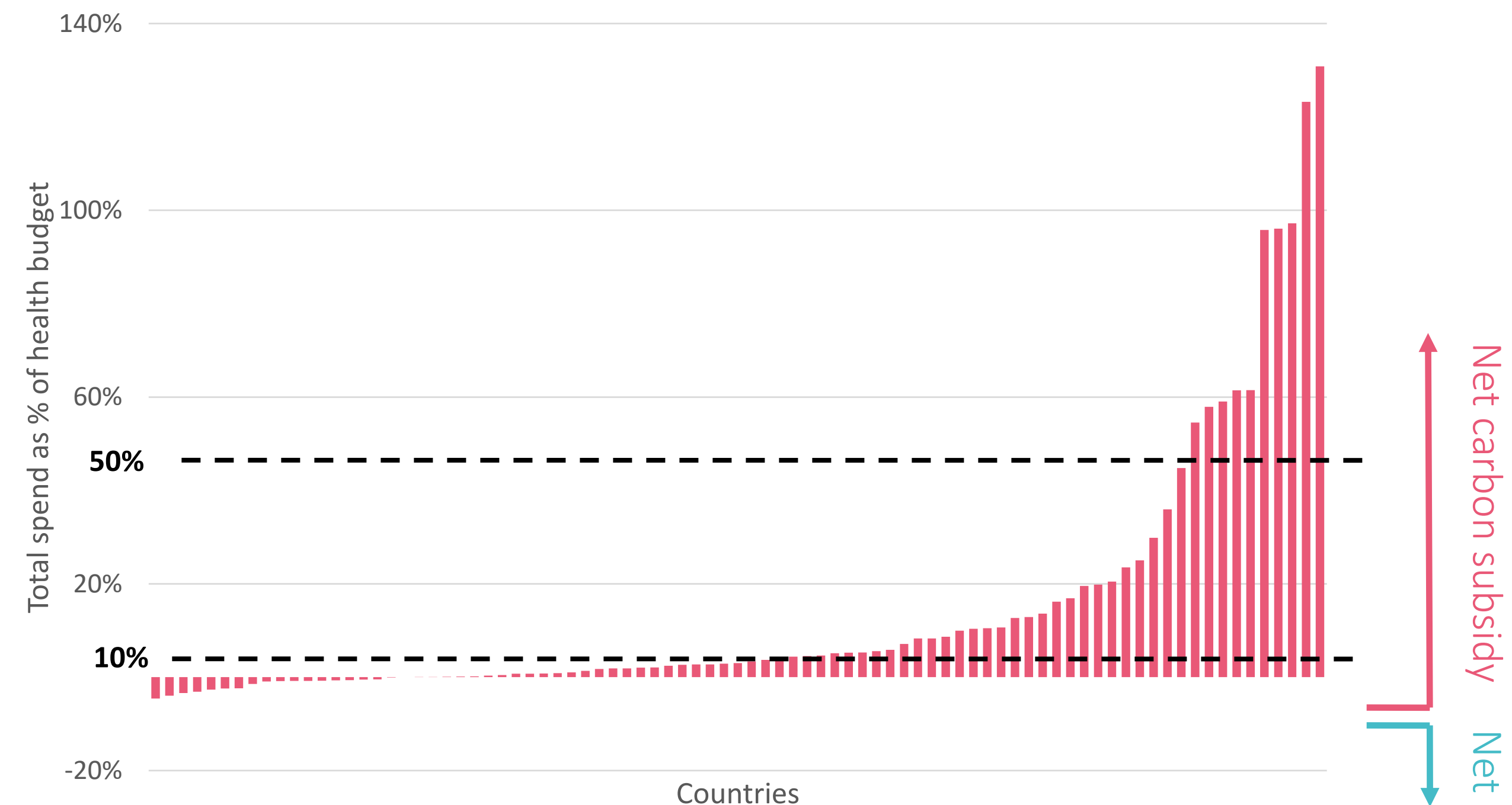
## 4.2.4: Net Value of Fossil Fuel Subsidies and Carbon Prices

Headline Finding:

Fossil fuel subsidies provide **incentives for health-harming emissions** and slow the low-carbon transition, whereas carbon prices help economies transition away from high-carbon fuels.

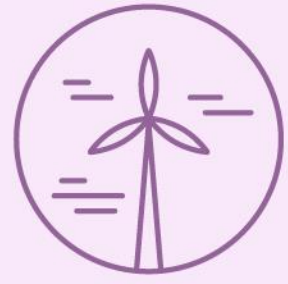
68 of the 87 countries reviewed had a **net-negative carbon price** in 2020, generating a net subsidy to fossil fuels of \$305 billion.

In 2022, total fuel subsidies worldwide amounted to **\$7 trillion (IMF)**



Total net funds allocated to fossil fuel subsidies as share of current national health expenditure across 87 countries in 2020.

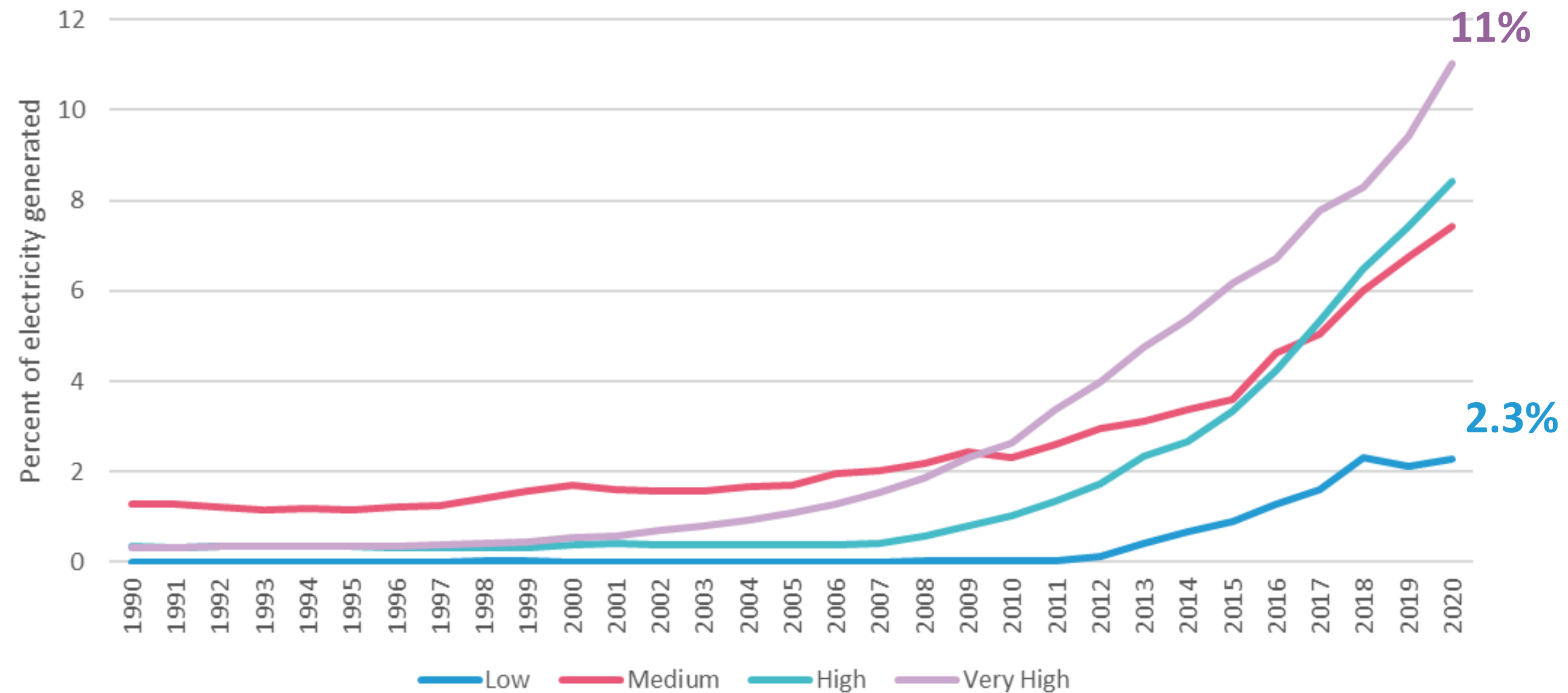




# A world accelerating in the wrong direction

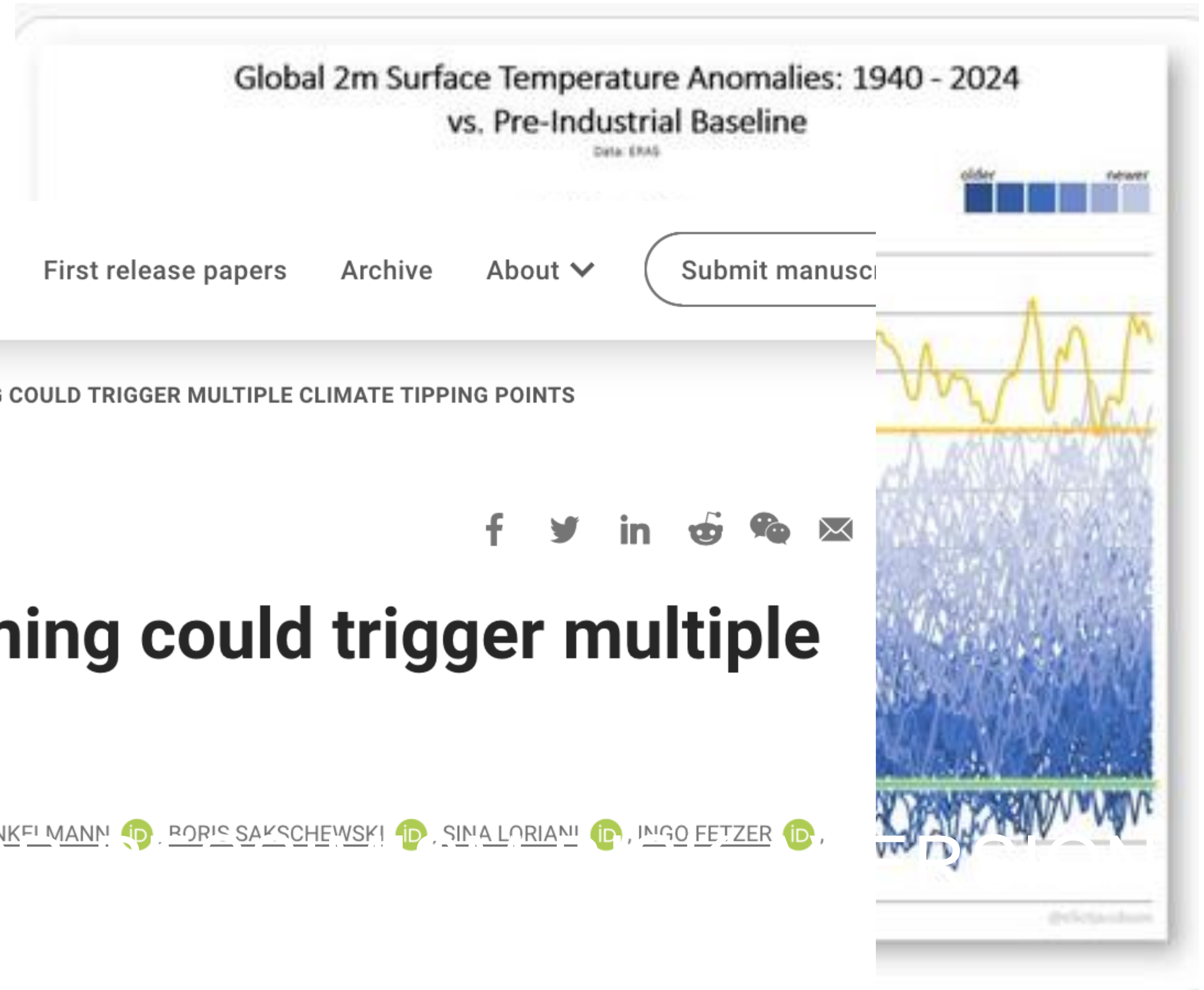
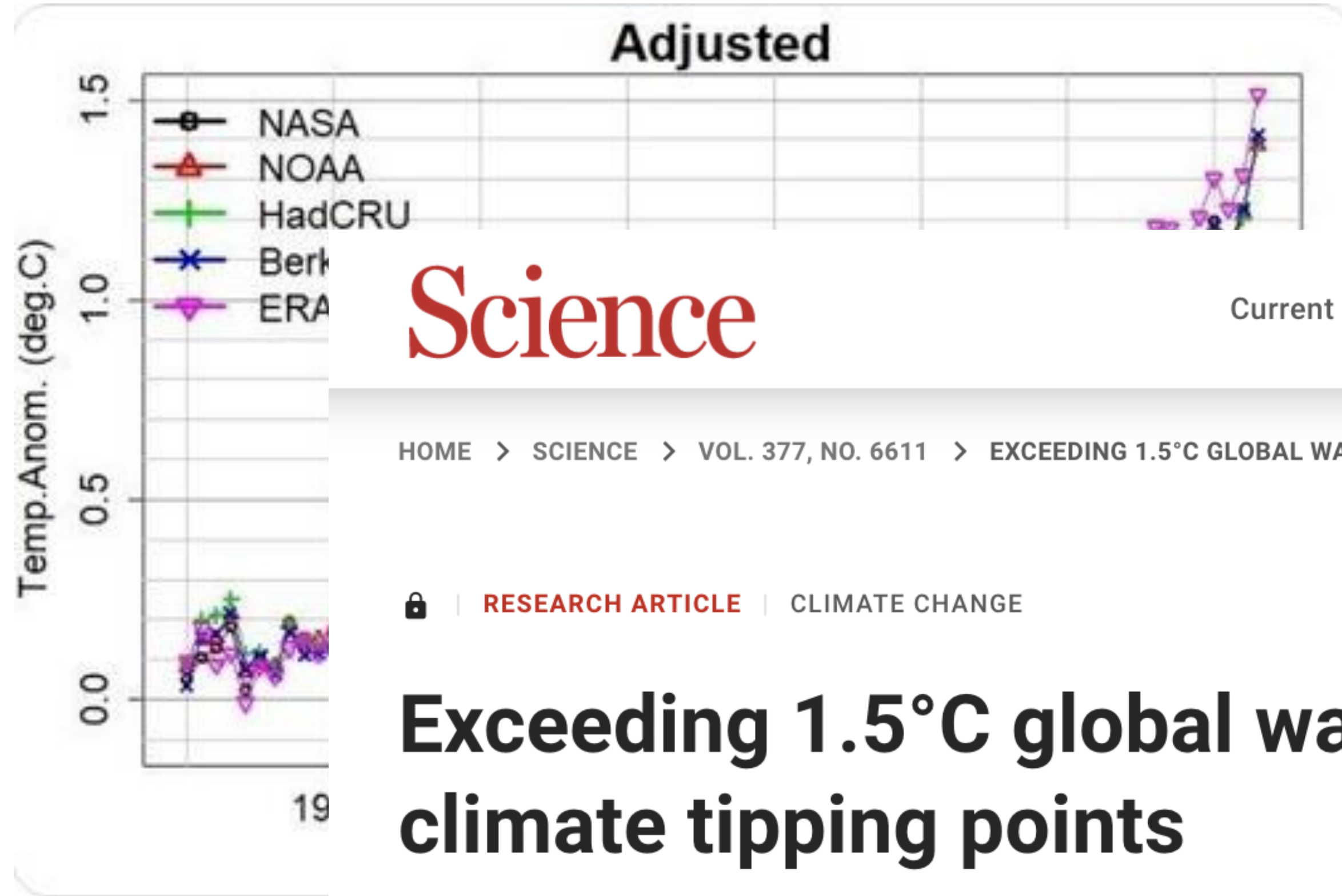
## 3.1.1: Energy System and Health

The share of modern renewables in electricity generation (mainly wind and solar energy) reached 9.5% in 2020, an increase of 360% over the last decade. Modern renewables make up 11% of all electricity generated in very high HDI countries, they only account for 2.3% of electricity in low HDI ones.



Percentage of electricity generated from modern renewables by HDI group, 1990-2020.

# CLIMATE SCIENTISTS ARE PROFOUNDLY WORRIED



Prof Stefa  
remove

activity.

Prof Elliot Jacobson; "The latest global temperature that was just posted by Copernicus (data from Feb. 9) was 2.03°C above the 1850-1900 pre-industrial baseline.

---

## **2. KEY ACTIONS AND SOLUTIONS IN HEALTH CARE**

---

Are you over 35?

Are you under 35?



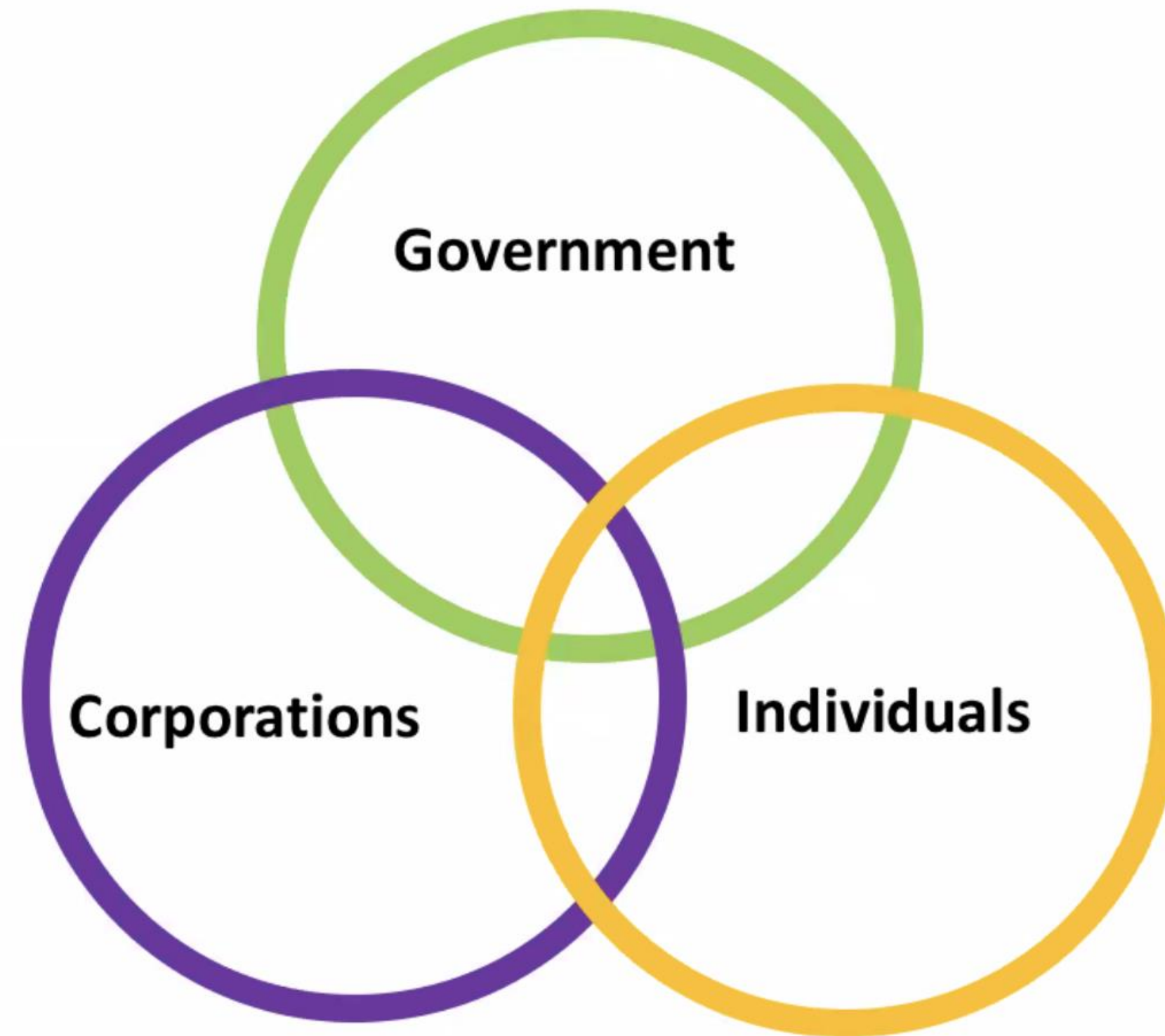
**SO MUCH WE CAN DO!**

**pessimism bias**

optimism



## Net Zero Carbon Emission



**Could save the World \$46 trillion**



# Government actions for Net Zero emissions

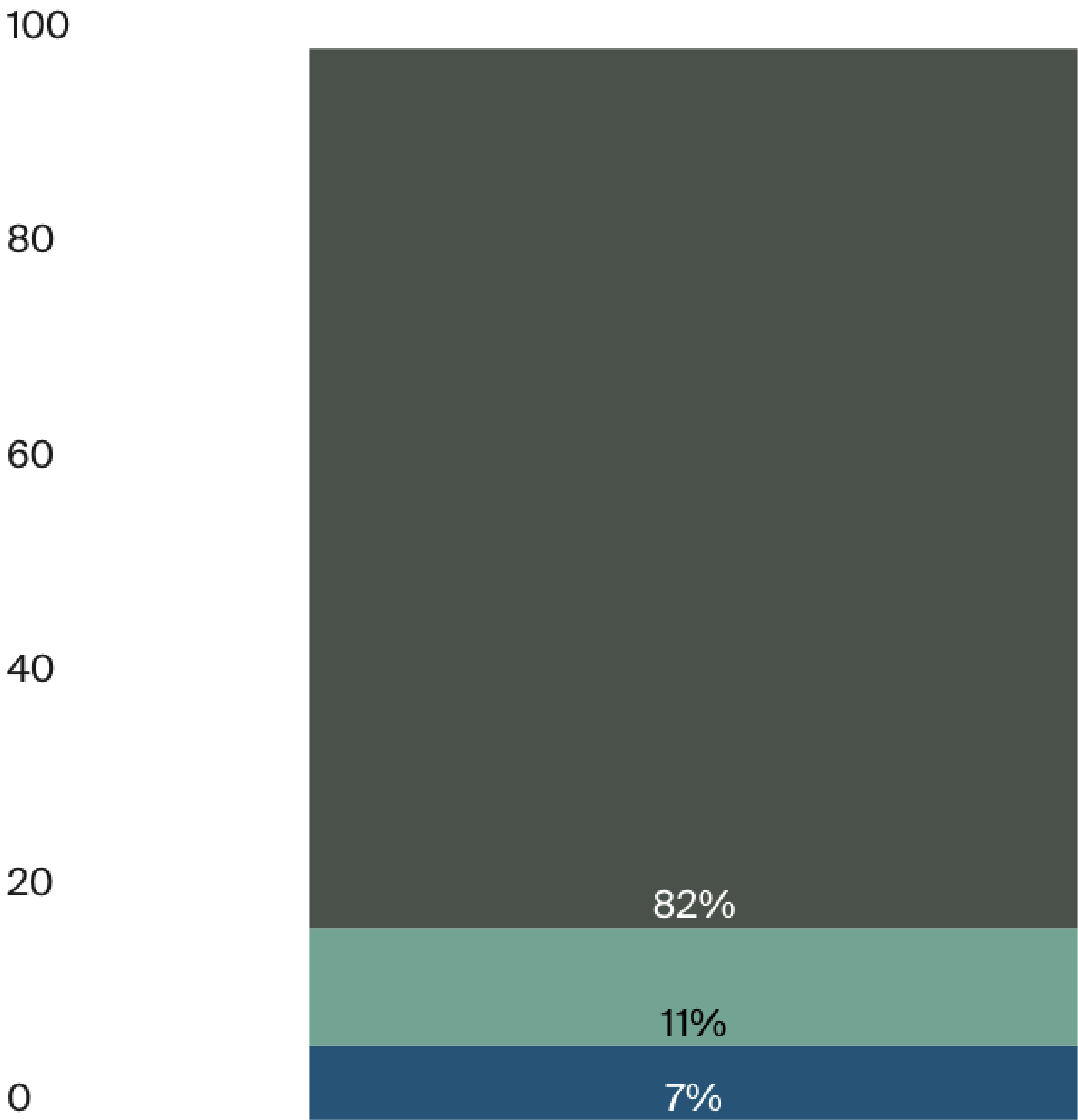
- **Support renewable energy**
- **Cut fossil fuel subsidies**
- **Active and public transport**
- **Carbon neutral buildings**
- **Reforest, rewild.**
- **Recycle, re-use, reduce waste**
- **Sustainable agriculture, plant-based diets**
- **Green business and infrastructure**



# Sources of Greenhouse Gas Emissions in the Health Care Industry

5% of all GHGs!

Greenhouse gas emissions, 2018



● Scope 1 ● Scope 2 ● Scope 3

### Scope 3

All other supply-chain emissions including:

- Water and waste
- Energy
- Transport
- Finance, insurance, administration, and public health
- Testing and research
- Construction
- Other manufacturing
- Information and computer technology, equipment, and services
- Plastics, rubber, textiles, and paper
- Medical supplies
- Medical devices
- Pharmaceuticals and chemicals
- Food
- Other

### Scope 2

Emissions from direct purchases of energy

### Scope 1

Direct emissions from health care facilities

# We must focus on solutions

- Policy implementation
- Practices at scale
- People
- Implementation science and quality methods eg PDSAs





# Leadership and governance

- Doctor or nurse?
- Health manager?
- Community professional?
- Civil servant?
- Medical education?
- Health evaluation?
- A parent interested in your children's future?
- Agent provocateur?



# Health workforce



- Sustainable Primary Care. ...
- Sustainable Mental Healthcare. ...
- Sustainable Dentistry. ...
- Sustainable Respiratory Care. ...
- Sustainable Anaesthetics. ...
- Sustainable Kidney Care. ...
- Sustainable Child Health. ...
- Sustainable Procurement.

[More items...](#)



Centre for Sustainable Healthcare |  
<https://sustainablehealthcare.org.uk> > courses

[Courses | Centre for Sustainable Healthcare](#)



# Information systems

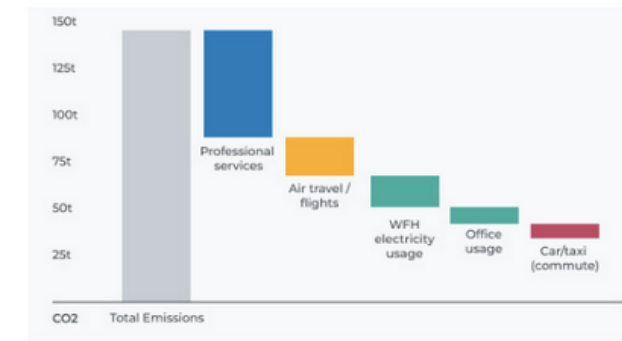
## The NHS has published new supply chain rules requiring all suppliers to have a carbon reduction plan by April 2024

The NHS requires all suppliers to complete a carbon reduction plan by April 2024. A carbon reduction plan quantifies your business carbon footprint and quantifies your plans to reduce it. It should be calculated using a methodology in line with the GHG Protocol and verified by a 3rd party like Trace to maximise your points under the NHS supply chain assessment.

Lancet Commission on Sustainable Health Care will report 2025.

### Reducing Emissions

**Our opportunities**  
We've identified significant opportunities to reduce emissions across our Professional Services, which is the largest contributor to our footprint. We've also identified that flights for business travel and electricity usage are opportunities for us to reduce our emissions.



**Our targets**  
Based on the opportunities we've identified to reduce our emissions, we've set ambitious targets that are focused on our key categories. We know it will be hard, but we also know setting goals is the first step to taking action.

- TARGET 1: 100% green energy in our office by 2024.
- TARGET 2: Reduce emissions from business travel per FTE by 25% by 2030.
- TARGET 3: Engage 80% suppliers to set their own science-based targets by 2028.
- TARGET 4: 50% of our staff's WFH electricity to be renewable by 2027.

OUR PATH TO REDUCING EMISSIONS 09

### Decarbonisation Plan

**Completed**  
Our first step as a business was to measure our CO2 baseline, as well as putting in place policies to reduce supplier and travel emissions.

- 2023: Develop sustainable supplier policy
- 2023: Help landlord switch to renewables
- 2023: Implement sustainable supplier policy
- 2023: Improve office energy efficiency
- 2023: Offset our emissions to be carbon neutral
- 2023: Separate office waste
- 2023: Set CO2 emissions baseline

**In progress**  
Our current focus is ensuring we're improving the accuracy of our data from across our operations, and taking actions to reduce our emissions across key categories.

- 2024: Conduct waste audit
- 2024: Create plan to reduce commuting emissions
- 2024: Develop climate mission statement
- 2024: Go paperless
- 2024: Reduce business travel emissions

## THE LANCET Planetary Health

- This journal
- Journals
- Publish
- Clinical
- Global health
- Multimedia
- Events
- About

ARTICLES | VOLUME 5, ISSUE 2, E84-E92, FEBRUARY 2021

Download Full Issue

PDF [588 KB] Figures

## Health care's response to climate change: a carbon footprint assessment of the NHS in England

Imogen Tennison, MEng • Sonia Roschnik, MSc • Ben Ashby, MEng • Richard Boyd, MEng • Ian Hamilton, PhD • Prof Tadj Oreszczyn, PhD • et al. [Show all authors](#)

# Medical products and technologies

- Single use plastics
- High carbon inhalers
- Anaesthetic gases
- **Low value care**



# Community interventions are a key element of the health system. *For equity, vulnerable populations and environmental health*

- Primary care
- Community health workers
- Heat stress and food insecurity
- Clean air, clean water and food safety
- Biodiversity and green spaces



23% children live in *food insecure* households.  
One million children live in *destitution*

Air pollution triggers *asthma* on grand scale

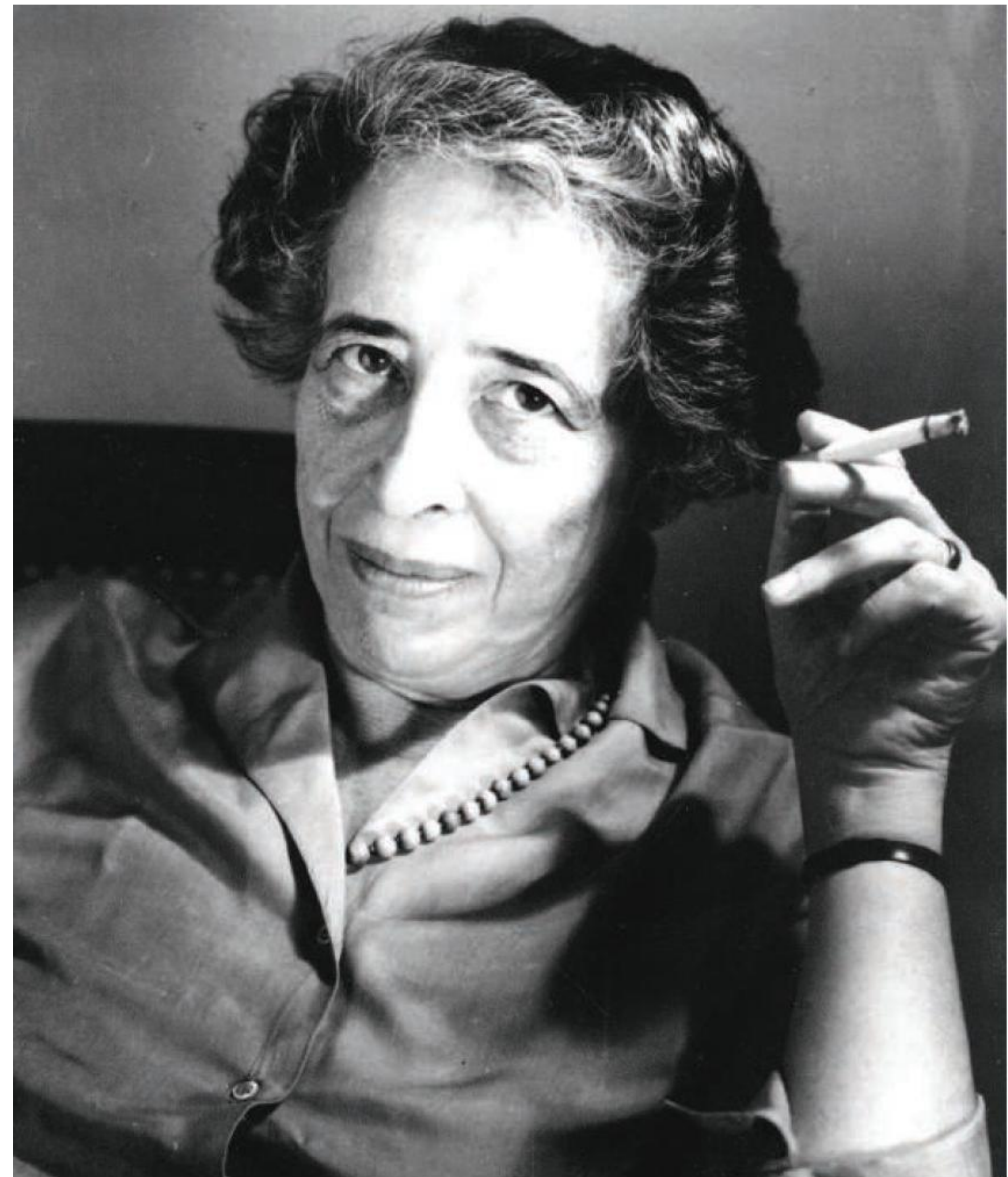
Child mental health referrals up 50% since pandemic



## *Potestas in populo*

Without a people or group there is no power.

“Power is never the property of an individual; it belongs to a group and remains in existence only so long as the group keeps together. The moment the group disappears,...power also vanishes.”



**Hannah Arendt**

# SEVEN CLUSTER RANDOMISED CONTROLLED TRIALS IN NEPAL, INDIA, BANGLADESH AND MALAWI



Ekjut trial: eastern India



MaiMwana and Maikhanda: Malawi



Makwanpur trial, rural Nepal





Perinatal Care Project: rural Bangladesh



City Initiative for Newborn Health, Mumbai

ARTICLES | VOLUME 7, ISSUE 3, P200-212, MARCH 01, 2019

## Community groups or mobile phone messaging to prevent and control type 2 diabetes and intermediate hyperglycaemia in Bangladesh (DMagic): a cluster-randomised controlled trial

Edward Fottrell, PhD   • Naveed Ahmed, MBBS • Joanna Morrison, PhD • Abdul Kuddus, MPH • Sanjit Kumer Shaha, MSS • Carina King, PhD • et al. [Show all authors](#)

[Open Access](#) • Published: February 04, 2019 • DOI: [https://doi.org/10.1016/S2213-8587\(19\)30001-4](https://doi.org/10.1016/S2213-8587(19)30001-4)





---

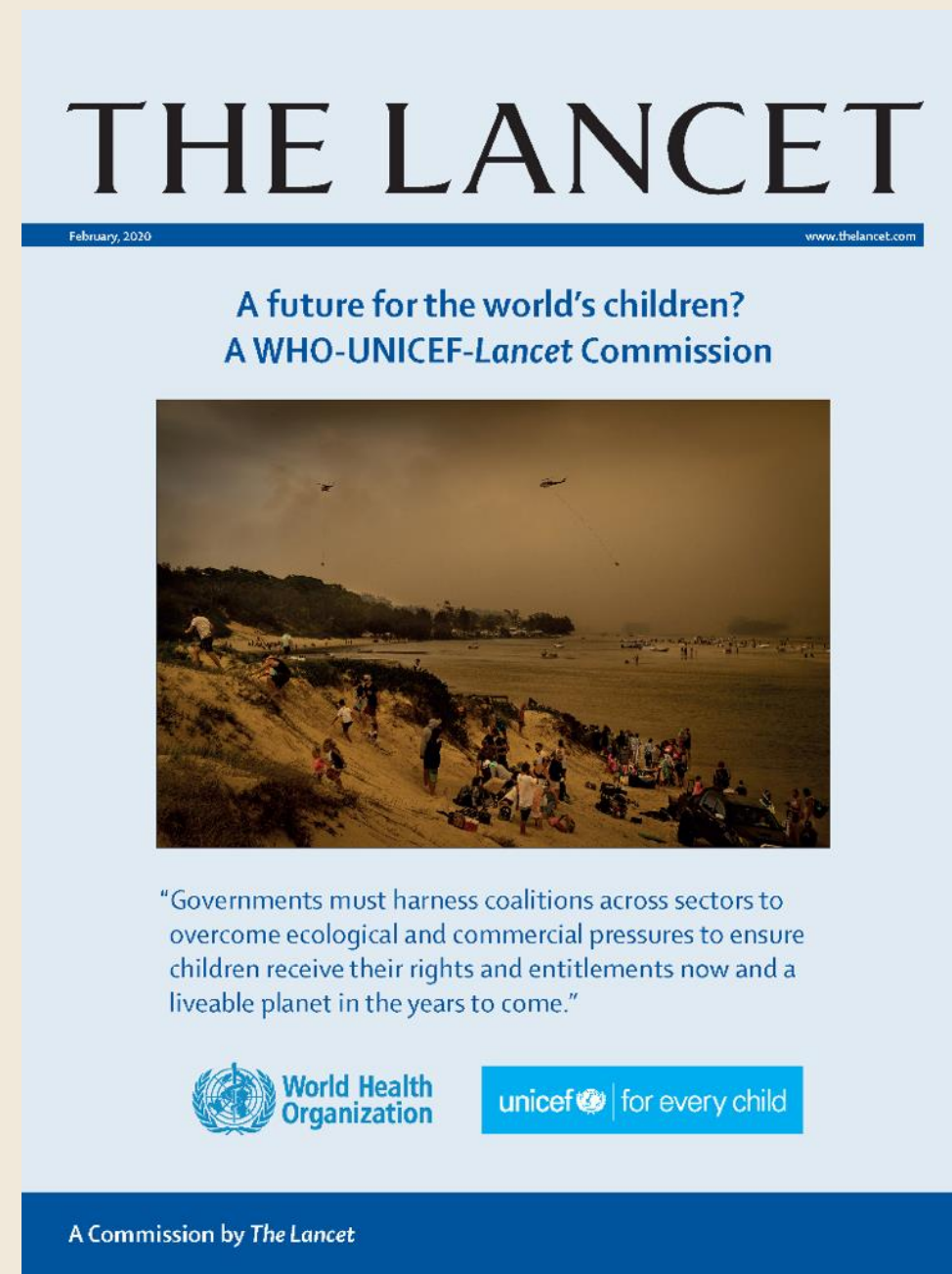
# HEALTH (CHILDREN) IN ALL POLICIES

---

# A future for the world's children?



THE LANCET



**Commission  
co-chairs**



**H.E. Helen Clark, MA**  
Helen Clark Foundation & PMNCH



**Awa Coll-Seck, MD**  
Minister of State, Senegal

**41 Commissioners from around the world**

# Children need protection from *every* sector (1/2)



## TRANSPORT

road injury is the leading cause of death for children and young people aged 5–29 years



## AGRICULTURE & TRADE

subsidies, trade rules, and food policies expose children to under-nutritious and/or obesogenic diets



## URBAN PLANNING

lack of “playable” spaces reduces physical activity



## ENVIRONMENT

air pollution exposure reduces lung function; and increases the risk of cardiovascular disease, obesity, type 2 diabetes, and metabolic syndrome

# Children need protection from *every* sector (2/2)



## FAMILY SERVICES

violence against children violates their rights and is strongly linked with anti-social behavior as an adult



## HOUSING

40% of children live in informal settlements, with risks of overcrowding, health hazards, poor access to services, poverty and social exclusion



## EDUCATION

libraries, schools, and recreation centres are positively associated with child physical health, social competence, and wellbeing, and negatively with vulnerability to developmental delay



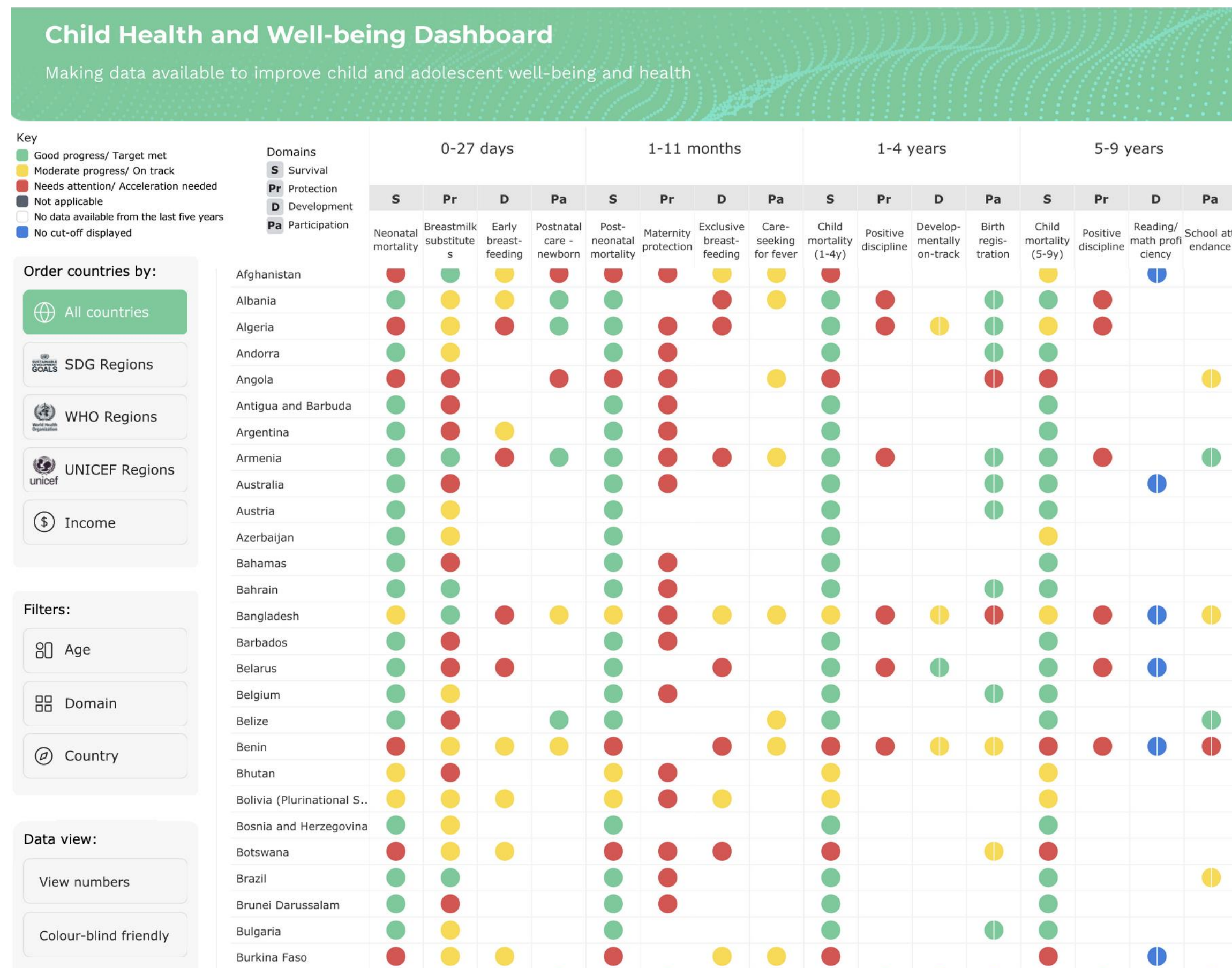
# Better data for policymakers

WHO, UNICEF and CAP-2030 launched a granular, visually descriptive data dashboard in May 2022 to guide policy decision-making for children across sectors.

For Ministries of Health in all low- and middle-income countries.

<https://cap-2030.org/dashboard/>

We are also conducting further data reporting linking children's well-being with greenhouse gas emissions.





Children in All Policies (CAP) 2030 Citizen Science for Climate Change Resilience: a cross-sectional pilot study engaging adolescents to study climate hazards, biodiversity and nutrition in rural Nepal <https://wellcomeopenresearch.org/articles/8-570>

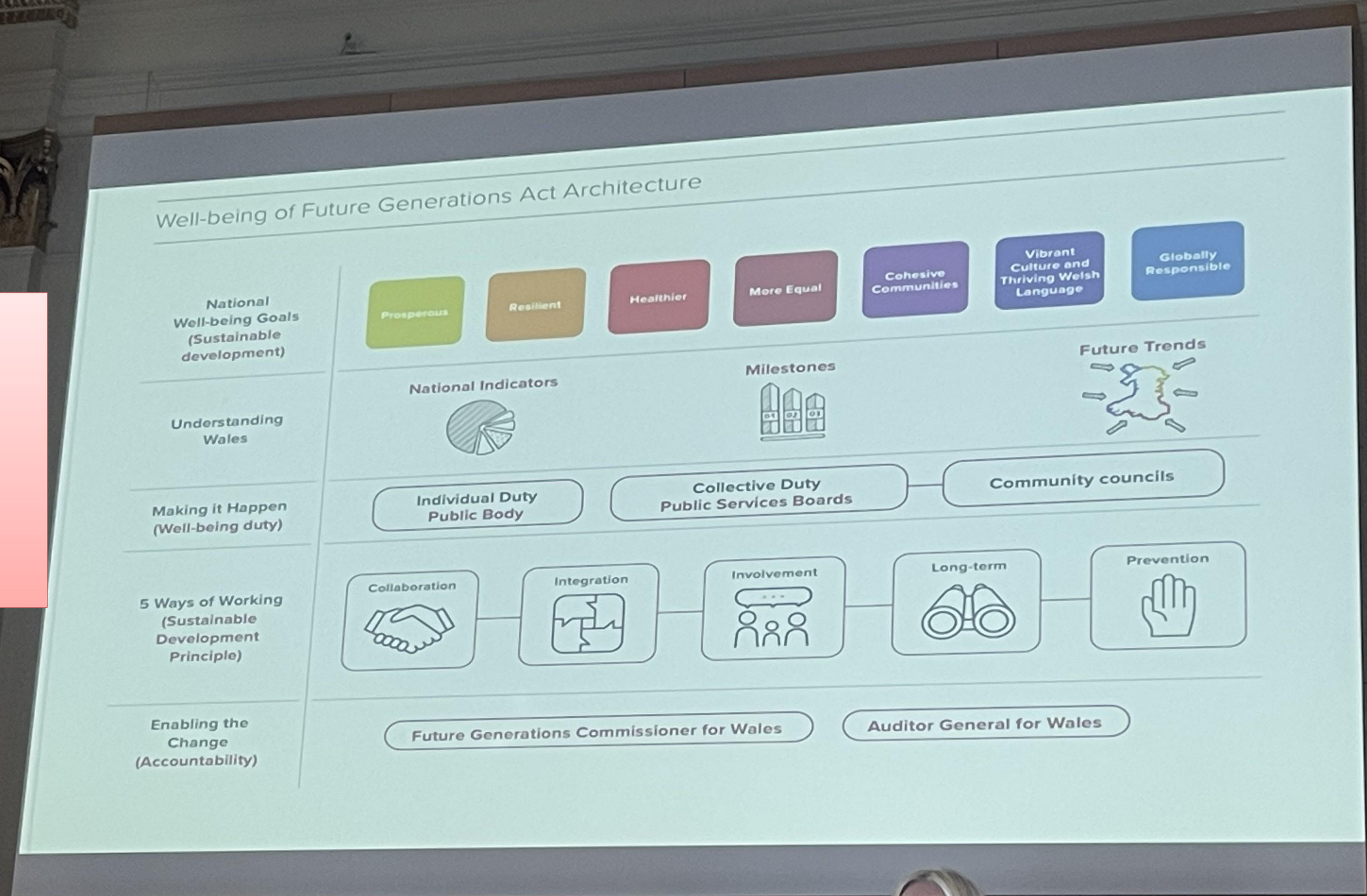




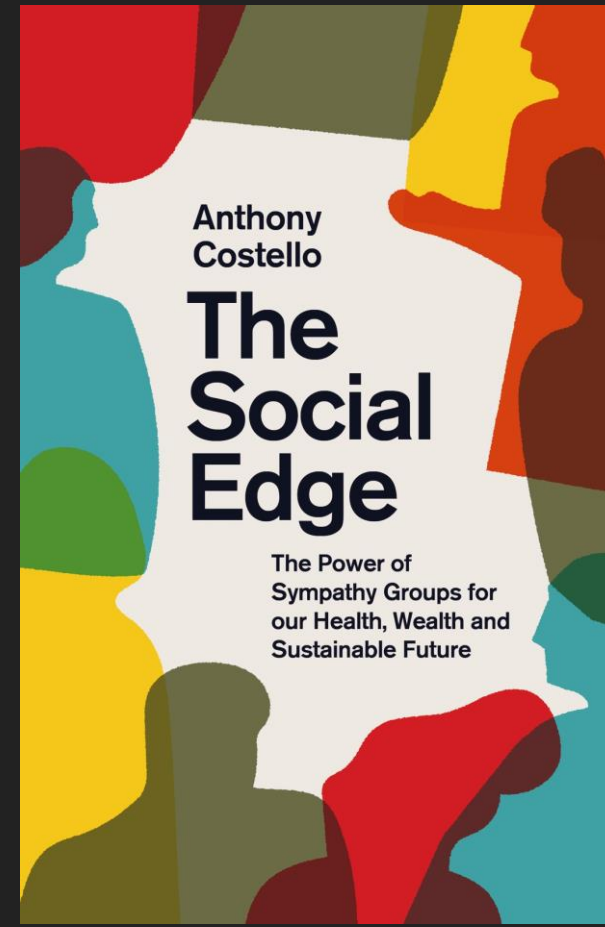
# Youth Council



# A Future Generations Commissioner







Children wearing face masks walk in heavy smog in Harbin, China on Nov. 3, 2015. ChinaFotoPress/Getty Images

**SO MUCH WE CAN DO!**

'No single person can liberate a country you can only liberate a country if you act as a collective'

**COMMUNICATE AND MOBILISE**

# THANKYOU



@GLOBALHLTHTWIT

Anthony Costello

UCL AND GLOBAL



International Forum on  
**QUALITY & SAFETY**  
in **HEALTHCARE**  
**LONDON**

10-12 April 2024

**Together to Regenerate  
Health and Care**

**@QualityForum #Quality2024**

