

A man with a beard, wearing a grey t-shirt, is sitting on a grassy field, looking towards the right. In the background, a large stone bridge spans across the frame, and a city skyline with several tall buildings is visible under a clear sky. Other people are scattered across the grassy area, some sitting and some standing.

# Metrics and measurement: monitoring the connections between public health and climate change

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Dr Marina Romanello | Executive Director

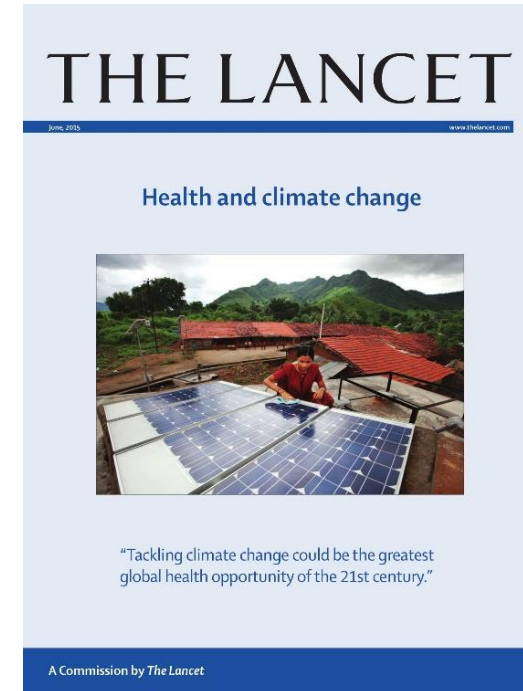




# Climate Change, Global Health and The Lancet



2015



Main conclusion of the 2015 Lancet Commission on health and climate change:

***“Tackling climate change could be the greatest global health opportunity of the 21st century”***

# Tracking Progress on Health and Climate Change



LANCET COUNTDOWN:  
**TRACKING PROGRESS**  
ON HEALTH AND  
CLIMATE CHANGE

# Lancet Countdown Partners around the world





# Why Do We Need Metrics?



Monitor situation &  
inform interventions



Evaluate  
interventions

- ✓ Identify and monitor emerging/changing risks and their drivers
- ✓ Identify vulnerable populations
- ✓ Inform prioritization of interventions
- ✓ Perform a thorough cost-benefit analysis
- ✓ Monitor implementation of climate action
- ✓ Evaluate impacts/benefits from interventions

# Health, Climate Change & The Lancet



## THE LANCET

October, 2022 [www.thelancet.com](http://www.thelancet.com)

### 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*



# Policy Briefs



Canadian Nurses Association



Royal College of Physicians



CANADIAN PUBLIC HEALTH ASSOCIATION

ASSOCIATION CANADIENNE DE SANTÉ PUBLIQUE



ASSOCIATION MÉDICALE CANADIENNE



CANADIAN MEDICAL ASSOCIATION



Public Health Association AUSTRALIA



Center for International Climate Research



Centro UC Políticas Públicas



AMERICAN PUBLIC HEALTH ASSOCIATION  
For science. For action. For health.



The Association of Schools of Public Health in the European Region



NVE  
Norwegian Water Resources and Energy Directorate



PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE



Royal College of Nursing



AIDA  
AUSTRALIAN INDIGENOUS DOCTORS' ASSOCIATION



RACP  
Specialists. Together  
EDUCATE. ADVOCATE. INNOVATE.



Norwegian University of Life Sciences



UK HEALTH ALLIANCE ON CLIMATE CHANGE





# Data explorer

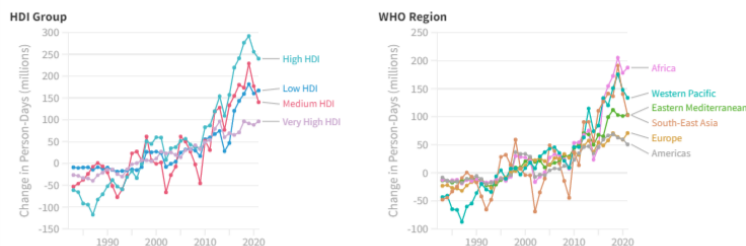
## Exposure of Vulnerable Populations to Heatwaves

Absolute change (in millions) in the number of heatwave person-days experienced by vulnerable groups, from a 1986-2005 baseline, by HDI group and WHO region (values presented as a four-year moving average)

Person-days refer to the cumulative number of days of heatwave that people were collectively exposed to (e.g., if 100 people are each exposed for 5 days, there would be 500 person-days)

Age Group: **Infants** Over 65 years old

Enter HDI group or WHO region to show

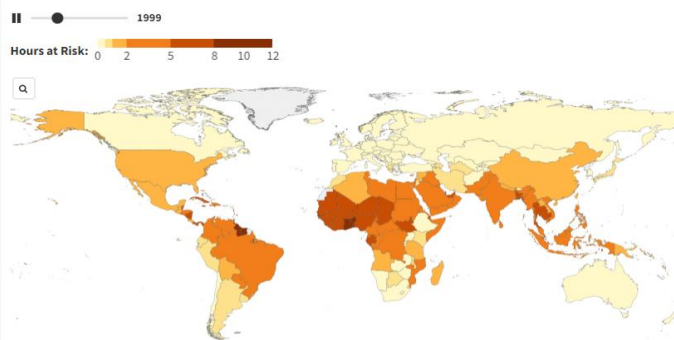


Please reference the 2022 Report of the Lancet Countdown if using this data •  
For a full description of the indicator, see the 2022 report of the Lancet Countdown at [lancetcountdown.org](https://www.lancetcountdown.org)



## Heat and Physical Activity

Additional number of hours per person per day during which the high heat posed at least a moderate heat stress risk during light outdoor physical activity, compared to 1991-2000 baseline, by country and HDI group

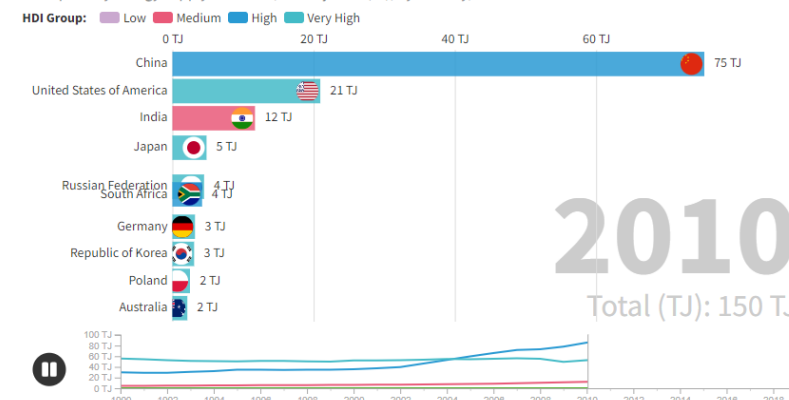


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## Energy Supply From Coal

Total primary energy supply from coal, in terajoules (TJ), by country, 1990-2019



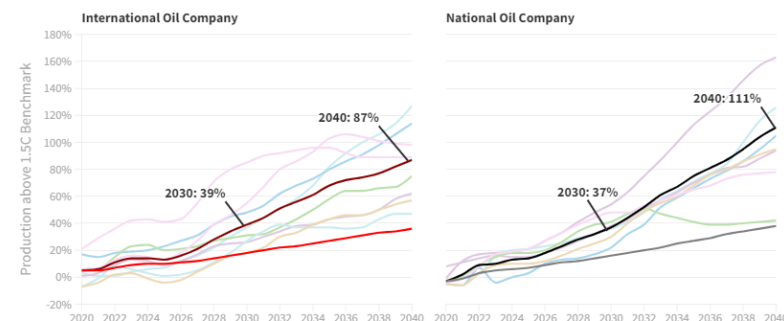
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For a full description of the indicator, see the 2022 report of the Lancet Countdown at [lancetcountdown.org](https://www.lancetcountdown.org)



## Compatibility of Oil & Gas Company Strategies with the Paris Agreement

Projected emissions based on current production strategies of 15 large oil and gas companies, compared to a pathway compliant with Paris Agreement 1.5°C goal, assuming constant market shares at the 2015-2019 average

■ National Oil Companies Average ■ National Oil Companies Cumulative Average ■ International Oil Companies Average ■ International Oil Companies Cumulative Average



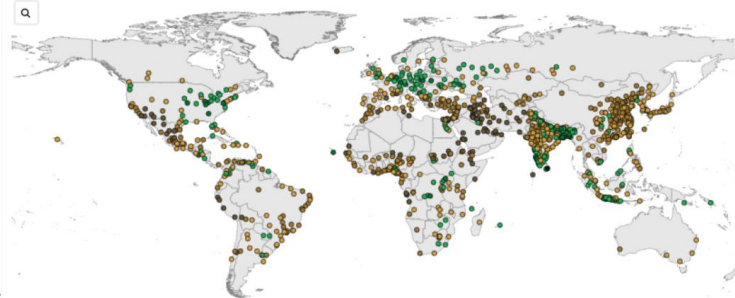
Source: Please reference the 2022 Report of the Lancet Countdown if using this data •  
For a full description of the indicator, see the 2022 report of the Lancet Countdown at [lancetcountdown.org](https://www.lancetcountdown.org)



## Urban Green Space

Level of urban greenness in countries' most populous cities and global cities of over 500,000 inhabitants, according to population-weighted Normalized Difference Vegetation Index (NDVI), 2021

■ Exceptionally Low ■ Very Low ■ Low ■ Moderate ■ High ■ Very High



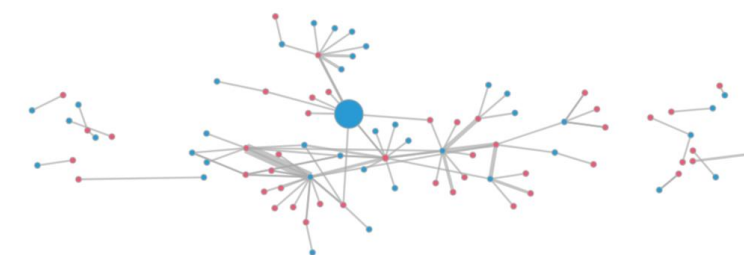
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For a full description of the indicator, see the 2022 report of the Lancet Countdown at [lancetcountdown.org](https://www.lancetcountdown.org)



## Individual Engagement in Health and Climate Change

Clickstream network between human health and climate change Wikipedia articles in 2021

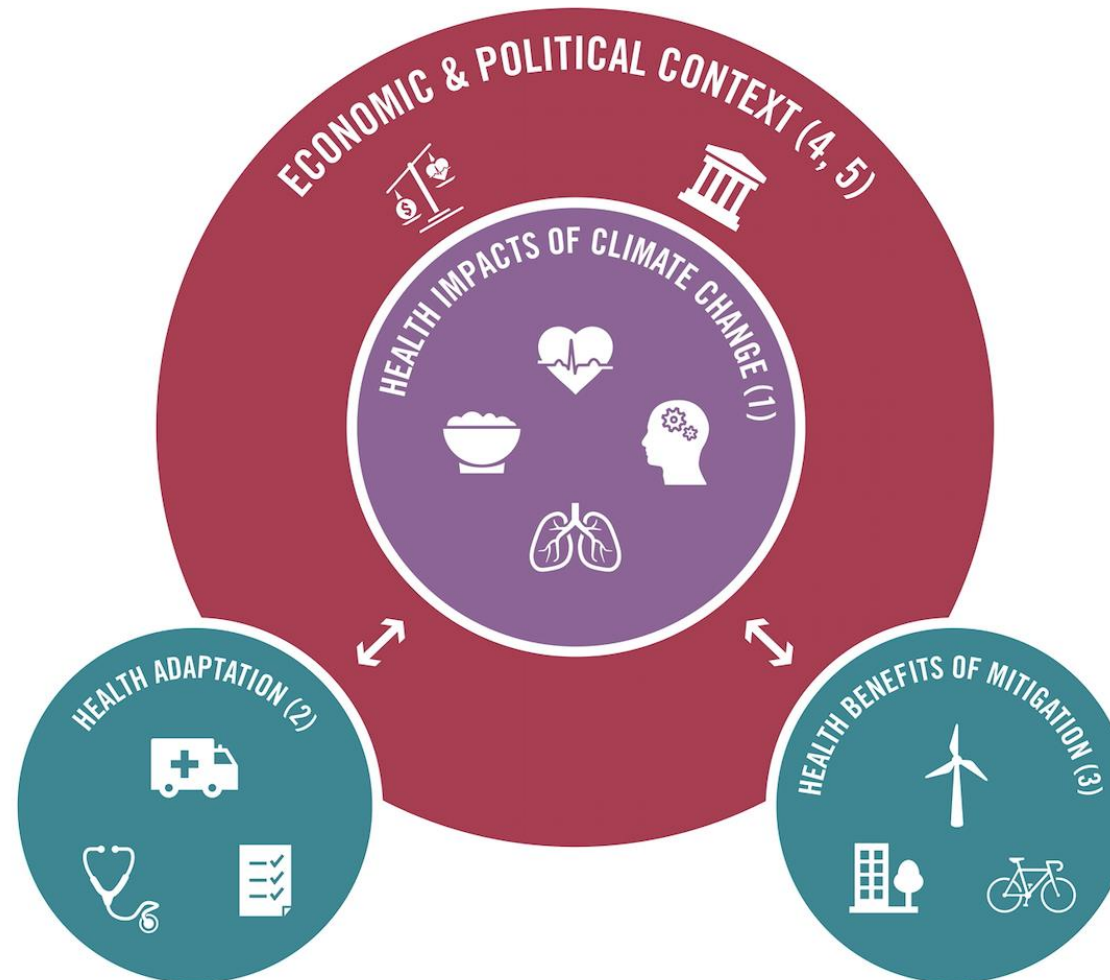
● Health-related article ● Climate change-related article



Please reference the 2022 Report of the Lancet Countdown if using this data •  
For a full description of the indicator, see the 2022 report of the Lancet Countdown at [lancetcountdown.org](https://www.lancetcountdown.org)



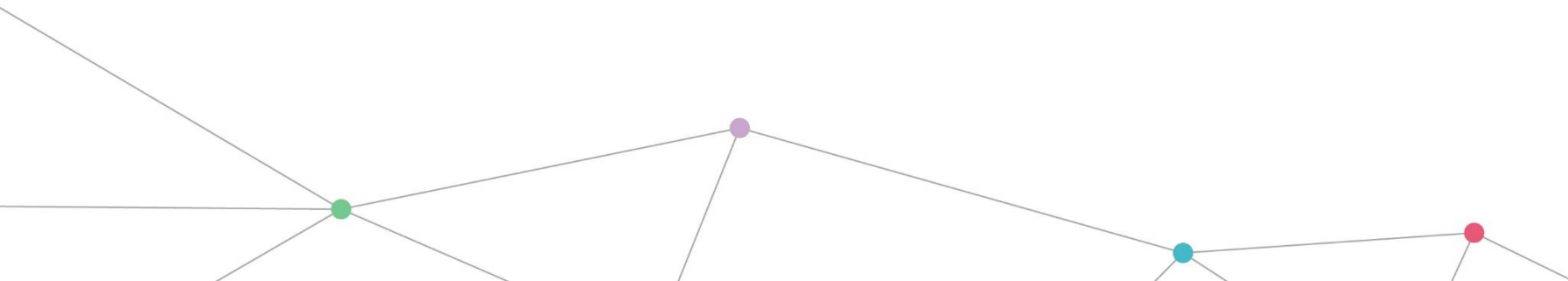
# Putting Health at the Centre of Climate Change





# Current limitations to monitoring the links between health and climate change

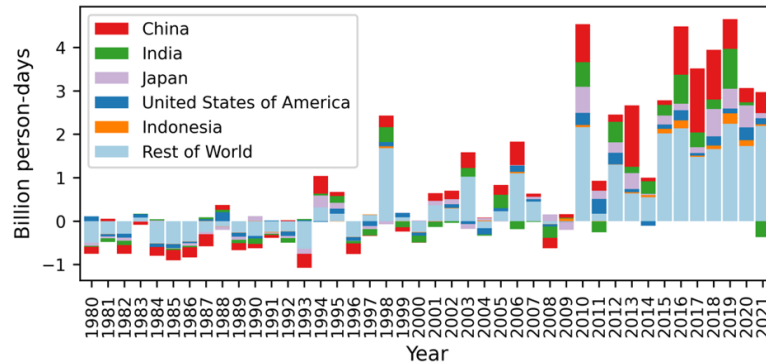
- Scarcity of data on impacts/outcomes at adequate temporal and geographical resolution
- Challenge of attribution
- Data disaggregated by relevant vulnerable groups (race/ethnicity/gender/income group)
- Data on actual spend/costs



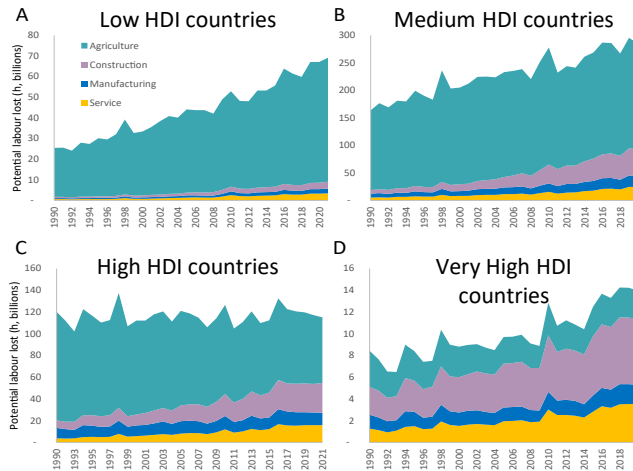


# The rising health impacts of climate change

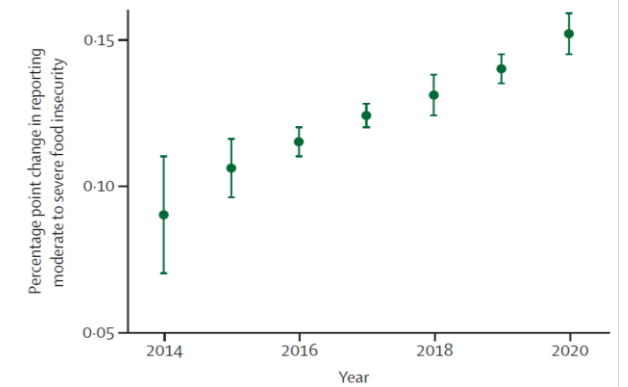
1.1.2: Exposure of vulnerable populations to heat waves



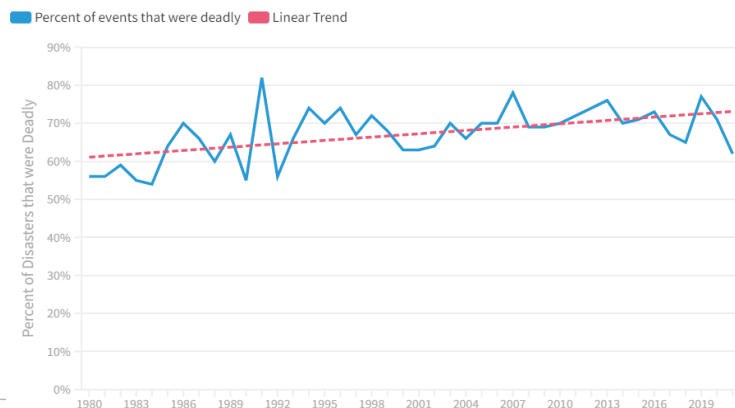
1.1.4: Change in Labour Capacity



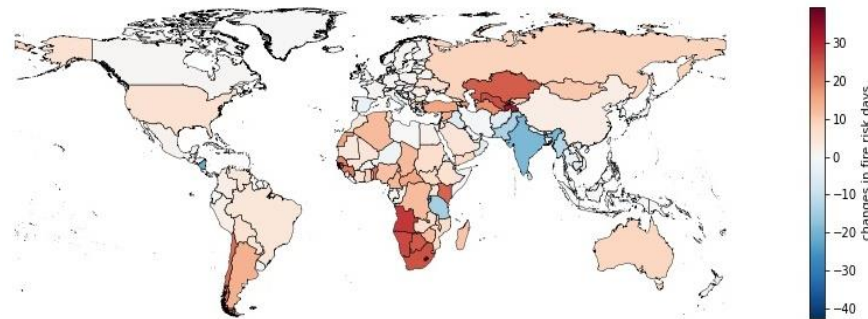
1.4: Food Security and Undernutrition



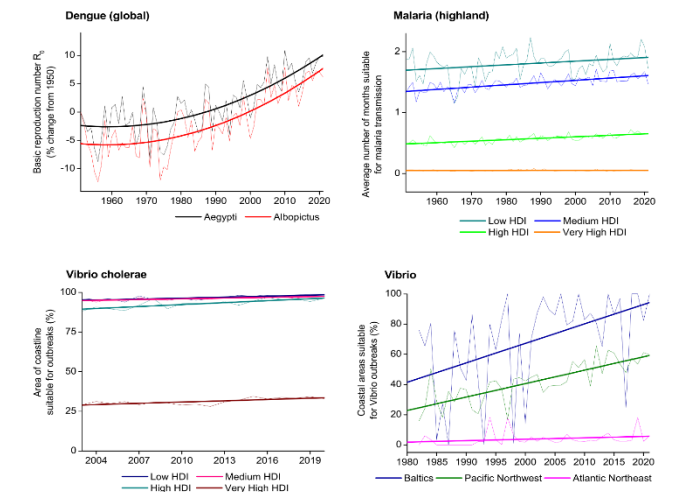
2.3.1: Deadly extreme weather events



1.2.1: Exposure to wildfire danger



1.4: Environmental suitability for infectious disease transmission



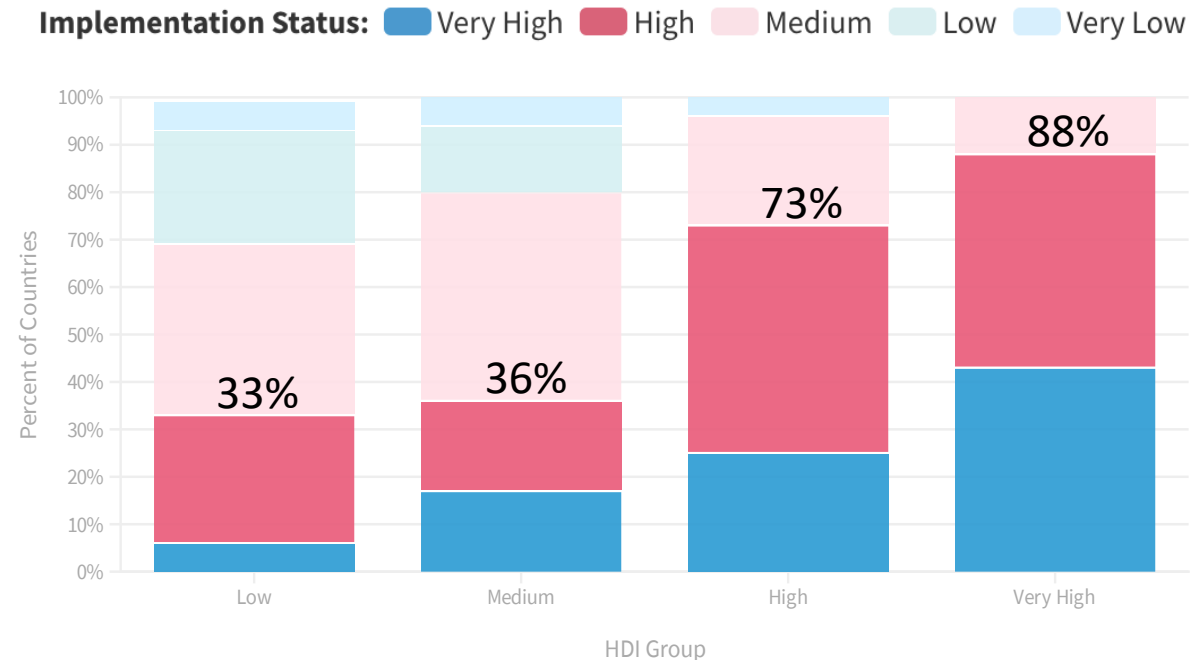


# Compounding health impacts of the fossil fuel addiction

## 2.2.5: Detection, Preparedness and Response to Health Emergencies

Despite the devastation of the COVID-19 pandemic, only **63%** of 177 countries reported high to very high implementation status for health emergency management in 2021.

As health impacts increase, health systems are still unprepared, leaving world populations with a debilitated first line of defence



Percentage of countries, reporting on each level of implementation of health emergency management of the IHR regulations in 2021



# Compounding health impacts of the fossil fuel addiction

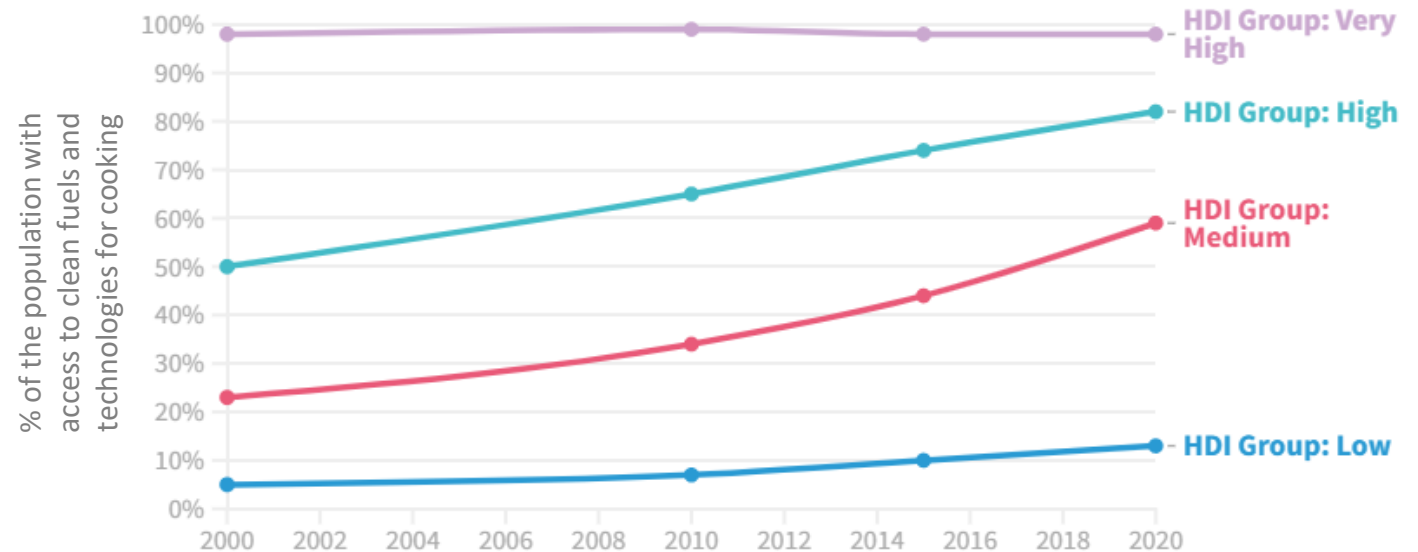
## 3.2: Clean Household Energy / 3.3 Mortality From Ambient Air Pollution

Only **69%** of the global population, and **13%** of all those in low HDI countries, had access to clean fuels and technologies for cooking in 2020

Due to the use of dirty fuels the air in people's homes exceeding the WHO's guidelines for safe concentrations of  $PM_{2.5}$  by **30-fold** on average, in the 62 countries assessed.

In 2020, exposure to ambient anthropogenic  $PM_{2.5}$  contributed to **3.3 million deaths**. Of these, **1.2 million** were directly related to fossil fuel combustion.

The energy and cost-of-living crisis is now threatening to further exacerbate this situation



Percentage of the rural and urban population with primary reliance on clean fuels for cooking, by HDI country group.

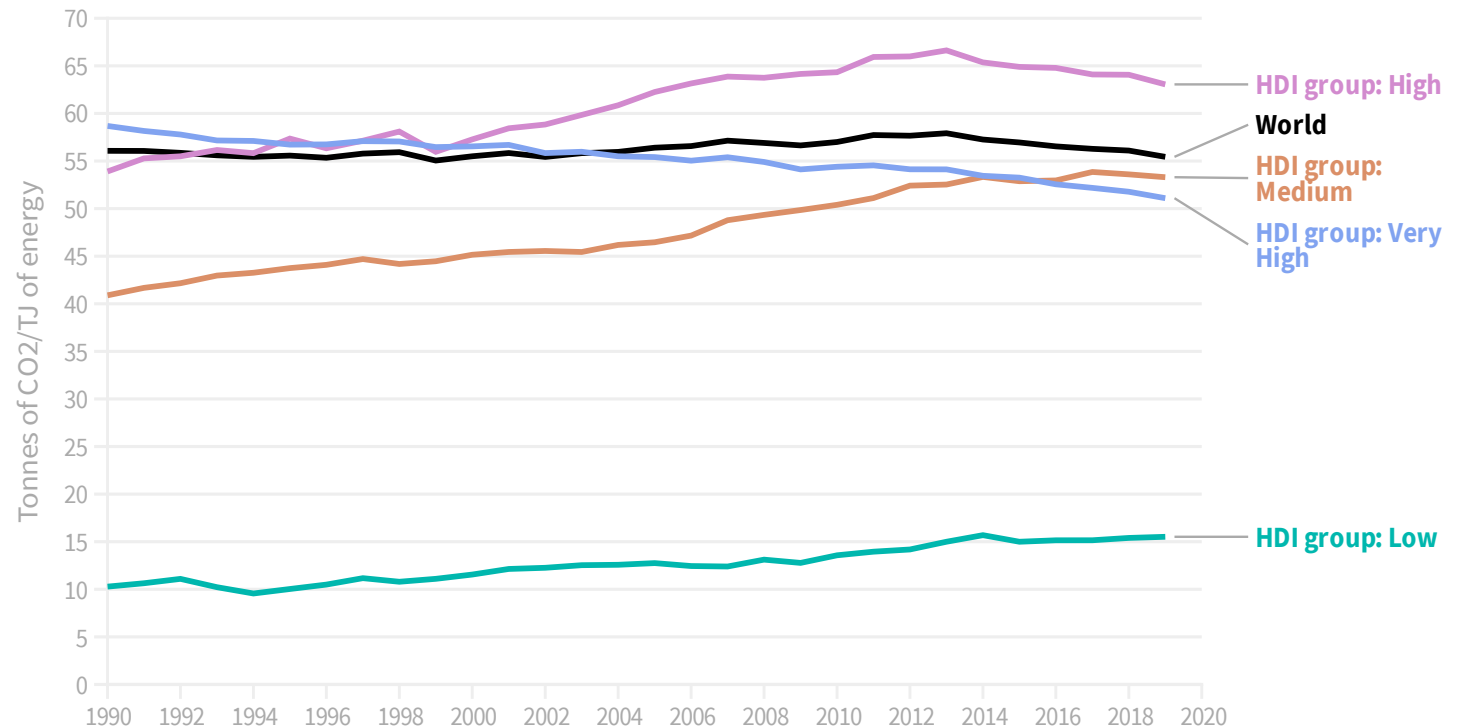


# Governments and companies continue to prioritise fossil fuels over people's health

## 3.1: Energy System and Health

The carbon intensity of the global energy system decreased by **less than 1%** since 1992, the year the UNFCCC was adopted.

Energy-related emissions CO<sub>2</sub> emissions reached a record high in 2021.



Carbon intensity of the energy system by HDI group from 1990 to 2019 (in tonnes of CO<sub>2</sub> / TJ of energy).

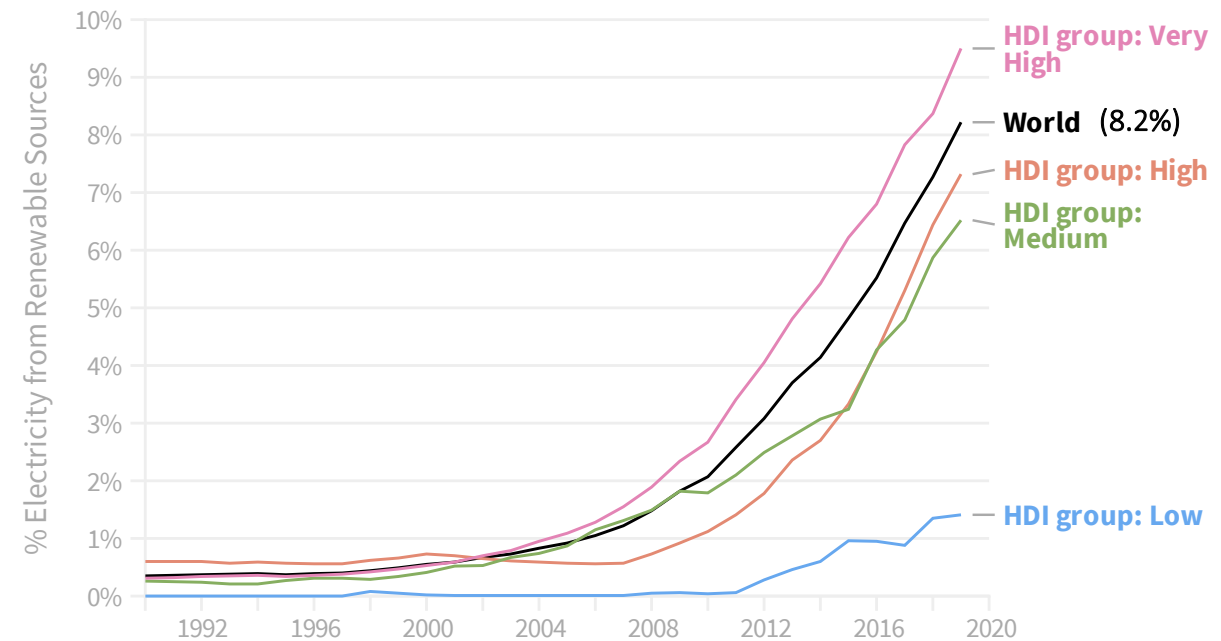


We can still deliver a future where world populations can not only survive, but thrive

## 3.1: Energy System and Health

Growth in 'new renewable' (solar and wind, mainly) electricity reached record levels in 2020, and corresponded to **90%** of new electricity installation in 2020 – although it still represents only **8.2%** of all electricity generation

Big differences exist between countries. Only **1.4%** of the electricity of low HDI countries is produced from modern renewables, against 9.5% in high HDI countries



Total electricity Generation from Renewable Sources From 1990 to 2019 (source of data: IEA)

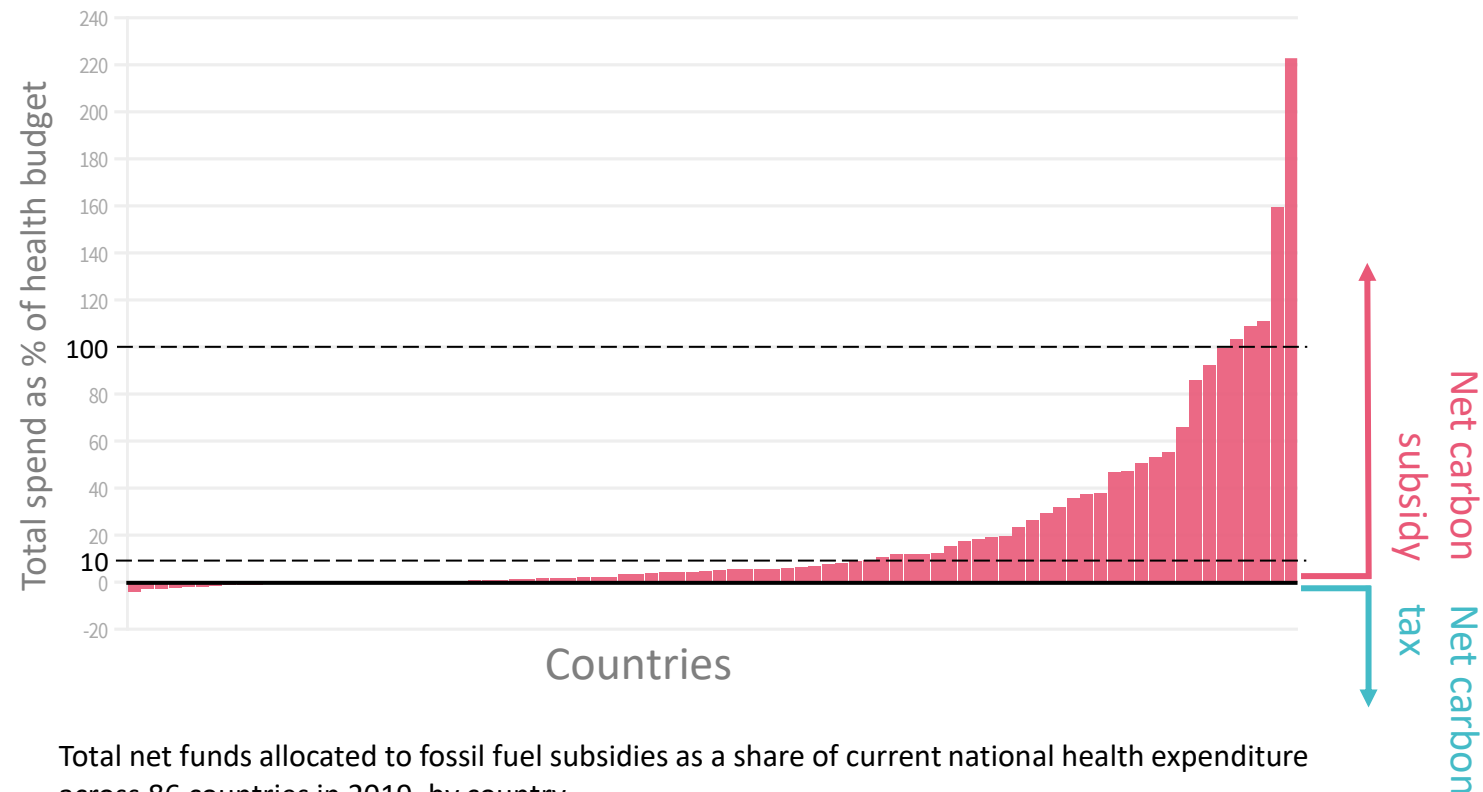


Governments and companies continue to prioritise fossil fuels over people's health

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

The global carbon price is still negative. **80%** of the 86 countries reviewed had a net-negative carbon price in 2019, for a net total of **US\$400 billion**.

The resulting net loss of government revenue was in many cases equivalent to large proportions of the national health budget.



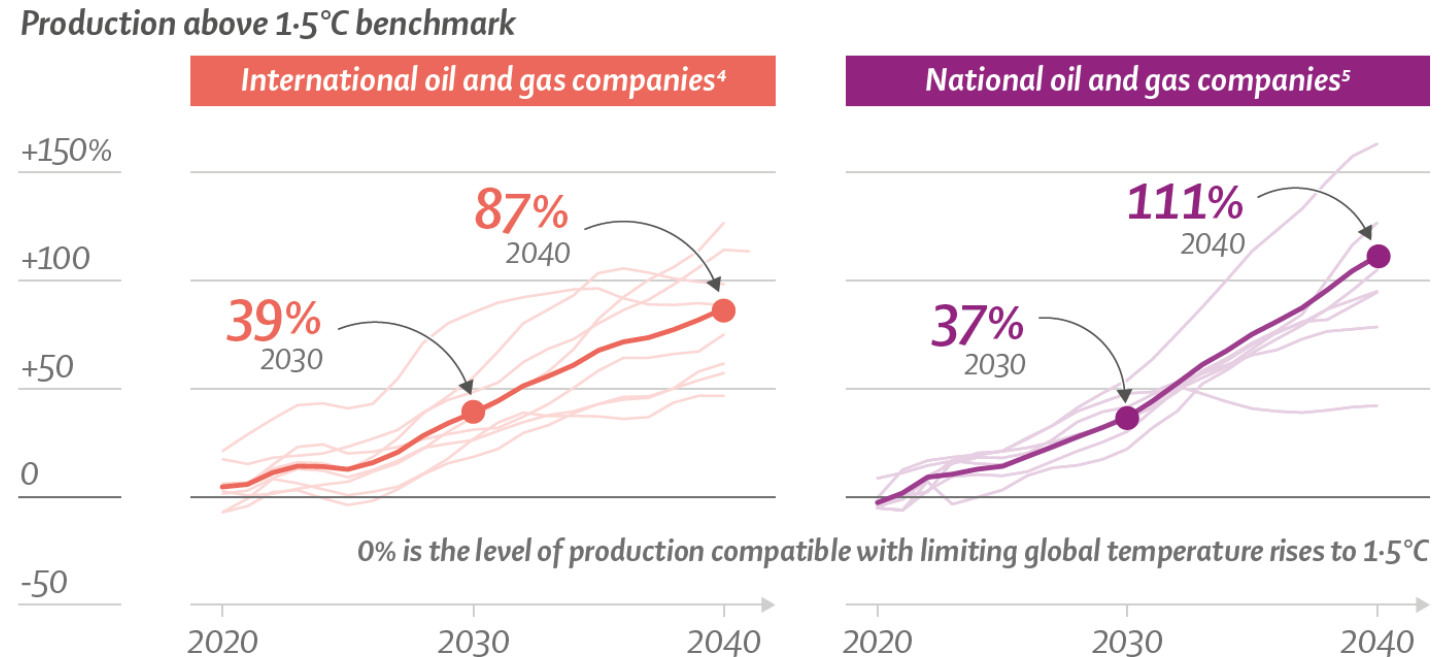


Governments and companies continue to prioritise fossil fuels over people's health

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

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**.

If fulfilled, these strategies could lock the world into a fatally warmer future.



Compatibility of large oil and gas company production strategies with Paris 1.5°C climate target. Thin lines represent individual companies. Thick lines represent their average. Figure: Lancet

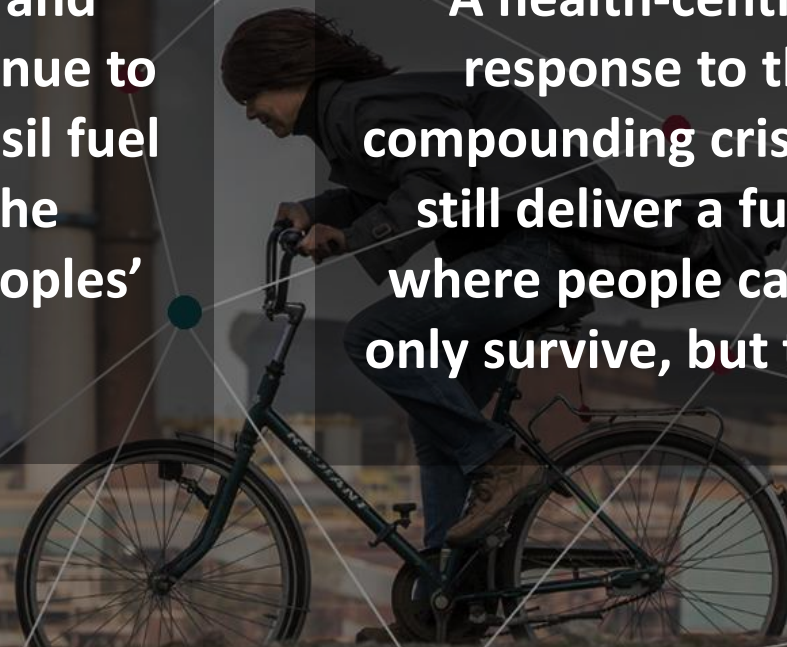
# Global health at the mercy of fossil fuels

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**The persistent fossil fuel addiction is amplifying the health impacts of concurrent crises.**

**Governments and companies continue to prioritise the fossil fuel industry to the detriment of peoples' health.**

**A health-centred response to the compounding crises can still deliver a future where people can not only survive, but thrive.**



# Thank you

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[www.lancetcountdown.org](http://www.lancetcountdown.org)  
@LancetCountdown

THE LANCET

