Climate Change and Human Health: From Threat to Opportunity

Collaborative on Health and the Environment
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@Watts_Nick
Health Impacts of Climate Change

- Direct effects
  - Storms
  - Drought
  - Flood
  - Heatwave

- Indirect effects
  - Water quality
  - Air pollution
  - Land use change
  - Ecological change

- Social dynamics
  - Age and gender
  - Health status
  - Health status
  - Socioeconomic status
  - Social capital
  - Public health infrastructure
  - Mobility and conflict status

- Health impact
  - Mental illness
  - Malnutrition
  - Allergies
  - Cardiovascular diseases
  - Infectious diseases
  - Injuries
  - Respiratory diseases
  - Poisoning
Map out the impacts of climate change, and the necessary policy responses, in order to ensure the highest attainable standards of health for populations worldwide.
Health Co-Benefits of Responding
“Responding to climate change could be the greatest global health opportunity of the 21st century”
Countdown Partners
Structure and Outputs

- Annual Indicator Report
- National and City-Level Case Studies
- National Policy Briefs
- Communications and Engagement
# Overview of Indicators

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## Overview of Indicators

### 4. Finance and Economics

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### 5. Political and Broader Engagement

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Currently working with a set of nine (9) indicator domains:

- 3.1 Coal phase-out
- 3.2 Growth in renewable energy resources
- 3.3 Energy access
- 3.4 Energy access for health facilities
- 3.5 Ambient and household air pollution exposure
- 3.6 Deployment of low-emission vehicles
- 3.7 Active transport infrastructure and update
- 3.8 Food consumption, production and waste
- 3.9 Carbon footprint of healthcare systems
The Energy Sector

• Including energy production and energy use in buildings, industry and transport

• Represents the largest single source of anthropogenic greenhouse gas emissions globally

• Produces around two-thirds of total GHG emissions

• Is the predominate source of air pollution

• Produces almost all SO$_2$ and NO$_2$ emissions and ~85% of particulate matter emissions
3.1 Coal phase-out

Today coal:
- comprises **29%** of total global fuel use
- is used to produce **40%** of electricity
- contributes the most to ambient air pollution and GHG emissions of all energy sources used to produce electricity
- is responsible for **60%** of global SO$_2$ emissions
- 800,000 deaths in the OECD, India and China
3.1 Coal phase-out

It is envisioned that this indicator will track:

- Counts on the number and capacity of coal-fired power plants
- The amount of pollution produced by these coal plants
- The corresponding health burdens (loss of life expectancy)
- Geographic scale: national, starting with OECD countries and expanding globally
3.6 Deployment of low-emission vehicles

Transport systems (i.e. road vehicles, rail, shipping, and aviation):
- contributed 10% of global GHG emissions in 2010
- contribute over half of global NO\textsubscript{x} emissions
- are a major source of air pollutants including PM, NO\textsubscript{x}, SO\textsubscript{2}, CO, volatile organic compounds, and oxone (indirectly)
3.6 Deployment of low-emission vehicles

It is envisioned that this indicator will track:

- deployment of low-emission vehicles (measured by sales)
- sector-specific emission factor trends
- Geographic scale: variable, depending on data access

Figure 1: Evolution of the global electric car stock, 2010-15

Note: The EV stock shown here is primarily estimated on the basis of cumulative sales since 2005.

Launching the Lancet Countdown

Tracking the connections between public health and climate change
Thank You

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