



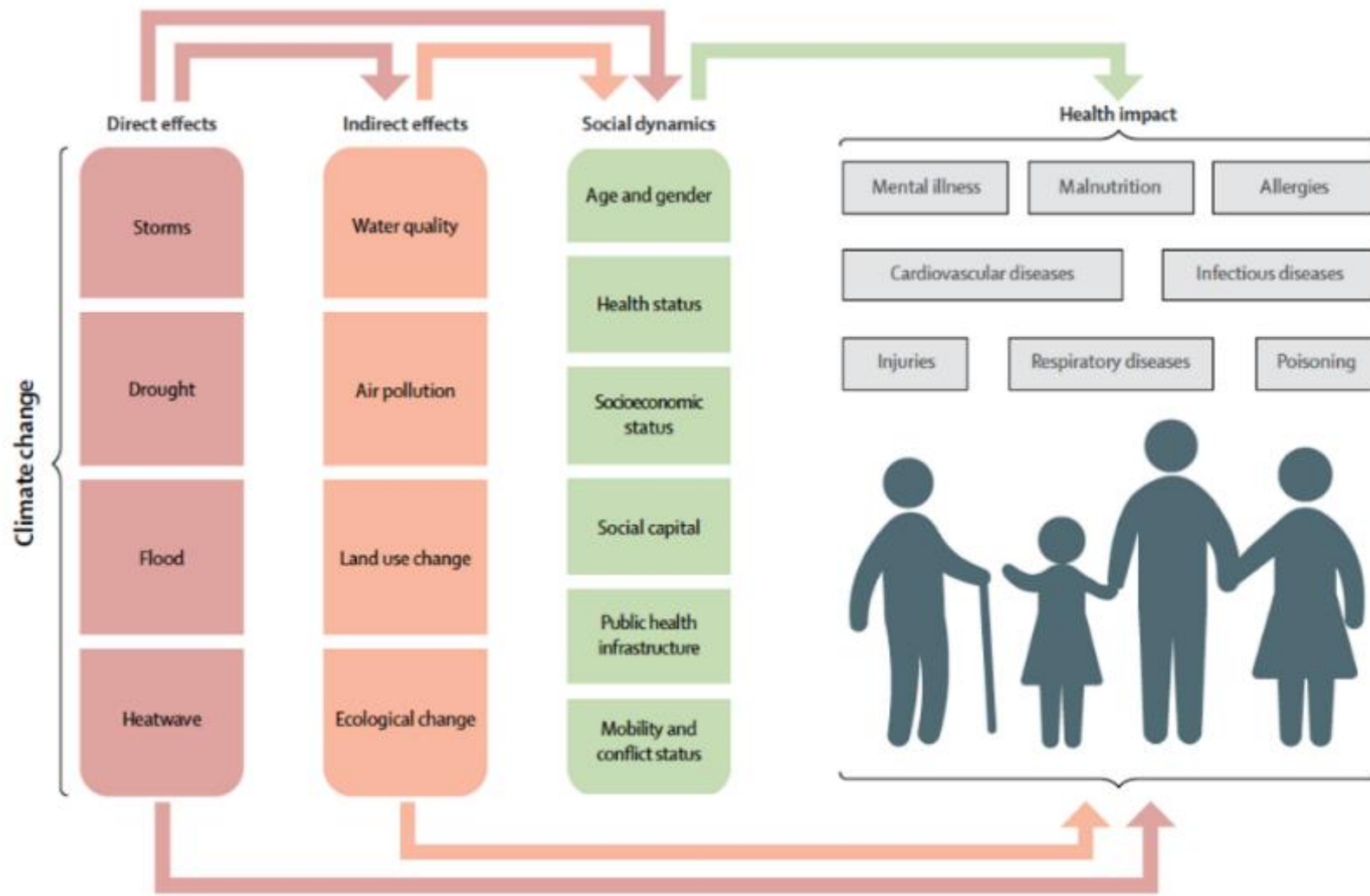
Climate Change and Human Health: From Threat to Opportunity

Collaborative on Health and the Environment
13 December 2016

Dr Nick Watts | Executive Director

@Watts_Nick

Health Impacts of Climate Change



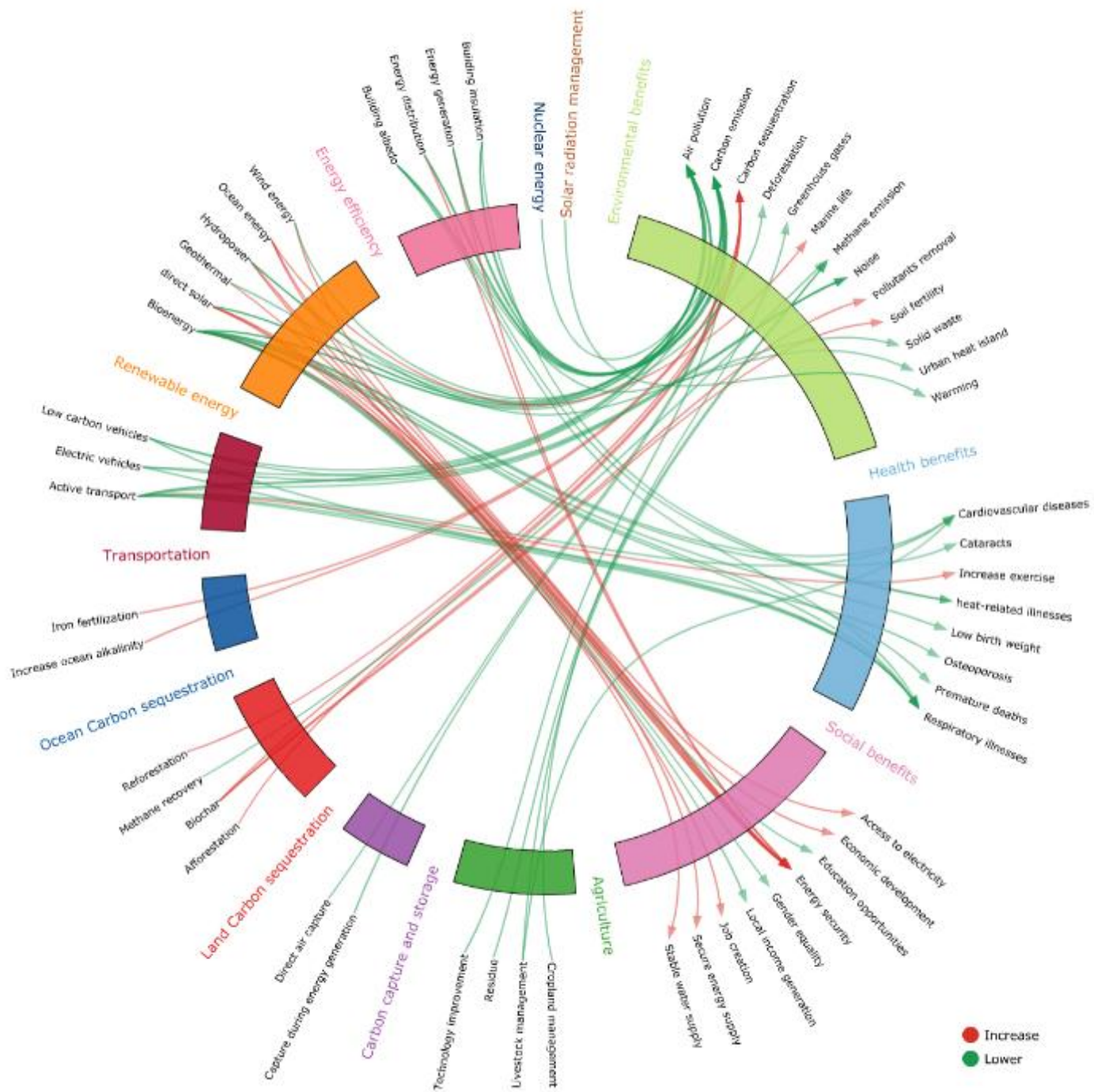
2015 Lancet Commission



LANCET **commission**
ON **health** & **climate** '15



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



Policy Responses to Protect Health

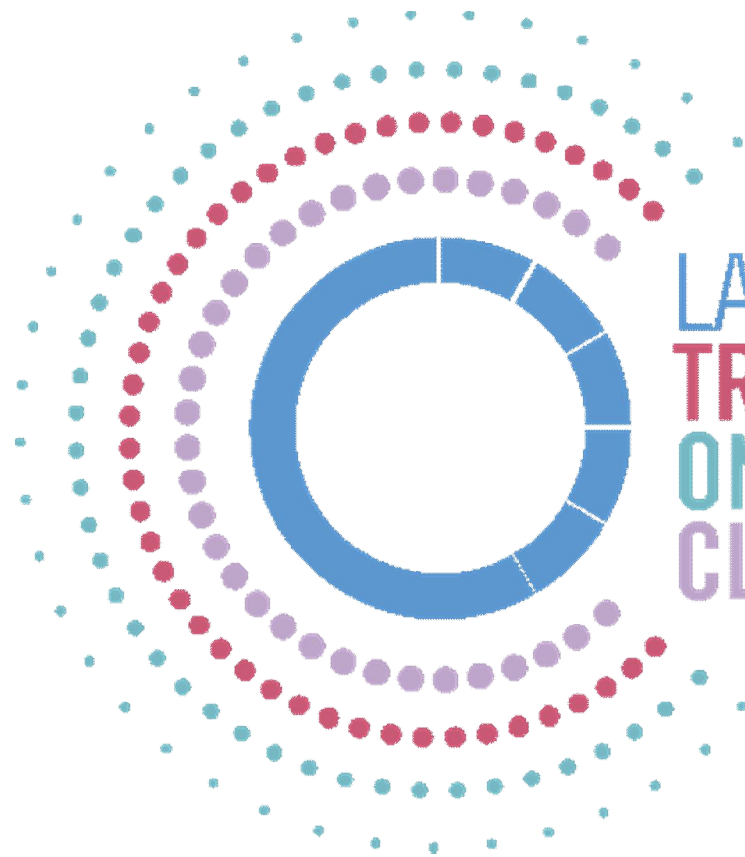


“Responding to climate change could be the **greatest global health opportunity** of the 21st century”





The Lancet Countdown



LANCET COUNTDOWN:
TRACKING PROGRESS
ON HEALTH AND
CLIMATE CHANGE



Countdown Partners



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European Centre for
Environment & Human Health



Sustainable
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World Health
Organization

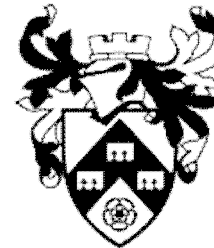


WORLD
METEOROLOGICAL
ORGANIZATION

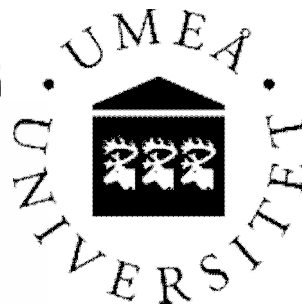
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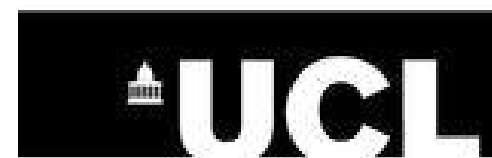
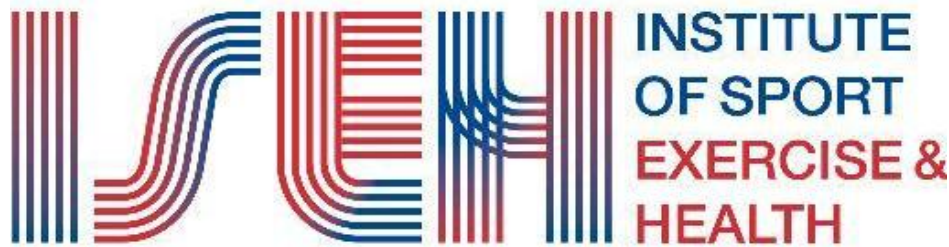


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Structure and Outputs



- Annual Indicator Report
- National and City-Level Case Studies
- National Policy Briefs
- Communications and Engagement



Overview of Indicators



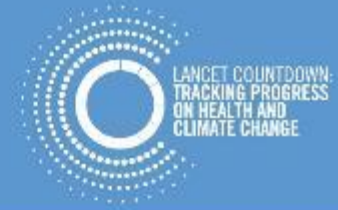
Thematic Working Group	Indicator Domains
1. Health Impacts of Climate Hazards	1.1 Exposure to temperature change
	1.2 Exposure to heatwaves
	1.3 Changes in labour productivity
	1.4 Exposure to flood
	1.5 Exposure to drought
	1.6 Changes in the incidence and geographical range of climate-sensitive infectious diseases across sentinel sites
	1.7 Food security and undernutrition
2. Health Resilience and Adaptation	2.1 Integration of health in national adaptation plans
	2.2 Climate services for health
	2.3 Adaptation finance for health
3. Health Co-Benefits of Mitigation	3.1 Coal phase-out
	3.2 Growth in renewable energy
	3.3 Access to clean energy
	3.4 Energy access for health facilities
	3.5 Exposure to ambient air pollution
	3.6 Deployment of low-emission vehicles and access to public transport
	3.7 Active travel infrastructure and uptake
	3.8 Greenhouse gas emissions from the food system and healthy diets
	3.9 Greenhouse gas emissions of health-care systems

Overview of Indicators



4. Finance and Economics	4.1 Change in annual investment in renewable energy
	4.2 Change in annual investment in energy efficiency
	4.3 Low-carbon technology patent generation and innovation
	4.4 Valuing the health co-benefits of climate change mitigation
	4.5 Direct and indirect fossil fuel subsidies
	4.6 Coverage and strength of carbon pricing
	4.7 Equity of the low-carbon transition
5. Political and Broader Engagement	5.1 Public engagement in health and climate change
	5.2 Academic publications on health and climate change
	5.3 Inclusion of health and climate change within medical and public health curricula
	5.4 Health and climate change in high-level statements in the UNFCCC and UNGA
	5.5 Implementation and estimated health benefits of the nationally determined contributions (NDCs)

Working Group 3: Health Co-Benefits of Mitigation



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

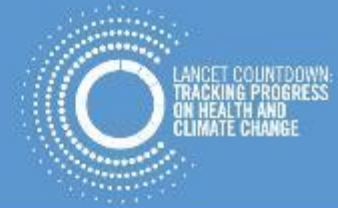
3.6 Deployment of low-emission vehicles

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 SO₂ and NO₂ emissions and ~85% of particulate matter emissions



3.1 Coal phase-out



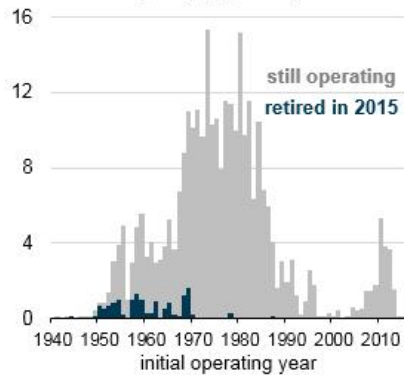
Today coal:

- 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 SO₂ emissions
- 800,000 deaths in the OECD, India and China

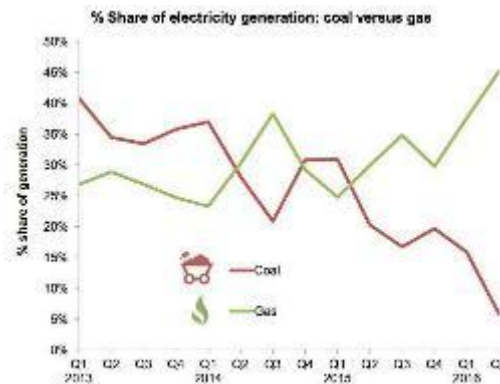
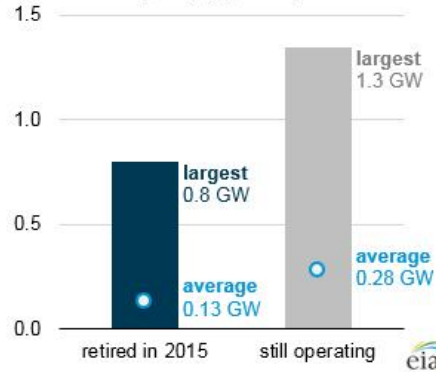


3.1 Coal phase-out

Existing coal units by initial operating year net summer capacity (gigawatts)



Coal units' range and average capacity net summer capacity (gigawatts)



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_x emissions
- are a major source of air pollutants including PM, NO_x , SO_2 , CO, volatile organic compounds, and oxone (indirectly)

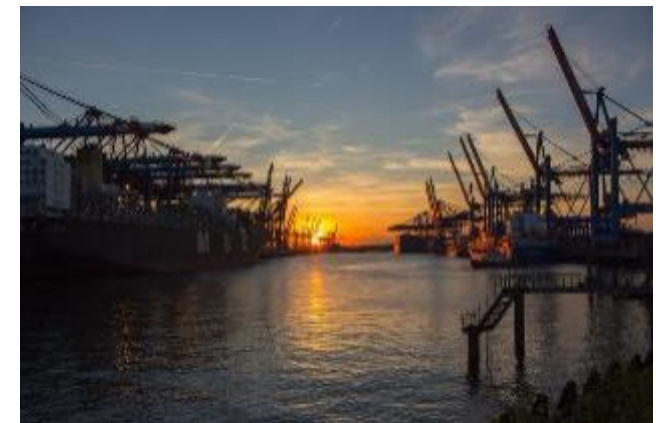


Air pollution 'causing deadly public health crisis'

By James Gallagher
Health Correspondent



Robert Cook is a hybrid of diesel engine



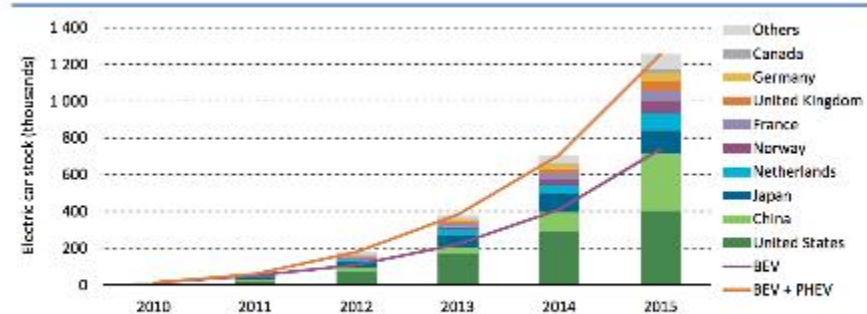
3.6 Deployment of low-emission vehicles



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.

Sources: IEA analysts based on EVI country submissions, complemented by EAFO (2016), IHS Polk (2014), MarkLines (2016), ACEA (2016), CEA (2015) and IA-IEV (2015).



Launching the Lancet Countdown



TRACKING THE CONNECTIONS BETWEEN
PUBLIC HEALTH AND CLIMATE CHANGE



Thank You



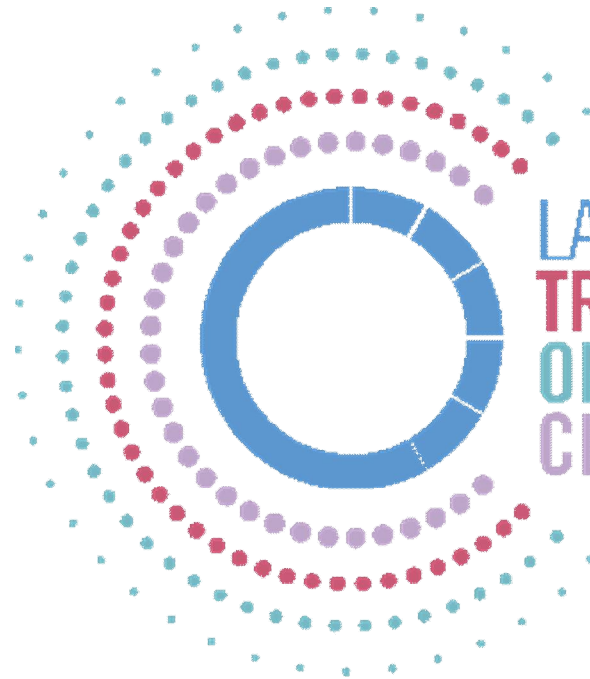
Dr Nick Watts

Executive Director

Nicholas.Watts@ucl.ac.uk

www.lancetcountdown.org

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