The Lancet Countdown on Health and Climate Change

Policy brief for the UK

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LANCET COUNTDOWN: TRACKING PROGRESS ON HEALTH AND CLIMATE CHANGE

BMA

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Introduction

Climate change is a significant threat to health. In its latest Assessment report, the Intergovernmental Panel on Climate Change (IPCC) estimated that, at the current rate of emissions, the world will reach 2.5°C of global warming by 2050. Such temperature increase would have catastrophic consequences for human health and the environment's stability. Countries worldwide are experiencing more intense and more frequent extreme events such as floods, droughts, and heatwaves. In 2022, the UK Meteorological Office issued its first ever red extreme heat warning as temperatures exceeded 40°C for the first time, triggering fires in London and followed by declarations of drought in August. Health leaders have called for action to stabilise climate change, restore biodiversity, and protect health.[1]

The burning of fossil fuels is the largest single source of greenhouse gas emissions, which are the drivers of climate change. These emissions are also major contributors to air pollution, including particulate matter less than 2.5 micrometres in diameter ($PM_{2.5}$). Data from the Lancet Countdown estimates that exposure to this health-harming form of pollution contributed to 4.7 million deaths globally in 2020, of which 79% (3.7 million) were attributable to anthropogenic emissions, and 1.3 million (35%) directly related to fossil fuel combustion.[2] Action is urgently needed to transform societies and economies to improve air quality and promote health: through a rapid transition away from fossil fuels to cleaner renewables and the redesigning of cities. Health services, tasked with protecting the health of populations, as well as being a key part of the economy and a major employer, have a role to play. In the UK, the Health and Care Act 2022 and the NHS Scotland Climate Emergency and Sustainability Strategy place legal requirements on the NHS to consider climate change mitigation and adaptation, and support for environmental protection. There needs to be equally ambitious government action across all sectors which contribute to, and are affected by, climate change to address issues which affect health- such as extreme weather events, poor air quality, and lack of access to green space- but are beyond NHS control.

Drawing on evidence from the 2022 Global Report of the Lancet Countdown on Health and ClimateCchange, this policy brief recommends action across three areas: cleaner energy; improved air quality; and access to green space. Acting on these recommendations will help the UK meet its obligations to limit climate change, bring air pollution in line with World Health Organisation (WHO) limits, and improve physical and mental health.

Recommendations

1. End all subsidies, investments, new licences and consent for fossil fuels while ensuring a just transition to renewable energy

2. Adopt a legally-binding commitment to reducing fine particulate air pollution ($PM_{2.5}$) in the UK to 10 µg/m^3 by 2030 and set a future objective to achieve the WHO recommended guideline of 5 µg/m^3

3. Create equitable access to green space in the UK by prioritising the protection and development of high-quality natural places to ensure all people have a local park within a 10-minute walk of their home

Fossil fuels

The Climate Change Committee has advised the UK Government that action to address the rising cost of living should be aligned with plans to achieve net zero carbon emissions. This highlights the urgent need to reduce demand for fossil fuels, which will help cut emissions and limit energy bills.[3] A transition from fossil fuels to renewables is not only critical for climate change mitigation,[4] but could also contribute towards universal, affordable and clean energy,[5] reduce air pollution, and decrease dependence on international markets and foreign policies.

Lancet Countdown indicator 3.1 shows that while the carbon intensity of the UK energy system has decreased by 22.2% from 1992 levels, in 2019 only 12.8% of the UK's energy supply came from low-carbon sources. That year, 24.1% of the UK's electricity was produced by renewables, an increase of just three percentage points from the year before. In 2020-21, the UK government continued to commit significantly more resources to supporting fossil fuel-based energy than clean energy sources.[6] If the government is to meet its ambition of having 95% of its electricity come from low carbon sources by 2030,[7] it needs to rapidly accelerate the transition from fossil fuels to renewables. The contrary approach- as a possible response to the war in Ukraine- of expanding UK reliance on domestic production of gas and oil, including shale gas through fracking, will take a decade or more to deliver any fossil fuels and do nothing to alleviate fuel poverty.

Governments continue to encourage fossil fuel production and consumption. Despite the urgent need to decarbonise the energy sector, the UK still had a net-negative carbon price in 2019 **(Lancet Countdown indicator 4.2.4)**, indicating a net subsidy towards fossil fuels.[i] The UK ranks 4th highest in Europe for subsidies of fossil fuels per tonne of CO_2 emitted, and allocated a net 12.3 billion USD to fossil fuel subsidies in 2019 alone, more than any other country in Europe, and only behind Saudi Arabia and Russia when compared to other countries very high on the Human Development Index (HDI). This is a 35% increase in UK funding for fossil fuel subsidies from 2010 levels; the amount spent on these subsidies is equivalent to 4.10% of UK health expenditure.

Instead of funding fossil fuels, an ambitious programme of retrofitting, insulation and clean heat generation in all homes and public buildings can reduce fuel consumption and cost. As well as cutting greenhouse gas emissions, such actions create jobs,[8] improve health, and if done in the right way through targeted subsidies can help alleviate poverty and the need for social security. A just transition away from fossil fuels will also improve the UK's national energy security.

The UK government should rapidly eliminate all forms of government subsidies, investments, new licences and consent for fossil fuel exploration, extraction, and sales, with funds redirected towards subsidies for renewable energy, upgrading home insulation and energy efficiency technologies.

Air pollution

Sources of particulate air pollution ($PM_{2.5}$)- road transport, domestic and industrial burning- are also sources of a significant proportion of the UK's greenhouse gas emissions. The challenges of climate change and air pollution must be tackled simultaneously if the UK is to meet its commitment to reach net zero carbon emissions by 2050. Doing so would immediately and significantly improve the health of the UK's populations through better air quality.

Air pollution is one of the greatest environmental determinants of health. Exposure to air pollution increases the risk of respiratory and cardiovascular disease, lung cancer, diabetes, neurological disorders, and adverse pregnancy outcomes.[9,10,11] There is emerging evidence of an association between exposure to air pollution and depression and anxiety, as well as a possible association between short-term exposure and suicide[12] and dementia.[13] **Lancet Countdown indicator 3.3** shows that in 2020 exposure to outdoor air pollution ($PM_{2.5}$) contributed to nearly 27,000 deaths in the UK. Of these, 9% were directly related to burning coal.

More socioeconomically deprived communities in the UK are typically exposed to higher levels of both indoor and outdoor air pollution, reflecting inequities across the country.[14] Emergency admissions for asthma, for example, are strongly associated with deprivation. Significant improvements to air quality, which also address health inequalities, are needed.

There is no safe level of $PM_{2.5}$ pollution. The current UK Government's proposed target of achieving 10 µg/m^3 by 2040 would mean

i This indicator subtracts fossil fuel subsidies from carbon price revenues to calculate the economy-wide average net carbon revenues and prices.

the UK limit would be double the WHO's recommended guideline of 5 µg/m^3 18 years from now. A target of 10 µg/m^3 by 2030 should be seen as the absolute minimum with a longer-term aim of achieving the WHO's recommended guideline of 5 µg/m^3.[15]

Evidence from previous research indicates that the health benefits of achieving a target of 10 µg/m^3 by 2030 would result in 98,000 life years gained annually with people living longer, suffering less ill health, a reduced burden on the health service, and fewer days lost to absenteeism in the workplace.[16]

Green space

Action to transform societies and economies through a rapid transition away from fossil fuels to cleaner renewables calls for a redesign of cities to improve air quality and promote health.

Nature-based solutions contribute to climate change adaptation and have ecosystem benefits.[17] Green spaces reduce areas of raised temperatures experienced in cities and urban spaces (urban heat islands), positively affect physical and mental health and wellbeing,[18] provide shade and cooling benefits and contribute to reducing air pollution.[19]

In the UK, inequalities in access to green space for exercise and recreation, combined with higher levels of air pollution in the most socio-economically deprived areas, threaten the physical and mental health of millions of adults and children. This was made evident during lockdowns put in place due to the COVID-19 pandemic with the health of people living in flats, without access to gardens or green space, more acutely affected.[20]

Investing in green spaces also benefits the health system. A 2020 review of green space by Public Health England concluded that £2.1 billion per year could be saved in health costs if everyone in England had good access to green space.[21] Fields in Trust estimate that reduced GP visits as a result of access to parks and green spaces would save the NHS around £111 million per year.[22] **Lancet Countdown indicator 2.2.3 on Urban Green Space** showed that in 2021, on a scale rating from exceptionally low to exceptionally high, only four out of 10 urban centres in the UK- Birmingham, Bristol, Glasgow and Sheffield - were classified as moderately green. Leeds, Liverpool, London, Manchester, Newcastle-upon-Tyne and Nottingham were classified as low.[23] In Birmingham, the annual net benefit of parks and green space is estimated at nearly £600 million, which includes £192 million in health benefits.[24]

Green spaces that are high quality, safe and have more complex biodiversity have a positive impact on health and wellbeing.[25] Prioritisation of equitable access to green spaces through sustainable design and protection and development of high-quality natural places will bring about immediate and long-term physical and mental health co-benefits, while also improving air quality and creating space for nature in the built environment.

Conclusion

Climate change, air pollution and high energy costs have significant health implications, with the poorest in society often worst affected. The UK Government must build on its early leadership on climate action and make fundamental societal changes to protect people and the planet. This can be achieved through a rapid and just transition from fossil fuels to renewable energy sources, reducing consumption and the demand for energy, and transforming urban environments to enhance physical and mental wellbeing.

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THE *LANCET* COUNTDOWN

The *Lancet* Countdown: Tracking Progress on Health and Climate Change exists to monitor the links between public health and climate change, and the transition from health threat to opportunity. We are a global collaboration of over 300 leading experts from academic institutions and UN agencies across the globe, bringing together climate scientists, engineers, energy specialists, economists, political scientists, public health professionals and doctors.

Each year our findings are published annually in medical journal The Lancet ahead of the UN climate change negotiations. Our data makes clear how climate change is affecting our health, the consequences of delayed action and the health benefits of a robust response.

BRITISH MEDICAL ASSOCIATION (BMA)

The BMA is a professional association and trade union representing and negotiating on behalf of all doctors and medical students in the UK. It is a leading voice advocating for outstanding health care and a healthy population. It is an association providing members with excellent individual services and support throughout their lives.

ROYAL COLLEGE OF NURSING (RCN)

The Royal College of Nursing represents close to half a million nurses, student nurses, midwives and nursing support workers in the UK and internationally. As a member-led organisation, we work collaboratively with our members to:

- influence governments and other bodies
- improve working conditions
- campaign on issues to raise the profile of the nursing community.

The RCN is committed to supporting members and the wider nursing and midwifery community to deliver care in a way that is environmentally sustainable, reduces inequalities, improves health outcomes, and helps to reduce costs.

ROYAL COLLEGE OF PSYCHIATRISTS (RCPSYCH)

The Royal College of Psychiatrists works to secure the best outcomes for people with mental illness, intellectual disabilities and developmental disorders by promoting excellent mental health services, supporting the prevention of mental illness, training outstanding psychiatrists, promoting quality and research, setting standards and being the voice of psychiatry.

ROYAL COLLEGE OF PHYSICIANS (RCP)

The Royal College of Physicians (RCP) plays a leading role in the delivery of high-quality patient care by setting standards of medical practice and promoting clinical excellence. The RCP provides physicians in over 30 medical specialties with education, training and support throughout their careers. As an independent charity representing 40,000 fellows and members worldwide, the RCP advises and works with government, patients, allied healthcare professionals and the public to improve health and healthcare.

UK HEALTH ALLIANCE ON CLIMATE CHANGE (UKHACC)

The UK Health Alliance on Climate Change is an alliance of health organisations, including Royal Colleges, Faculties, Students for Global Health, British Medical Association, Academy of Medical Sciences, Royal Society of Medicine, British Medical Journal, and the Lancet. The total membership of our members is almost 1 million health professionals. The Alliance brings together health professionals to advocate for just responses to the climate and ecological crisis, promote the health benefits that flow from those responses, and empower members and health professionals to make changes in their professional and personal lives to respond to the crisis.