

The Lancet Countdown on Health and Climate Change

Policy brief for the UK

DECEMBER 2020



Introduction

December 12th 2020 marks the fifth anniversary of the 2015 Paris Agreement, with countries due to update their commitments to reducing emissions by the end of 2020.¹ These Nationally Determined Contributions (NDCs) should define a course to limit average global warming to well below 2°C above pre-industrial levels, curbing otherwise catastrophic human health impacts. The need for accelerated efforts to tackle climate change is contextualised by the impacts of, and the global response to, COVID-19. Reflecting this, the interdependent priorities of climate, public health, and the economy must be considered concurrently to ensure a healthy, sustainable and just recovery from the effects of the pandemic. As recognised by NHS Chief Executive Simon Stevens, “2020 has been dominated by COVID-19 [which] is the most pressing health emergency facing us. But undoubtedly climate change poses the most profound long-term threat to the health of the nation”.²

Building on the strong foundation of its legal commitment to achieve net zero greenhouse gas (GHG) emissions by 2050, the UK’s recovery plan from COVID-19 features strong positive steps to date. These include a £3 billion green investment package to upgrade buildings and reduce emissions, supporting around 140,000 green jobs.³ As the country continues to contemplate rebuilding, ongoing and increasing attention must be afforded to sustainability. While the pandemic has wrought havoc on economies, the world cannot afford to return to ‘normal’, but must seize this opportunity for radical change.

The speed and extent of the government’s response to COVID-19 demonstrates the scale of transformation which is possible through collaboration and alignment across sectors towards a common goal. 2020 has already seen several positive developments for climate change

and public health, with a further Heathrow expansion ruled to be illegal due to climate change; the lifting of a ban on subsidising offshore and inland wind farms; and meetings of and subsequent recommendations by the UK Climate Assembly.⁴ A new environment bill is currently being debated by Parliament,⁵ building on the Clean Air Strategy which was hailed by the Director General of the World Health Organization as an advance “which will not only help to protect the health of millions of people, but is also an example for the rest of the world to follow”.⁶ As the host of the COP26 UN Climate Change Conference in November 2021, the UK has a unique opportunity to harness this momentum and lead the way towards a healthy, sustainable and just future for all.

Such objectives are aligned to the Wellbeing of Future Generations Bill currently passing through UK Parliament,⁷ which builds on the Welsh Wellbeing of Future Generations Act. This would enshrine into law a duty on public bodies to assess policies against health, economic, social and environmental wellbeing goals to ensure a more holistic and long-term approach to policymaking and safeguard the wellbeing of future generations. The COVID-19 pandemic has laid bare the link between socioeconomic inequalities and health outcomes, with people in the poorest neighbourhoods more than twice as likely to be killed by the virus as those in the richest areas.⁸ Climate change similarly exacerbates existing inequalities, whether related to race, class, age or gender. Tackling these unacceptable disparities alongside measures to mitigate climate change and promote health must be a central aspect of the UK’s recovery plan.

This policy brief presents data from the 2020 global Lancet Countdown report, with a focus on three key themes: sustainable and resilient cities; healthcare sector emissions; and reaching net zero across sectors.

Recommendations

1

Overarching recommendation: Implement a ‘triple win’ COVID-19 recovery plan and Nationally Determined Contribution (NDC) to the Paris Agreement which together preserve the climate, protect public health, and promote economic sustainability: These policies will define society for decades to come. Climate, health, and economic objectives are not only mutually reinforcing but mutually dependent.

2

Promote and enable active transport, extending and building on measures implemented during the COVID-19 pandemic: This includes improved networks of safe and convenient cycle lanes, together with car-free and car-reduced areas. In the longer term, smart zoning to create compact cities should create appropriate settlement densities to promote walking and cycling, shorten commuting times and reduce traffic intensity.

3

Conduct city-level risk assessments: Threats to public health infrastructure and the local population must be identified in order to adequately prepare for the effects of climate change, especially with regard to flood and heat protection.

4

Promote good practice in sustainable healthcare delivery: As the host of COP26, the UK is uniquely placed to share its world-leading experience in sustainable healthcare delivery and should use the opportunity to share good practice internationally. This will in turn drive demand for low carbon procurement options, increasing availability of new technologies and at lower costs. Efforts to support decarbonisation of the NHS should be supported by core funding from Treasury as part of wider national net zero efforts.

5

Include health in all cost-benefit analyses of climate change mitigation and adaptation policies and identify strategies that reduce carbon emissions to net zero whilst positively benefitting health.

6

Develop sector-specific pathways to achieve net zero emissions by 2050 or sooner: Building on the recommendation of the Committee on Climate Change to integrate net zero into all policy making, these plans should draw from evidence on health and economic co-benefits to clearly demonstrate the rationale for accelerated action.

Sustainable and resilient cities

Cities are prime determinants of health. Inhabited by the majority of the UK population, urban environments define the parameters within which citizens live, learn, travel, work and play. The 63 largest towns and cities in the UK (defined as built-up urban areas with 135,000 or more people) account for almost half of all of national CO₂ emissions.⁹ Urban areas thus present both challenges and opportunities to address climate change and its health impacts in the UK. Urban centres should be focal points for the implementation of both mitigation and adaptation measures relating to climate change and human health, as well as having a key role in tackling local socio-economic and demographic inequalities.

City-level interventions to simultaneously mitigate climate change and improve health include measures to address air pollution and create less obesogenic environments. Lancet Countdown data indicates that 17,700 deaths in 2018 were attributable to anthropogenic PM_{2.5} air pollution,¹⁰ with poorest air quality being in cities. The national cost in terms of years of life lost due to exposure to PM_{2.5} air pollution from all sources reached £9.6 billion in 2018.¹⁰

Measures to promote active transport such as walking and cycling not only lead to improved air quality and reduced GHG emissions, but also reduce physical inactivity. Over 2,900 deaths in 2018 were attributable to PM_{2.5} pollution from land-based transport.¹⁰ Physical inactivity contributes to obesity, cancer, diabetes and other non-communicable diseases, leading to one in six deaths in the UK, while associated morbidity costs businesses and wider society £7.4 billion annually.¹¹ Active transport substantially reduces this health burden. During the COVID-19 pandemic, use of public transport has dramatically reduced, with individuals opting to travel by car, bike or on foot instead. According to latest reporting by the Department

of Transport, almost 40% of 2700 people surveyed across England reported walking or cycling more than before the pandemic. Of these, 94% said it was likely they would continue after the pandemic.¹² This has been supported by short term measures such as pop-up segregated cycle lanes in parts of London and other cities nationwide (Figure 1). As the country continues to grapple with minimising physical contact during the pandemic and subsequently seeks to respond to rising travel levels as distancing measures ease, continued investment in active transport infrastructure will ensure that walking and cycling remain attractive modes of travel.

Other measures to create healthier urban environments include ensuring access to healthy, fresh and affordable food, rather than highly processed options with high associated GHG emissions and detrimental effects to health. Building design can also encourage physical activity, for example planning accessible and prominent stairways in public buildings such as schools and hospitals and encouraging their use over high-energy consuming alternatives such as lifts or escalators.

Overall, by making healthy and sustainable food and transport choices attractive, accessible and affordable, urban environments present a key opportunity to tackle climate change and improve human health.

Planning in order to adapt to future climate-related threats is also necessary to protect health. Of 14 UK cities surveyed, 10 had completed or initiated a city-level risk assessment in 2019.¹⁰ Extreme heat, heatwaves and flooding were the most commonly identified hazards affecting public health. The negative health impacts of heatwaves as they are projected to increase in frequency and intensity will be particularly pronounced in cities due to the urban heat island effect.¹³ Over 8,000 people aged over 65 died in the summer heatwaves of 2018. Adaptation in cities will be especially important to reduce this mortality.



Woman using a temporary cycling lane in Hammersmith, London, June 2020.

Healthcare sector emissions

The city-level measures described above serve to promote the health of local populations, creating health-enabling environments and reducing inequalities. This improves resilience of individuals, whether to a climate related threat such as a heatwave; an acute disease; surgery; or otherwise. Ensuring the best possible health of a patient prior to an operation increases the likelihood of a swift recovery and reduces the risk of complications.¹⁴ This in turn leads to lower healthcare resource utilisation and cost. Reciprocally, the healthcare sector also has the potential to contribute to GHG emission reductions.

The 2020 global report of the Lancet Countdown indicates that the healthcare sector contributes 4.6% of GHG gas emissions worldwide.¹⁰ In a leading effort to minimise the contribution of healthcare to climate change, the National Health Service in England has declared its ambition to deliver a 'net zero health service' by 2040 for the emissions it controls directly, with an interim target to reach an 80% reduction by 2028 to 2032,¹⁵ setting it on a trajectory to become the world's first net zero national health service. This builds on impressive progress which led to an 18.5% decrease in the carbon footprint of health and social care from 2007-2017, despite an increase in activity of approximately 27%,¹⁶ and while global healthcare sector emissions rose by over 50% in the same decade.

Medicines account for 25% of emissions within the NHS. Most of these emissions come from the use of a small number of medicines, including anaesthetic gases, which account for 5% of the carbon footprint for

acute organisations.¹⁷ The Association of Anaesthetists and the Royal College of Anaesthetists note that in particular, volatile anaesthetic gases such as desflurane, and nitrous oxide, are potent greenhouse gases.^{18,19} Clinicians should therefore be informed and encouraged to restrict the use of desflurane and nitrous oxide to cases where they would reduce morbidity and mortality over all alternative drugs, opting for techniques such as low-flow anaesthesia using gases with lower greenhouse gas emissions,²⁰ total intravenous anaesthesia (TIVA), or regional anaesthetic techniques, which limit harmful emissions. While capture and reprocessing technology exists, avoidance of emissions in the first instance is far preferable. To this end, a mobile app has been developed by the Association of Anaesthetists to help clinicians understand the impact of regularly used gases. The Anaesthetic Impact Calculator allows clinicians to calculate and compare the CO₂e of inhaled anaesthesia agents and carrier gases.²¹

In addition, restrictions during the COVID-19 pandemic have triggered a shift from in person to remote consultations wherever possible. This leads to reduced travel emissions for patients, which currently contributes 5% of total NHS emissions.¹⁵ Staff rapidly adapted to be able to run virtual appointments including pre-operative assessments. To support a dramatic increase in teleconsultations, the NHS delivered 21,000 laptops to its practitioners within two months. The success of this transition was due to individual and institutional agility, and the drive to deliver the best possible care in an unprecedented situation.

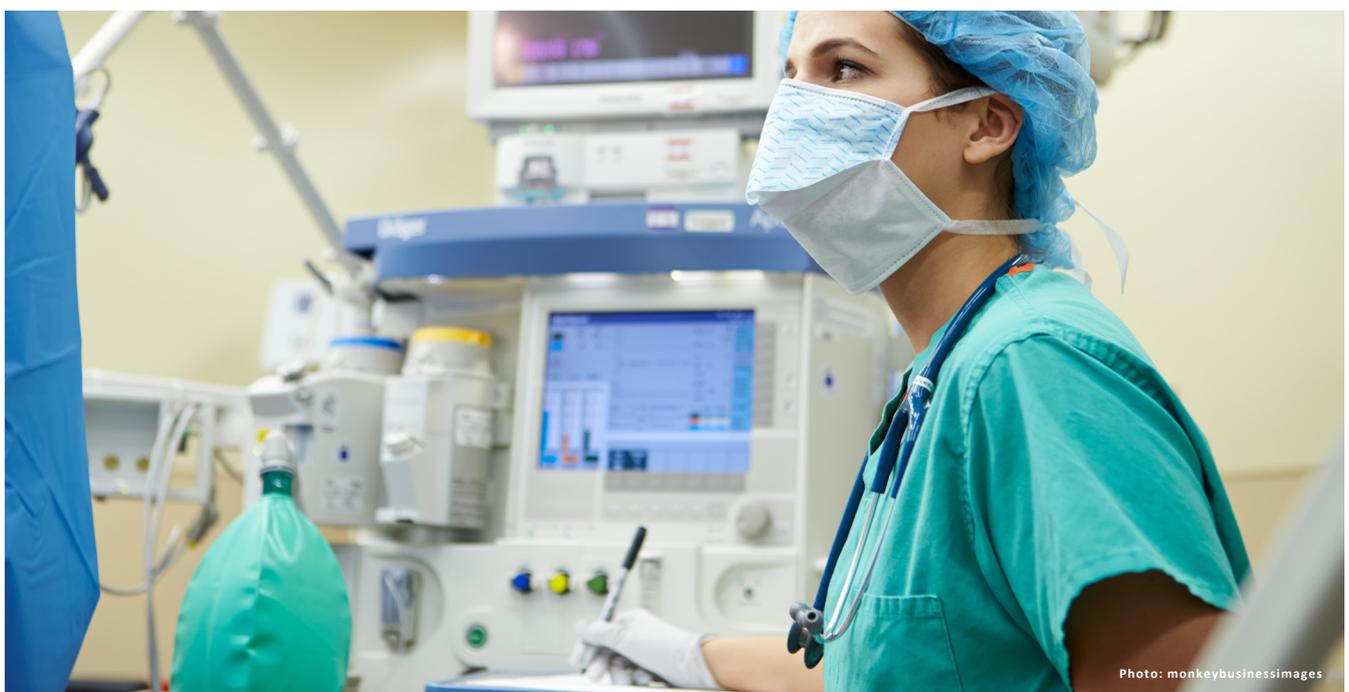


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An anaesthetist monitoring a patient during an operation

Reaching net zero for a healthy and sustainable recovery

Overall, the UK has made commendable progress in reducing its GHG emissions, with a 43% decrease from 1990 to 2018²² - more rapid than any other major economy. While emissions have fallen further during the pandemic, this exceptional period reflects devastating wider impacts and is not indicative of future trends. According to 2019 energy and emissions projections from the Department for Business, Energy and Industrial Strategy (BEIS), the UK is set to miss targets in the fourth and fifth carbon budgets* (for 2023-2027 and 2028-2032) by approximately 10% and 15%.²³ According to the United Nations Environment Programme, cuts in emissions equivalent to 7.6% per year from 2020 to 2030 are necessary in order to meet the 1.5°C goal outlined in the Paris Agreement.²⁴ Transport, energy supply and agriculture are significant sources of GHG emissions, contributing 28%, 23% and 10% respectively.²⁵ Measures to reduce emissions across these sectors yield co-benefits including improved air quality, higher physical activity levels (as discussed above) and improved nutrition.

Leadership has been especially apparent in the energy supply sector, with the UK's overall reductions in GHG emissions primarily due to reducing the share of coal in electricity generation. Coal phase-out is on track to be achieved ahead of schedule, with government proposing to bring the deadline for phase out forward from 2025 to October 2024. Despite the progress made in phasing out coal, almost 4,000 deaths due to PM_{2.5} pollution from coal still occur annually.¹⁰ While the UK has succeeded in reducing the carbon intensity of its energy system (Figure 3),¹⁰ further investment and ambition to accelerate the transition to renewable energy sources will both save lives and increase the likelihood of meeting the targets set out in future carbon budgets.

In the UK, food production and consumption represent around 10% of GHG emissions.²⁴ When imports are taken into account, this figure rises to 20% (largely through feed crops and the related deforestation).²⁶

The National Farmers' Union has set the ambitious goal of reaching net zero GHG emissions across the whole of agriculture in England and Wales by 2040.²⁷ Reorienting food systems to reduce consumption of red meat and processed foods can reduce diet-related risks, with unhealthy diets contributing to almost one in five deaths nationally. As well as shifting to more sustainable food production including measures to enhance biodiversity and preserve soil nutrient richness, it is necessary to reduce the amount of food lost and wasted along the food supply chain.

In order to deliver the commitments set out within the Paris Agreement and to minimise the threats to human health from air pollution, unsustainable food systems and climate change, it is essential that pathways to achieve net zero emissions by or before the national net zero 2050 deadline are developed and implemented across all sectors. These should outline health, and where possible, also economic co-benefits as additional evidence for accelerated action.

In its July 2020 report, the Committee on Climate Change called for all government departments to "integrate net zero into all policymaking, and ensure procurement strategies are consistent with the UK's climate objectives," as well as providing detailed sector-specific recommendations of how to achieve this goal.²⁸ These directly underpin a recommendation to the Cabinet Office to "ensure the COVID-19 recovery plans accelerate the transition to net zero and strengthens the UK's resilience to climate risks". Delivery of these plans can be incentivised by accompanying fiscal measures, including direction of subsidies to support the most sustainable practices across sectors. Following the UK's exit from the EU on the 31st December, a suitable system to replace the EU Emissions Trading System (ETS) must be implemented, with options currently under discussion.

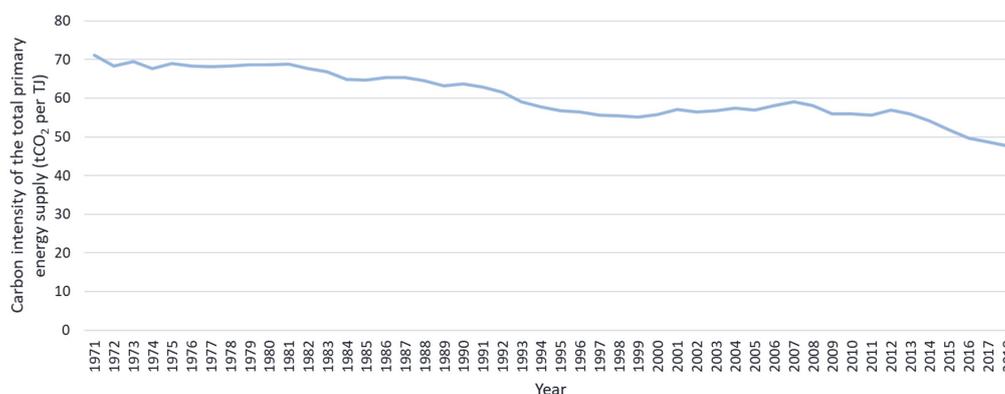


Figure 3: The carbon intensity of the UK's energy system

*Carbon budgets were introduced in the UK under the 2008 Climate Change Act. Each carbon budget provides a five-year, decreasing cap on total greenhouse gas emissions, in order to meet the UK's emission reduction commitments.

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Organisations and acknowledgements

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THE LANCET COUNTDOWN

The Lancet Countdown: Tracking Progress on Health and Climate Change is an international, multi-disciplinary collaboration that exists to monitor the links between public health and climate change. It brings together 38 academic institutions and UN agencies from every continent, drawing on the expertise of climate scientists, engineers, economists, political scientists, public health professionals and doctors. Each year, the Lancet Countdown publishes an annual assessment of the state of climate change and human health, seeking to provide decision-makers with access to high-quality evidence-based policy guidance. For the full 2020 assessment, visit www.lancetcountdown.org/2020-report/

ROYAL COLLEGE OF ANAESTHETISTS (RCOA)

Anaesthesia is the largest single hospital specialty in the NHS. The Royal College of Anaesthetists is the professional body responsible for the specialty throughout the UK, and it ensures the quality of patient care through the maintenance of standards in anaesthesia, critical care and pain medicine. www.rcoa.ac.uk

THE ASSOCIATION OF ANAESTHETISTS

As the professional membership organisation for around 10,000 anaesthetists in the UK, Republic of Ireland and internationally, the Association of Anaesthetists promotes patient care and safety, and advances anaesthesia through education, publications, research and international work. The Association maintains an active programme of support for anaesthesia worldwide, especially in low- and middle-income countries. Its motto in somno securitas ('Safe in Sleep') encapsulates the major focus of the Association: safety in anaesthesia. www.anaesthetists.org