

NHS England and NHS Improvement Board meetings held in common

Paper Title: Delivering a Net Zero NHS – One Year Progress

Agenda item: 4 (Public session)

Report by: Ian Dodge, National Director: Primary Care, Community Services & Strategy
Dr Nick Watts, Chief Sustainability Officer
Preeya Bailie, Director of Procurement, Transformation and Commercial Delivery

Paper type: For approval and information

Organisation Objective:

NHS Mandate from Government	<input checked="" type="checkbox"/>	Statutory item	<input type="checkbox"/>
NHS Long Term Plan	<input checked="" type="checkbox"/>	Governance	<input type="checkbox"/>
NHS People Plan	<input type="checkbox"/>		

Executive summary:

Delivering a Net Zero NHS set ambitious carbon reduction targets for the NHS. One year on, this paper reports on progress.

Action required:

The NHS England Board are asked to note progress and approve pursuing further a suite of additional phased actions to reduce emissions from the NHS supply chain between now and 2030.

Background

1. In October 2020, the NHS England and NHS Improvement (NHSE&I) Board approved a new strategy to tackle climate change, becoming the world's first national health service to agree net zero commitments. This strategy would result in direct improvements to people's health and patient care as a result of the interventions it set out. Set against a 1990 baseline and taking account of the full emissions profile of the NHS, two ambitious, yet feasible targets were set:
 - net zero by 2040 for the emissions we control directly (the NHS Carbon Footprint), with an 80% reduction by 2028-2032;
 - net zero by 2045 for the emissions we can influence but don't directly control (the NHS Carbon Footprint Plus), with an 80% reduction by 2036-2039.
2. New survey data (August 2021) from YouGov, makes clear that 9 in 10 staff support the NHS commitments to reach net zero. The desire for the NHS to take action against climate change is further reflected in the fact the majority of

Trusts and ICSs that have developed or are in the process of developing plans setting out their plans to reduce carbon emissions within their locality, with all Trusts and Systems asked to complete plans by January and March 2022, respectively.

Delivering against our Net Zero trajectories

3. For the emissions under the NHS's direct control (the NHS Carbon Footprint), the NHS has committed to reducing its carbon footprint from 6.1 MtCO_{2e} to net zero by 2040 and by 1,189 ktCO_{2e} in 2021/22. Direct NHS Action was expected to account for 526 ktCO_{2e} of reductions, with 663 ktCO_{2e} forecast to come from national grid decarbonisation and broader Government action.
4. There are three major drivers that have influenced our carbon emissions this year: direct action implemented across the country to reduce carbon emissions, national government action to decarbonise the National Grid, and the response to COVID-19 pandemic.

Direct NHS Action

5. **Estates:** Action to improve energy efficiency and reduce energy emissions within the NHS Estates is expected to deliver a 210 ktCO_{2e} reduction during 2021/22.
6. These reductions come from over £310 million capital investment in renewable energy generation, energy efficiency measures, and lighting through the NHS Energy Efficiency Fund and the Public Sector Decarbonisation Scheme, delivered across 94 Trusts. Examples of tangible reductions range from Milton Keynes University Hospital fitting over 2,500 solar panels producing 853 MWh (megawatt hours per year), through to the installation of heat pumps and other low carbon heating measures to reduce reliance on fossil fuels at Gloucestershire Hospital NHS Foundation Trust.
7. The year has also seen nation-wide reductions in energy usage, in part due to the response to the COVID-19 pandemic, and in part due to local schemes such as the Foleshill Health Centre in Coventry, which became the first passive house (an international architectural gold standard for buildings heated and cooled with very little energy) certified building within the NHS Estate in August 2021.
8. **Travel and Transport:** Progress towards an entirely zero emission NHS fleet is also gaining pace, with reductions of 112 ktCO_{2e} expected in 2021/22 as a result of rapid improvements in ultra-low emission vehicle technology and a modal shift.
9. This is supported by plans to unveil the world's first hydrogen-electric zero emission ambulance, and the NHSE&I review of Non-Emergency Patient Transport, published in July 2021, which laid out plans for a zero-emission non-emergency patient transport fleet by 2035. South Central Ambulance Service NHS Foundation Trust, keen to accelerate efforts locally have already

purchased 6 electric non-emergency patient transport vehicles and have introduced a number of electric rapid response vehicles into service.

10. The NHS is also partnering with the Department for Transport to deploy eleven electric 19-tonne trucks, together with the required charging infrastructure as part of a recent trial. Coordinated by the North West regional team, the vehicles will support a range of NHS organisations including the Northern Care Alliance NHS Group, while reducing air pollution and cutting carbon.
11. The response to the COVID-19 pandemic has resulted in substantial changes in staff behaviour, and a reduction in travel within and to the NHS; including further innovations in logistics. For example, Oxford University Hospitals are now using e-bike couriers to deliver cancer treatments to their hospital sites.
12. **Medicines** account for 25% of total NHS emissions, with inhalers and anaesthetic gases alone responsible for 5% of the NHS Carbon Footprint Plus, with a reduction of 258 ktCO₂e expected in 2021/22.
13. A rapid decline in nitrous oxide emissions from secondary care are a central part of this drawdown, delivering a 149 ktCO₂e reduction driven by improved supply and stock management, repairs to manifold leaks, and demand reduction.
14. Desflurane, one of the most carbon intensive medicines available, with a much higher global warming potential than its clinical equivalent, has also seen a recent reduction owing to the efforts of Trusts, theatre staff and anaesthetists, and the Royal College of Anaesthetists and the Association of Anaesthetists. The NHS has now hit its target here, with the use of desflurane by Trusts lower than 10% of all volatile gases by volume (an average of 9.5%). The proportion of usage continues to decline, with well over 50% of Trusts hitting their 10% target, and 40 going further and eliminating the use of desflurane altogether.
15. Representing over 3% of total emissions, optimising the use and prescription of inhalers is an important early step to improving patient care and tackling climate change. Here, the Primary Care Network Investment and Impact Fund published in August 2021 included an incentive for primary care networks to prescribe lower-carbon inhalers where clinically appropriate and as part of a shared decision-making conversation with patients. Additionally, the Pharmacy Quality Scheme, published in August, will see community pharmacists expand their key role in supporting patients with their medicines by providing high quality inhaler technique checks for patients newly prescribed an inhaler as well as increasing the return of unwanted or used inhalers to community pharmacy for greener disposal. This is expected to result in in-year reductions of 76 ktCO₂e and is projected to expand to 155 ktCO₂e annually by 2023/24.

Other Action

16. The NHS net zero targets will be delivered alongside a range of actions from national Government, including the decarbonisation of the National Grid. At the time of publishing the NHS Net Zero strategy, modelling based on HM

Treasury [Green Book](#) projections anticipated that National Grid decarbonisation would result in reductions of 663 ktCO_{2e} for the NHS in 2021/22. However, recently updated [guidance](#) from the Department for Business, Energy and Industrial Strategy indicates that national progress on reducing electricity emissions has been slower than anticipated, resulting in an annualised reduction of 81 ktCO_{2e}. The Government expect the pace of change to accelerate, and as a result this is not currently expected to impact on the long-term target dates for grid decarbonisation or impact on the NHS' net zero targets.

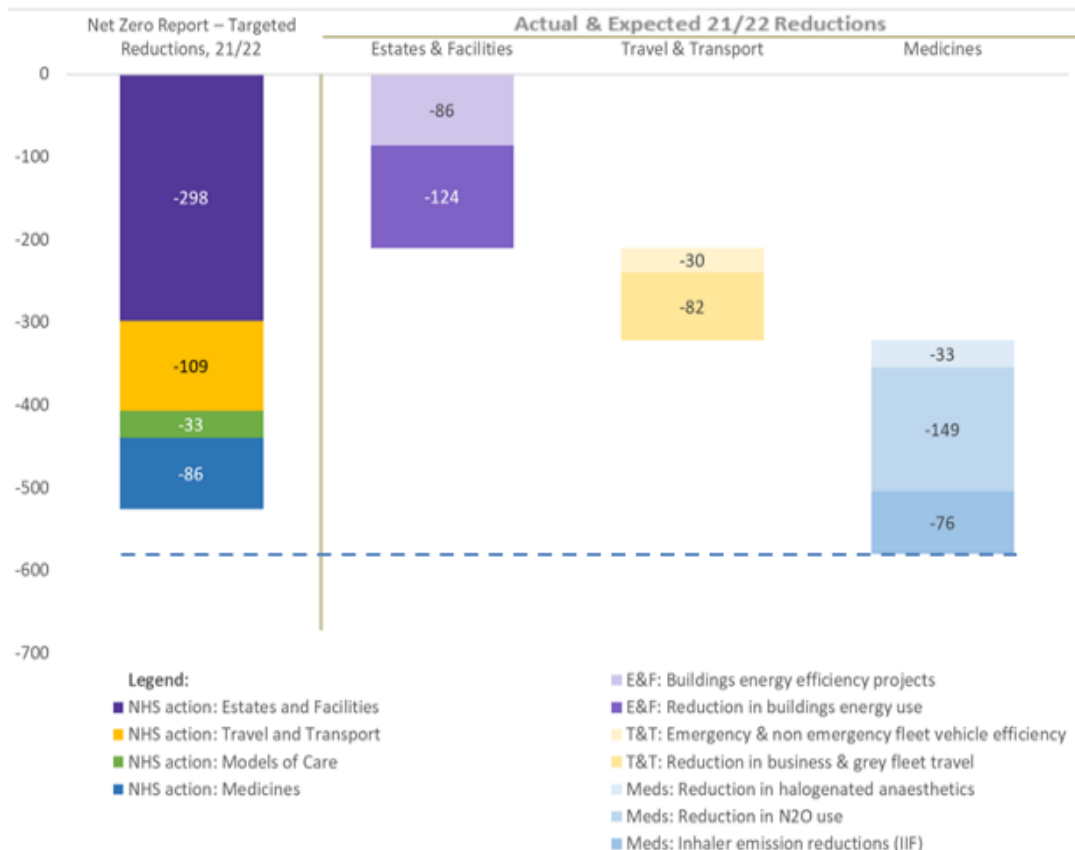
COVID-19 and Climate Change

17. The COVID-19 pandemic and the national response has had a number of direct and indirect impacts on the carbon emissions of the NHS. Significant reductions can be seen in travel from staff and visitors, and an increase in the uptake of virtual appointments has resulted in a 176 ktCO_{2e} reduction.
18. Conversely, emissions have risen in a number of areas as a result of the response to COVID-19. These increases are most directly seen and felt with the expanded use of Personal Protective Equipment (PPE) and Heating, Ventilation, Air Conditioning (HVAC) systems to protect patients and staff and the national roll-out of the NHS COVID-19 Vaccination Programme. There has been a concerted effort to reduce emissions where it is safe to do so. For example, an NHS England and NHS Improvement pilot involving 42 trusts and further 20 running local pilots, is beginning to move away from single-use PPE, starting with reusable gowns. Similarly, over a 100 NHS Trusts and primary care settings are now using reusable respirators and masks. The long-term ambition is to move to reusable PPE products, produced domestically, and disposed of sustainably.
19. A complete retrospective assessment will be conducted, however interim analysis suggests that on balance it is likely any increase in emissions as a result of COVID-19 has been offset by the corresponding reductions outlined above. Given this, efforts will continue to focus on locking in long-term carbon savings where this can continue to improve patient care and reduce costs.

Summarising the NHS' Emissions Reductions

20. **Expected annual reductions:** The Greener NHS national programme received the funding and capacity required to begin implementing the net zero strategy in early 2021, targeting an in-year reduction of 526 ktCO_{2e} as a result of direct NHS action. Figure 1 provides a summary of the detail outlined above (paragraphs 5-15), and demonstrates a total reduction of 580 ktCO_{2e}.

Figure 1. Targeted and expected reductions in the NHS Carbon Footprint (ktCO₂e) 21-22



21. In 2021/22, slower progress decarbonising the national power grid (outlined in paragraph 16) is partly offset by previously unaccounted for progress the NHS has made reducing emissions from waste and water in its estate.
22. Taken together, the NHS is on-track to meet the net zero ambitions it outlined 12 months ago, with a total emissions reduction of 1,260 ktCO₂e expected in 2021/22.
23. **Regional and ICS carbon footprints:** Every Trust and ICS will be expected to have a board-approved Green Plan (a local net zero strategy) by January and March 2022 respectively. To support the production of these plans, Regional and ICS-level carbon footprints have been developed (summarised in Figure 2). Over time, the granularity of this analysis will increase.

Figure 2, Table shows NHS Carbon Footprint emissions by region

Region	NHS Carbon Footprint (ktCO ₂ e)			
	1990	2010	Current	Targeted reduction to 80%
East of England	1,594	857	601	283
London	2,758	1,483	1,040	489
Midlands	3,127	1,682	1,179	554
North East and Yorkshire	2,707	1,456	1,021	480
North West	2,380	1,280	898	422
South East	2,185	1,175	824	387
South West	1,441	775	543	255
Total England	16,191	8,709	6,107	2,870

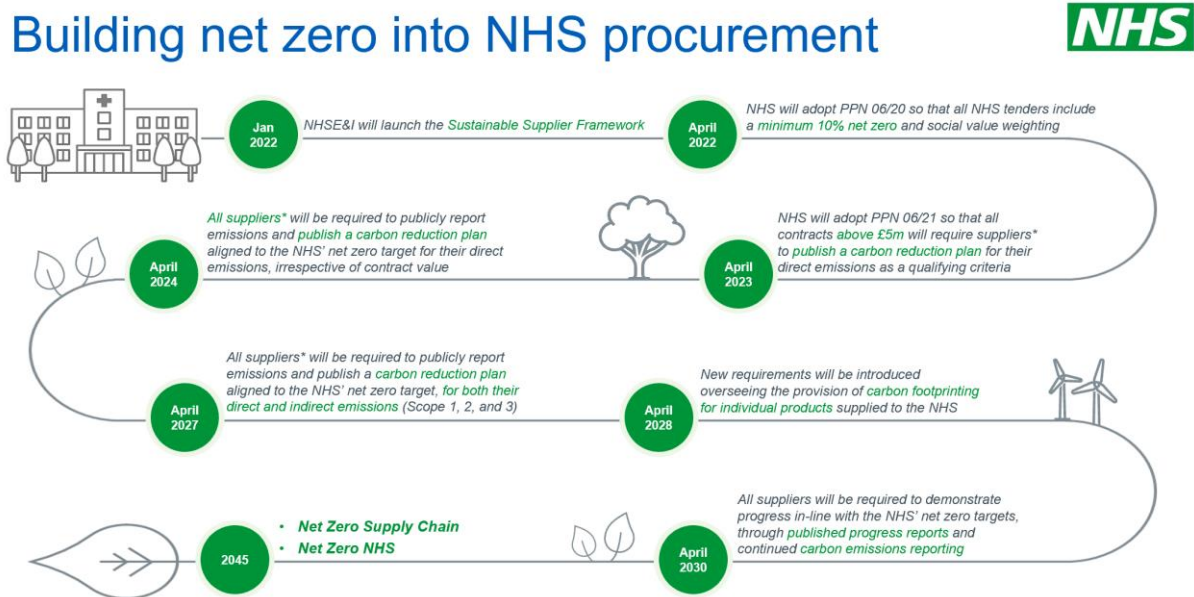
Tackling Climate Change in the NHS Supply Chain

24. By 2045, the NHS aims to reduce the emissions of the NHS supply chain to net zero. The net zero strategy made clear that by 2030, the NHS would no longer purchase from suppliers that are not aligned with this ambition. This requires collaboration with suppliers, clear long-term expectations, and a framework to benchmark, communicate and celebrate achievements against these targets. A phased approach will support suppliers with their net zero progress and reflect steadily increasing ambitions.
25. Today we set out clear expectations of suppliers between now and 2030 (Figure 3), supported by a framework for suppliers to self-certify their achievements and benchmark against our requirements, initially voluntarily. NHSE&I will launch the NHS sustainable supplier framework in 2022. It will also be used to simplify and provide consistency for the purchasing of low-carbon goods and services. Today we also set out the intended timetable for when contractual requirements come into place.
26. Our approach builds on UK Government procurement policy, which mandates that carbon reduction, social, and environmental considerations are integrated into all procurement processes. From April 2022, all NHS tenders will adopt the Government's [Social Value Model](#), a minimum of 10% scoring criteria assessing how suppliers will contribute to the NHS' net zero targets and social value in contract delivery. Implementation guidance for Trusts and ICSs will be provided by the end of 2021.
27. In 2023, the NHS will adopt the Government's [Taking Account of Carbon Reduction Plans](#), requiring all suppliers with contracts for goods, services, and/or works with an anticipated contract value above £5 million per annum, to publish a carbon reduction plan for their direct emissions. From April 2024, the NHS will expand this requirement for all contracts, irrespective of value.
28. From April 2027, all suppliers with contracts for goods, services, and/or works for any value, will be expected to publish a carbon reduction plan that takes into account the suppliers' direct and indirect emissions. The NHS will regularly

assure suppliers' responses. As international standards mature, requirements will be introduced so that both the targets and the emissions reporting are independently verified by a recognised third-party.

29. From April 2028, new requirements will be introduced overseeing the provision of carbon foot-printing for individual products supplied to the NHS. The NHS will work with suppliers and regulators to determine the scope and methodology.
30. Those struggling to meet the requirements will be proactively identified with an early offer of support and, if required, market alternatives will be considered. Product and process innovation will also be key to reducing supply chain emissions and to this end, NHSE&I will continue to support innovation through competitions and awards such as the competition launched in June 2020 by the National Greener NHS and Accelerated Access Collaborative teams, in collaboration with the Small Business Research Initiative (SBRI Healthcare).
31. By the end of the decade, suppliers will only be able to qualify for NHS contracts if they can demonstrate their progress through published progress reports and continued carbon emissions reporting through the supplier framework.

Figure 3, shows the net zero supply chain roadmap



*To account for the specific barriers that Small & Medium Enterprises and Voluntary, Community & Social Enterprises encounter, a two-year grace period on the requirements leading up to the 2030 deadline, by which point we expect all suppliers to have matched or exceeded our ambition for net zero.

32. **Stakeholder engagement:** Alongside the work of the International Leadership Group, NHSE&I Commercial Directorate have engaged extensively with suppliers through supplier forums, surveys and engagement with key trade bodies and their members, to discuss possible roadmaps and understand key barriers and opportunities. Supplier feedback has been positive, with most suppliers indicating that the roadmap is ambitious but achievable. Several suppliers are already demonstrating progress against key requirements.

33. **Supporting a diverse supply chain:** The NHS will strive to recognise,

celebrate and encourage those of our suppliers who are leading the way, and will also account for the specific barriers that some suppliers face. NHSE&I will continue to work with regulators, suppliers, and supporting industry bodies to align with NHS ambitions.

34. In addition, a two-year grace period on the key milestones and requirements leading up to the 2030 deadline will apply for Small & Medium Enterprises (SMEs) and Voluntary, Community & Social Enterprises (VCSEs), by which point we expect all suppliers to have matched or exceeded our ambition for net zero.
35. **Simplifying procurement to drive net zero:** Whilst driving net zero ambitions among our supply chain is a key component of our strategy, NHSE&I recognise the need to support our local teams to modify the way the NHS purchase and use goods and services. Further work will be undertaken with NHS Supply Chain (Supply Chain Coordination Ltd) to facilitate the procurement of sustainable items, while limiting purchase of carbon intensive products when alternatives are available.

Preparing for Climate Change

36. While this paper focuses on the NHS' efforts to mitigate climate change, there is also a need to prepare for the impacts which are locked-in, cannot be avoided, or are otherwise outside the control of the NHS.
37. Under the adaptation reporting powers of the Climate Change Act, the Greener NHS programme has been invited by Department for Environment, Food & Rural Affairs to produce the Third Health and Care Adaptation Report (HCA3) on behalf of the sector. The HCA3 builds on the previous two reports, and helps to ensure the NHS can continue to deliver a climate-smart, resilient health service. The conclusions of this report will be used to inform the human health and built environment components of the UK's National Adaptation Programme.