

CLIMATE CHANGE IS A PUBLIC HEALTH EMERGENCY

The NHS is rising to the challenge

Key messages

- The NHS has recognised climate change as a public health priority. Over the next three decades, climate change will increasingly threaten the health and wellbeing of people and communities globally and provoke change in how we deliver health services on multiple fronts.
- The NHS has a central role to play in efforts to reduce carbon emissions and respond to the sustainability agenda more broadly, harnessing its considerable economic and social value, and the support and enthusiasm of its workforce.
- The NHS' ambition to become a net zero health service by 2040 and 2045 provides trusts with the opportunity to plan how they will reduce emissions. However, it is important that the service, including integrated care systems (ICs), contribute to change before 2030.
- Trusts are at different stages of progress and continue to face significant operational pressures as a result of the COVID-19 pandemic. However, in a recent survey, the majority (78%) of trust leaders agreed that tackling climate change and promoting sustainability in how they work is a priority for them in the next year, with many having already changed procurement, transport and consumption practices.
- We identified the following recommendations for leaders within trusts, systems and national bodies:
 - Trust leaders should consider how their boards can obtain, and access, sufficient experience and expertise in this area. This issue should be owned across the trust's leadership and become 'business as usual' within the organisation.
 - Systems will also have an important role to play. Integrated care boards (ICBs) and integrated care partnerships (ICPs) should consider how they can embed sustainability into their strategies and plans, and how the organisations represented on ICBs can have a role and a voice in making change happen across their patch.
 - The national focus on sustainability is welcome. But more work is needed nationally to help the NHS to move faster and further. This includes examining where supplier relationships need a clear service-wide steer to support large scale improvement in the sustainability of supply chains; how best to ensure a standardised approach to reporting carbon impact; and how to ensure trusts have appropriate access to capital to support net zero ambitions.

Introduction

Recognising the significance of the climate crisis and the role the NHS has to play in contributing to the UK's efforts to reduce carbon emissions, this publication draws on survey results and a series of conversations with trust leaders and national policy makers to explore the barriers and enablers to change for trust boards, and to share good practice.

In our annual *State of the provider sector* survey, we look at the past year's policy developments and provide commentary on the sector's contribution. This year we asked trusts a series of questions on how they are progressing environmental sustainability within their organisation in line with national policy developments. The survey was open during September and was sent to all chairs and executive directors of trust boards. 172 trust leaders from 114 different trusts responded to the survey, accounting for 54% of the provider sector. All regions and trust types were represented in the survey.

We would like to thank all our contributors for their time and for sharing the ways in which they are going about tackling the climate crisis. We hope our report proves a useful contribution to a vital debate on the role of health services in reducing carbon emissions, tackling climate change and adapting to its impact.

Background

The climate crisis

The World Health Organisation recognises climate change as **the single biggest health threat facing humanity**. It affects the social and environmental determinants of health, such as clean air, safe drinking water, food supply and shelter. Over the next few decades, it will increasingly threaten the health and wellbeing of people and communities across the globe, as well as placing **health services under growing pressure on multiple fronts**. By the latter half of this century, the rise in global temperatures will mean parts of the world will become increasingly less habitable. This, alongside the growing frequency of extreme weather events, such as flooding, will likely see **shifts in infectious disease patterns**, while changes to weather patterns will **affect the distribution of air pollutants**. Furthermore, from 2050, research has shown that **crop yields may decline on average by 10% or more**, threatening food security and food production.

On a national level, the United Kingdom has seen **nine of its ten hottest years on record within the last decade**, with heatwaves expected to become more frequent and severe. **Flooding events have been identified as one of the most severe climate risks** to the country's population and wider infrastructure. Coastal flooding, as a result of sea level rise, is likely to threaten the long-term viability of some coastal communities and introduce significant challenges for the resilience of health and care services in these areas.

If we are to keep global temperatures from exceeding the 1.5 degrees Celsius threshold that was agreed in the **2015 Paris Agreement**, and reinforced in the United Nations COP26 climate change agreement, it must be a priority across a range of sectors including the NHS and its supply chain.

Even if the aims set out at COP26 are achieved, the UK's climate will be different from today by 2050. Population growth and demographic change, combined with changes to biodiversity and local weather patterns, will mean that the NHS must work differently. Preparing now is crucial which is why it is so important that the NHS has recognised climate change as a public health priority.

The NHS contribution

The NHS is responsible for **4% of the country's carbon footprint**. This figure comprises **the NHS' direct and indirect emissions, generated by diverse factors** including buildings, medicine production, patient and staff travel, transport, manufacturing and food and catering. The NHS therefore has a central role to play in efforts to reduce carbon emissions and meet the national net zero targets set out in the Climate Change Act 2008. As anchor institutions in communities, often operating at considerable scale, trusts can make a positive contribution in their local area by embedding sustainability into how they work and deliver health and care services.

As the country's biggest employer, and making up **over 7% of the economy**, the work trust leaders are doing to tackle climate change and drive action on environmental sustainability should be an engagement activity that brings the enthusiasm of their staff to the fore. With **98% of frontline NHS employees** believing the health system should be more environmentally sustainable, and **nine in ten supporting NHS commitments to reach net zero**, there is a real opportunity for trusts to connect with the enthusiasm and commitment we know that many staff feel for this agenda, to raise awareness, promote change within the workplace and to support a broader conversation about the green choices staff could make outside of work.

Climate change also presents a risk to population health, and contributes to poorer health outcomes, with direct consequences for health and care systems. For example, air pollution has been shown to **contribute to increased rates of respiratory conditions and heart disease**. Improving air quality represents a tangible change that could bring health benefits to populations across the country. By contributing to improving the quality of the air local residents breathe, the NHS can impact demand for services and tackle both adult and childhood illnesses, improve the health of local communities, and reduce health inequalities.

Many trusts recognise that tackling climate change and improving health services is more than just about reducing carbon emissions. Adaptation and building resilience into health and care services needs to be considered alongside carbon reduction plans. Much of the effort so far has focused on mitigating the impacts of climate change by reducing emissions. However, even if interventions to reduce carbon emissions are successful, and we are able to keep average temperature increases below 1.5 - 2 degrees Celsius, the reality is that we can expect wider changes to the climate, such as rising sea levels. Health services will need to be prepared for the impact of changed weather patterns on infrastructure, supply chains, and health needs, and for the NHS to be at the heart of local resilience planning.

Direction of travel

National policy developments

In October 2020, the Greener NHS National Programme published its strategy, *Delivering a 'Net Zero' National Health Service*, in which the NHS committed to the ambition of becoming a net zero-carbon health service by 2040 for emissions it controls directly and 2045 for emissions it can influence. The NHS in England was the first national health service to commit to becoming net zero, and set out the scope, scale and speed required to make this ambition a reality. The NHS is already progressing work to reduce its environmental impact, including working with suppliers to incentivise decarbonisation of their products.

NHS England and Improvement has been tracking and reporting the NHS' carbon footprint since 2008. Since then, it has developed its data collection methods to enable **more granular information of carbon footprints at regional, ICS and trust levels**. In April 2021, the Greener NHS National Programme launched the **greener NHS data collection**, to better understand the impact of actions taking place over 2021/22 to reduce carbon emissions and provide a baseline from which progress can be measured and understood. This includes **key indicators**, such as for anaesthetics, inhalers and building energy use.

In June 2021, the greener NHS team published guidance, *How to produce a Green Plan: A three-year strategy towards net zero*, setting out a requirement for all trusts and ICSs to develop a green plan, approved by the organisation or system's board or governors. It expects every trust to finalise and submit a green plan to their ICS in January 2022 and all ICSs to submit their plans by 31 March 2022. Trusts will be expected to feed into their ICS' system-wide green plan. These plans will be **peer reviewed by their respective NHS England and Improvement regional team** and subsequently published.

The NHS ambition to be a net zero health service provides trusts with an opportunity to plan and prioritise how they will reduce their carbon emissions over the next two decades. However, it is important that this is prioritised sooner rather than later, particularly where quick progress is possible and where efficiency savings can be generated.

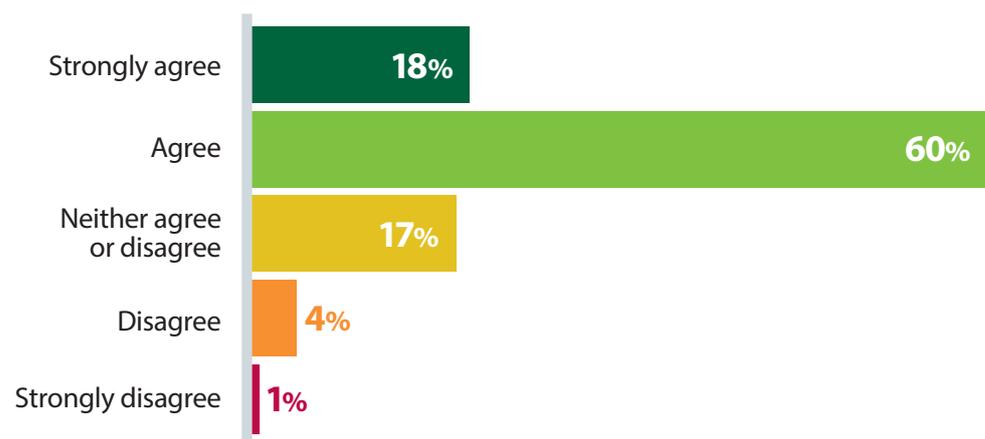
Trusts' commitment

In the context of operational and financial pressures and the COVID-19 pandemic, trusts across the country are working hard to reduce emissions and embed sustainability into how they work. In our annual *State of the provider sector* survey, we asked trusts, for the first time, how they are prioritising environmental sustainability within their organisation.

The majority (78%) of trust leaders who responded agreed or strongly agreed that tackling climate change and promoting sustainability in how they work is a priority for them in the next year (Figure 1).

Figure 1
Is tackling climate change and promoting sustainability in how you work a priority for your trust in the next year?

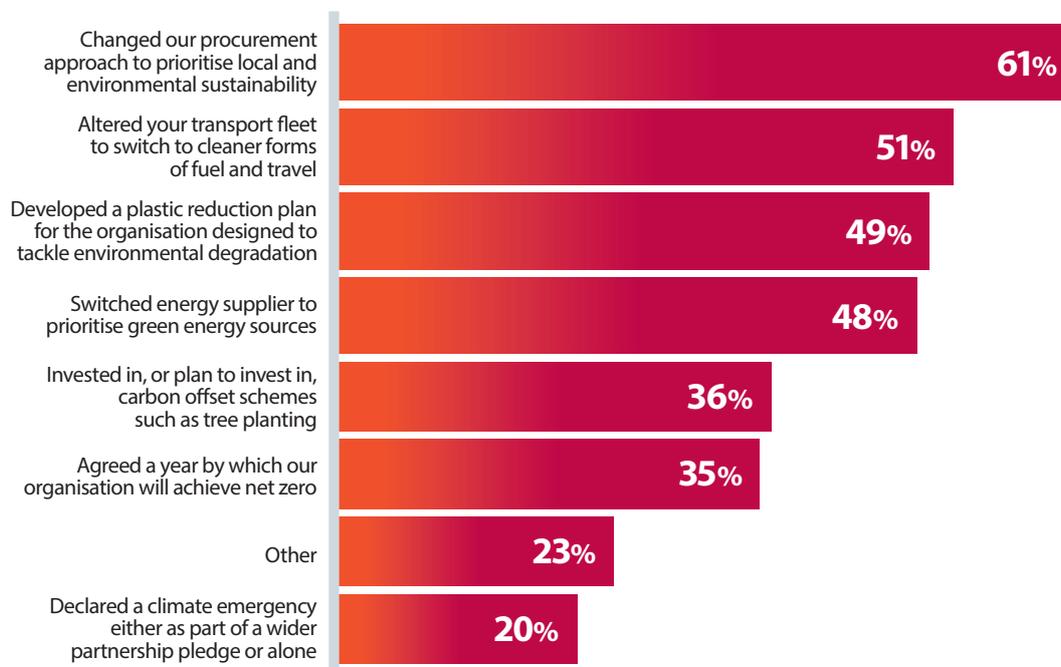
(n = 150)



Furthermore, around half (61%) of respondents told us they have already made changes to their procurement approach, altered transport fleets to cleaner vehicles (51%), developed a plastic reduction plan (49%), and switched energy suppliers to prioritise green energy sources (48%) (Figure 2). Many of these changes represent small but impactful changes which are easy to implement and cumulatively help to reduce trusts' environmental impact.

Figure 2
Has your board done all or any of the following?
(multiple responses permitted)

(n = 122)



The national ambition from NHS England and Improvement to tackle climate change and improve sustainability is enabling trusts to prioritise this issue. However, it will be important that this commitment is upheld by tangible support, action and guidance so that trusts are able to embed this into their 'business as usual'. This issue should be a key element of ICSs' work and a key matter for trust board governance and leadership.

Enablers and barriers to tackling climate change and improving sustainability

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Enablers

Executive leads bringing expert ideas and challenge

In order to achieve significant change, environmental sustainability needs to be woven into the NHS' day to day business and aligned with broader strategies and operational priorities. However, trust leaders recognise that they are not experts on this topic, and most would welcome support from peers and industry expertise to supplement their internal knowledge.

Trusts highlight the importance of championing the sustainability agenda from the top of their organisations. The Greener NHS team has highlighted that the development of green plans should be **led by a designated board-level net zero lead**. A number of trusts are appointing executive leads within their organisation and have set up wider leadership groups to bring expert ideas and challenge into their planning of this agenda. However, trusts are at different stages, with around one fifth of respondents (19%) telling us that this was a gap for them (Figure 3). Trusts describe the benefit of bringing expertise in-house to support strategic focus and robust planning.

Figure 3

Have you got an identified executive lead and wider leadership group who are bringing expert ideas and challenge into your planning of this agenda?

(n = 150)



"We have had a long-standing sustainability team and strategy – a new version of which has just been approved. We are ensuring sustainable decision-making across the organisation, and have been on a journey to do so over the last ten years." COMMUNITY TRUST

"We have a paid role for an extremely keen consultant who is an expert in this field" ACUTE TRUST

"We are in the process of developing our plans under the Executive Lead for Sustainability. That is not to say that we will not seek external expertise in some areas, but I am confident that we are going to make progress on this front." COMBINED ACUTE AND COMMUNITY TRUST

"...We have aspirations to deliver on this agenda and are doing positive things. However, the current pressure doesn't leave much time for sustained thinking on these issues."

COMBINED MENTAL HEALTH, LEARNING DISABILITIES AND COMMUNITY TRUST

Focusing on areas which offer clinical and financial benefit

Identifying quick and simple changes, particularly ones which offer clinical and financial benefit can be a valuable starting point for trusts to make tangible progress. For example, the 2021/22 NHS standard contract identified anaesthetic gases, which **account for over 2% of all NHS emissions**, as a key area for early action. The existence of low carbon alternatives that are clinically appropriate and financially viable mean it is easier to mainstream innovations like this at pace, **particularly where there is national support and guidance**. Switching to low-energy LED lights can be achieved relatively quickly and provide longer-term efficiency savings.

Aligning environmental sustainability with new ways of working

Connecting environmental sustainability ambitions to new ways of working is also a key driver of change. For example, the use of digital services, which was accelerated during the COVID-19 pandemic, significantly reduces the need to travel to and from physical healthcare sites. The 2021/22 NHS planning guidance set out **an expectation for trusts to deliver at least 25% of outpatient activity remotely**, where clinically necessary. This enables trusts to reconsider new care models where it is appropriate and does not compromise patient safety and with a focus on care being provided closer to people's homes. It will be important for trusts to ensure the changes to services as a result of aligning objectives on both operational performance and environmental sustainability are made in a way which does not exacerbate inequalities for those without digital literacy.

Drawing on the enthusiasm of the workforce

Trust leaders and sustainability teams say that listening to their staff helps shape and embed large scale change across their organisations. A number of trust leaders we spoke to said that they are drawing on the enthusiasm and passion that exists within their organisation. NHS staff play a key role, whether it be contributing to changes being made in their workplace, or as part of their personal lives, such as switching to using an electric vehicle. Equally, employers can enable these changes through employment contracts, discounts and subsidies to incentivise green alternatives, such as cycle to work schemes. Galvanising their support can make a difference.

Support from the national bodies

NHS England and Improvement's emphasis on sustainability is welcome. The national regulators, such as the Care Quality Commission and NHS England and Improvement, have a role to play in supporting behavioural change. An emphasis on sustainability from them may enable trusts to prioritise this issue and connect it to improving the quality and safety of their services. It will be important that the work of its regional teams and that of ICSs reflects this national commitment including in how trusts are assessed, monitored and supported.

Changing procurement practices and driving behavioural change among suppliers will likely be more effective at scale. NHS England and Improvement also has an important role in setting the standard nationally for what it expects from trusts and suppliers, creating an incentive at this level to reduce carbon emissions. ICSs will also have a role in setting local standards and encouraging the shift of local economies towards more sustainable models.

A standardised approach to accounting for carbon impact (i.e. labelling the carbon footprint of products, supply chains and processes) will need to be reported routinely at local, regional and national level to improve transparency and aid understanding.

Finally, sufficient investment in new ways of working, including via national funds, will be critically important. Some interventions to reduce emissions are cost effective and can offer a financial benefit. Some additional funding has been made available to trusts to support large scale interventions. This includes the £50m NHS Energy Efficiency Fund for LED lighting, and £260m awarded to the NHS from the government's **public sector decarbonisation scheme**. This support has made it possible for some trusts to progress their plans, and it is crucial that sufficient capital investment is made available to support large-scale change appropriately.

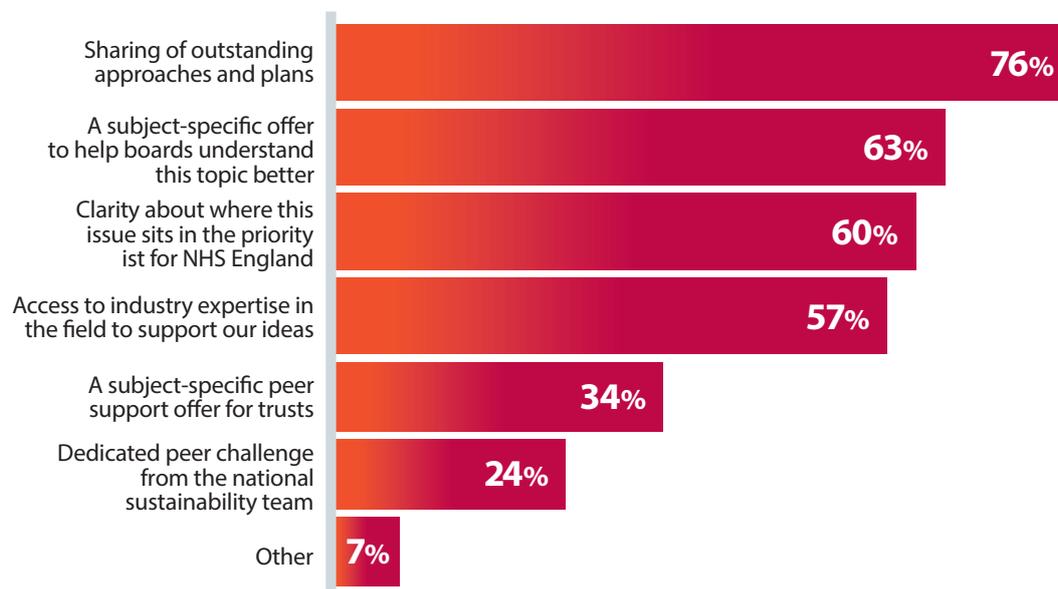
Barriers

The knowledge gap

It is clear that while trusts are keen to prioritise the sustainability agenda, there are barriers to translating ambition into action. The majority (76%) of trust leaders who responded to our survey wanted to know more about outstanding approaches to sustainability as they face up to this significant challenge (Figure 4). Furthermore, over half told us they would like to see a subject-specific offer to help boards understand this topic better (63%), more clarity about where this issue sits in the priority list for NHS England and Improvement (60%) and have access to industry expertise in the field to support their ideas (57%).

Figure 4
Which of the following products or opportunities could help your organisation? (multiple responses permitted)

(n = 136)



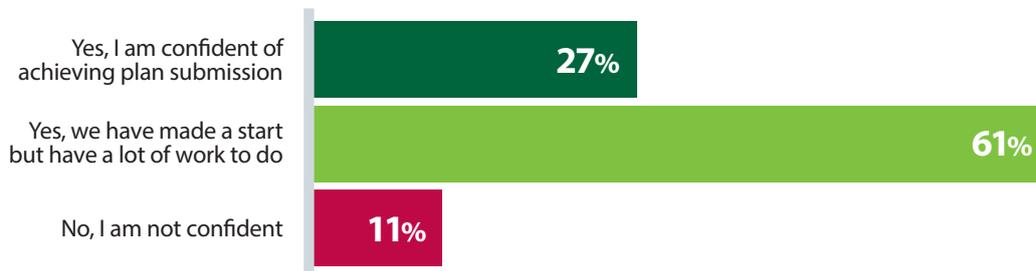
Competing short-term priorities

Trusts continue to face significant operational pressures as a result of the COVID-19 pandemic and broader demand pressures. While access to commercial expertise and board-level championship of the issue is important in driving forward this work, short-term, competing priorities, remain.

Just over a quarter (27%) of respondents to our survey said their board is informed and on track to submit their plan and contribute to a system-wide plan in time for April 2022; and over half (61%) said they are on track but feel they still have a lot of work to do. Around one in ten (11%) trust leaders do not feel confident about submitting a plan within the timeframe (Figure 5). A number of trusts highlight the challenges of prioritising the agenda when operational pressures are high. Others have expressed concern about their bandwidth and ability to deliver their green plans and prioritise this issue in the way they would like.

Figure 5
Is your board informed and on track to contribute to a trust-level and potential system-wide sustainability plan in April 2022?

(n = 150)



"...Competing short-term priorities and capacity [challenges] are the reasons why."

MENTAL HEALTH AND LEARNING DISABILITIES TRUST

"We get the message and have started on our mission, but, my goodness, we are being blown off course by (hopefully) short term turbulence"

MENTAL HEALTH AND LEARNING DISABILITIES TRUST

"We're in early days and the agenda is full. But we recognise this issue needs to be addressed."

COMBINED MENTAL HEALTH, LEARNING DISABILITIES AND COMMUNITY TRUST

"Headspace is lacking and there isn't sufficient capital available for necessary investments."

ACUTE TRUST

System-wide effort needs development

A joined-up approach is essential to gaining traction at the pace and scale required. For example, while decarbonising heat is a key challenge for trusts, connecting with other sectors may offer opportunities to innovate. For example, a **new energy centre was set up in the London Borough of Islington** that is enabling the use of waste heat from the London Underground to provide heating and water to homes. However, this level of collaboration on environmental sustainability is scarce. A number of trusts have highlighted the need for changes to the wider infrastructure in their local areas, such as availability of charging points for electric vehicles, is needed to support them with their decarbonisation efforts. This highlights the importance a system-wide effort and is reliant on the success of ICSs' plans.

"We are clear as a trust on the immediate next steps. It remains to be seen how the system, as a whole, addresses this issue as we haven't yet got an approved chair and chief executive in place."

COMBINED ACUTE AND COMMUNITY TRUST

Mutual interdependence is a clear enabler of sustained action. Whether that is through bilateral work or more formal partnerships, it will be important that systems work together to lift all local NHS organisations to make a difference.

Influencing partners where the NHS does not have direct control

National NHS policy has identified **three key ways to reduce emissions from NHS supply chains** including: more efficient use of supplies, low-carbon alternatives and product innovation, and through ensuring its suppliers are decarbonising their own processes. The NHS has made some progress in using resources more efficiently, such as reducing the reliance on disposable products and single-use plastics. However, decarbonising broader supply chains is a key challenge, as this is not an area health policy makers, or trusts, can control directly. As a purchaser of services, the NHS can, however, drive behavioural change in its suppliers. Trusts and ICBs procuring services from the commercial sector need to take a joined-up approach to drive change and send a cohesive message to suppliers.

Some land and NHS buildings are held by NHS Property Services and under private finance initiative (PFI) contracts rather than directly owned by trusts. NHS Properties **owns 10% of NHS estate and recognises that it has a role to play in the journey** to net zero. However, there is a risk of a two-pace change model emerging, as trusts have to gain permission to make changes to estate they do not own. Trusts should not be held back from work to change the energy efficiency of their buildings, and support at a national level may be required to ensure alignment on this objective.

In addition, trusts with ongoing challenges with their estates face an uphill battle to secure funding to improve them, but need access to capital so they can make progress on the energy efficiency of their buildings. It is important that the risk of PFI estate lagging behind the NHS in this regard, is avoided. Investors in large PFI estates should consider taking a lead in addressing any perceived conflict between commercial returns and environmental sustainability.

Good practice

The NHS has embraced the immediate carbon challenge as a starting point for a more ambitious plan to respond to climate change, alter its ways of working and the relationship it has with the resources it consumes. This represents an opportunity for the NHS as local economies move towards greener, more sustainable models, anchored in regeneration and community capability. Across all sectors and regions, it is clear from our *State of the provider sector* survey that there is appetite to share work on:

- how to make these changes systematically and at scale
- how to bring ingenuity and inclusion to the climate challenge.

Everyone can start somewhere

Given the scale of climate change, and the breadth of interventions needed to tackle it, it can be challenging to know where to start. Some trusts are focusing on areas where change can have the greatest impact, offer clinical and financial benefits and long-term efficiency savings, or achieve 'quick wins', and say this has enabled them to start their journey.

CASE STUDY

Gateshead Health NHS Foundation Trust

Alison Marshall, Chair, Gateshead Health NHS Foundation Trust
Anthony Robson, Managing Director of QE Facilities Ltd
Sarah Medhurst, Sustainability Manager of QE Facilities Ltd

Gateshead Health NHS Foundation Trust, based in the Northeast of England, provides a **range of hospital and community health services from its facilities all within Gateshead**. As one of the largest employers in Gateshead, the trust has acknowledged the central role it plays in both reducing carbon emissions and supporting its local communities to become more sustainable. It is keen to integrate sustainability into everything it does and is committed to meeting the 80% carbon reduction target by 2028.

Meeting its environmental targets

The trust has set up two biodiesel Combined Heat and Power (CHPs) systems, which power a significant portion of their site, producing around 2M kWh of zero carbon electricity and around 500,000KWh of zero carbon heat annually, with estimated savings of £200,000 per annum. It has also obtained £1.6m through the government's Public Sector Decarbonisation Scheme for solar panels, air source heat pumps, and for improving their building management system (BMS). The projected annual electricity generation from the solar panels is estimated to be over 640,000KWh and the heat moved over to decarbonised technology is estimated to be over 2.6m KWh. This investment will result in significant financial savings long term and carbon savings resulting in seven of the trust's buildings being net zero for energy use. These major investments are paving the way for the trust to meet its net zero ambition by 2030 for the NHS carbon footprint.

Alongside this, the trust's *Zero Waste to Landfill* work is enabling it to meet its national targets for waste management. For example, the trust has switched from using single use plastic drums and sharps bins to a reusable sharps bin system and board base containers for pharmaceutical waste and pathology waste. It is also exploring a regional reuse scheme and hub across their ICS, so that all the trusts within the ICS can share storage facilities and reuse equipment between them.

The trust is also exploring how it can reduce the length of its supply chains and consolidate deliveries, and recently secured its own manufacturing plant to make personal protective equipment (PPE). Its aim is to eventually produce PPE for the whole northern region, and to source the raw materials within the UK.

The importance of system-wide efforts to reduce carbon emissions

Wider support from the system will be needed to support the trust meet its ambitions to reduce the carbon emissions of its supply chains and the delivery of tests to its specialist pathology centre. It has considered switching to using electric vehicles to transport tests but would need charging points across their wider region to support longer distance travel. Developing this infrastructure will require system wide change, and there is work underway within its ICS to set up the same type and network of charging points at all hospitals within the region.

There is no project too small for sustainability

The trust emphasised the need to start somewhere and that there is no project that is too small for sustainability. The trust has managed to achieve a lot in a few years through its approach, which it sees as more than just achieving net zero.

Engaging with staff across the organisation is also central to driving behavioural change. It has set up a sustainability committee that comprises multiple subgroups that are driving improvement within their departments. For example, the pathology department has established its own sustainability committee, which feeds into the wider work of the organisation. The trust sees partnership working across the ICS region as important for wider system change, but also emphasises the need to start somewhere and embed sustainability into every interaction so that it becomes 'business as usual'.

Changing means embracing digital

The NHS is keen to ensure that the digital transformation agenda is compatible with the trajectory towards a net-zero health service. It sees digitally enabled care models that will significantly reduce the need for travel to healthcare locations as a key element of reducing its environmental impact. Around **3.5% of all road travel in England relates to patients, visitors, staff and suppliers to the NHS**, so digitally enabled care can make a difference. Several trusts are embracing this as part of their sustainability journey.

CASE STUDY

Milton Keynes University Hospital NHS Foundation Trust

Joe Harrison, Chief Executive
John Blakesley, Deputy Chief Executive
Anthony Marsh, Estate Service Manager

Milton Keynes University Hospital NHS Foundation Trust is a **medium sized district hospital that provides a range of acute hospital services and an increasing number of specialist services** to the growing population of Milton Keynes and the surrounding areas. It believes sustainability is central to the future development of the NHS and has been on a journey to reduce its carbon emissions, with the **aim of becoming net carbon zero by 2030**.

Renewable energy to support digital transformation

Trust leaders at Milton Keynes University Hospital see digital transformation “going hand in hand with the green agenda” and the health and wellbeing of their patients. In line with the 2021/22 NHS operational planning guidance, the trust is on track to deliver 25% of its outpatient activity virtually by March 2022, which will provide greater flexibility for where and how patients have their consultations and help to reduce emissions from unnecessary travel. Digital transformation will also enable it to work more closely with primary care and share patient records across the patch.

Further examples of this digital drive include the introduction of eCARE, the trust’s electronic patient record solution and MyCARE, a platform which allows patients to receive outpatient letters and view discharge summaries via an online portal. These projects have helped to reduce the trust’s reliance on paper and lowered its onsite data storage requirements, which supports its broader green agenda.

The trust has also been busy reducing its carbon emissions by investing in renewable energy and improving its energy efficiency where possible. This has included smaller scale changes, such as installing LED lights throughout its buildings, to ‘bigger ticket’ projects, such as investing in the installation of over 2,500 solar panels across the hospital to increase the energy generated on-site. The power generated in a year from its panels is equivalent to the total power used in a year by 200 average homes. This has enabled the trust to save £28,000 in energy bills in less than three months, which it can invest back into sustainability projects. It is also working to decarbonise its buildings by improving insulation, which

includes reroofing its oldest estates, and trialling new highly insulated rendered cladding on its cardiology department building.

Commitment from the organisation is important

There is a lot of other work underway within the trust to reduce its carbon footprint and become more sustainable, such as exploring biodiversity on their site, switching to electric vehicles, and improving waste management. What has really helped the trust gain traction is having a board that is committed to the 'end goal' rather than being too focused on the bottom line and tapping into the enthusiasm that exists within the organisation to drive behavioural change.

The trust recognises that delivering this work is in partnership with stakeholders and organisations outside of the NHS. For example, it intends to align its green plans with its local council's ambitious vision to become net carbon zero by 2030. They are working with the council to explore how best to decarbonise the estate with the potential of a district heating network, which the trust will have a core role in making this investment viable.

Having the numbers to support the changes made, such as how much money it has saved from its solar panels and demonstrating how these changes link back to the health and wellbeing of patients, staff and the wider community, is also hugely beneficial to generating and maintaining interest from staff across the trust.

Data is a key accelerant

Trusts and system leaders need robust data, with clear progress measures in order to understand how effective their interventions on reducing carbon emissions are. Granular information about emissions, such as the impact of switching to renewable energy sources and financial savings generated will enable trusts to measure progress and build board-level confidence in its decarbonisation work. The greener NHS national programme has said that **more work is needed** to improve the monitoring and data collection capacity of the system.

CASE STUDY

Kent Community NHS Foundation Trust

Natalie Davies, Director of Corporate Services
Dan Wright, Head of Sustainability

Kent Community NHS Foundation Trust provides wide-ranging NHS care in a range of settings including people's own homes; nursing homes; health clinics; community hospitals; minor injury units and in mobile units. It serves a population of about 1.4 million across Kent and 600,000 in East Sussex and London, making it one of the largest community health trusts in England. They are also one of the largest employers in Kent, employing over 5,000 staff across a range of professions. Within this context, the trust has a central role to play in tackling climate change and has recently started work to reduce its carbon footprint.

Sustainability within its communities

For the trust, sustainability isn't just about carbon emissions alone and "reducing the bad", but also about enhancing sustainability within communities and enabling people to make the right choices in their own lives. For example, it is one of a handful of trusts that is subsidising the installation of electric vehicle charging points at its staffs' homes. The trust is also undertaking biodiversity surveys at its sites to inform how they are managed, protecting what is already there and to encourage new flora and fauna into the environment where viable. Additionally, the trust's green spaces are multi-functional, supporting therapeutic outcomes for patients, and providing for its hospital kitchens. This work promises to be hugely beneficial for patients, staff and the communities around its hospitals.

Alongside this work, the trust is transitioning more key sites to be fully owned and managed by the trust, rather than rented. It believes local ownership has a huge positive impact on both sustainability and for addressing the wider determinants of health, as it will enable services to be built around the communities it serves.

The vital importance of data monitoring

The trust sees data as a key driver for making a real change in sustainability, as this will enable it to measure its impact and more effectively identify where it needs to target its resources. For example, it was aware that grey fleets (i.e. employees' vehicles) were one of its biggest sources of carbon emissions, but existing data methodologies lacked the sensitivity to accurately monitor change. The trust has since developed a Python-based tool which

merges reported staff mileage with information held by the Department for Transport about the model of vehicle to calculate a more robust emissions footprint. Additionally, the trust is reducing non-essential travel by delivering more training virtually and using a 'digital by default' mindset for initial patient consultations, reducing both staff and patient mileage.

Its work to developing the application of data extends to the trust's estate, where retrofitted high resolution electricity monitoring is being used to optimise management of emissions and engage occupants with how buildings work and how its actions can reduce associated consumption.

Tackling climate change is part of the anchor journey

Trusts' role as anchor institutions means they can contribute to sustainability efforts locally beyond the provision of health and care services. By working with others locally trusts can have a greater impact on wider determinants of health, such as improving access to services by bringing it closer to communities. Trusts across the country are considering their wider role in the community to provide social and environmental benefit.

CASE STUDY

Northamptonshire Healthcare NHS Foundation Trust

Richard Wheeler, Chief Finance Officer

Northamptonshire Healthcare NHS Foundation Trust delivers over one hundred different services to the Northamptonshire community. These include a range of mental health services, community services, sexual health, prison healthcare services and a number of others including specialty services. Services are delivered in a variety of settings, from the more traditional clinical settings to those delivered in the community, in homes, workplaces and in schools.

The trust recognises that health and the environment go hand in hand and is keen to deliver **high quality care and improved public health services without exhausting natural resources or causing severe ecological damage.**

Connecting sustainability to new ways of working

The trust is considering new ways of working to support its sustainability ambition as services transition through a recovery period following the pandemic. The trust is looking to improve its services and processes from both a public health and a sustainability perspective; empowering staff to work smarter by optimising the technology available to them; promoting diversity and inclusion by providing staff with more options to work flexibly and remotely; and shifting the organisational culture to one that is more outcomes-based, enabling staff to work in more innovative ways.

For non-clinical staff, this means more people are working from home than they were before the pandemic. For clinical staff this shift is enabling them to deliver more services virtually and to design innovative ways to deliver services more effectively and efficiently. For example, the sexual health clinics have set up collection points that give patients the opportunity to access medications or information they need when and where it suits them.

It is also enabling staff to deliver more out-of-hospital care. For example, during the pandemic, mental health services were able to reach young people in outdoor locations where they felt safe, such as in their local parks. The trust sees this as complementary to its work to reduce carbon emissions and its impact on the environment.

The role of its sustainability committee

The trust has set up a sustainability committee which plays a vital role in driving this work across the organisation. Alongside supporting the work to embed new ways of working into the organisation, the committee has **set clear environmental targets** that it can monitor and report on through its annual Carbon Footprint report. It highlights its internal and external communications as an important driver as this enables engagement from across the organisation with this issue.

Harnessing clinical leadership

Medicines account for 25% of emissions within the NHS. The majority of this is found in the manufacturing and freight involved in supply chains, but **2% of the NHS's emissions can be attributed to the use of anaesthetic gases and 3% to inhalers**. The NHS has identified these two contributors as areas for early intervention. The 2021/22 NHS standard contract expects every trust to reduce its use of desflurane, a commonly used anaesthetic gas, to **less than 10% of its total volatile anaesthetic gas use**. Every ICS will also have to develop plans for clinically appropriate prescribing of lower carbon inhalers. As clinically effective and financially viable lower carbon alternatives exist, trusts have already begun making this switch.

CASE STUDY

University College London Hospitals NHS Foundation Trust

Luke O Shea, Director of Innovation

University College London Hospitals NHS Foundation Trust (UCLH) has committed to reduce its impact on the environment, with a **10-point plan** to reach net zero carbon dioxide emissions by 2031. UCLH also recently declared a climate emergency, signalling its commitment to the wider public but also to its staff that it is prioritising the need to address this issue. Last year it agreed an executive-level lead for sustainability to drive this work.

A focus on altering clinical practice

There is a lot of work that needs to be done to deliver a net zero health service, and UCLH recognises that some of its longer-term ambitions, such as fully decarbonising its estates, will require significant capital investment and planning. Another challenge for the trust around decarbonising its estate is that key hospital sites are PFI schemes, meaning changes require complex finance considerations and agreement from multiple parties. UCLH has therefore decided to start its journey to net zero by focusing on three targeted areas where it can make an impact early, such as altering clinical practice. Its initial focus included:

- reducing the use of the most environmentally harmful anaesthetic gas, which make up five percent of the trust's carbon footprint
- investing £2.7m to install low-energy LED lights across its hospital sites
- reducing patient travel by 50% by expanding the use of virtual clinics, as part of ongoing improvements to outpatient services – the pandemic demonstrated it was possible to successfully deliver virtual appointments, to maximise the clinical, environmental and financial benefits of UCLH's outpatient service.

Within three months, UCLH has almost phased out the use of the anaesthetic desflurane and expects low-carbon, intravenous anaesthesia to become standard procedure for most operations in the near future. This 'quick win' is enabling the trust to gain momentum

and build confidence at board level to continue its work to reduce its impact on the environment. It has also delivered its ambition on LED lights and expects this to provide a return on investment within three years.

This commitment is also enabling staff to engage with the issue and is empowering them to make changes within their departments. For example, its pharmacies have changed the way they package medications for patients on hospital wards, as they were concerned about the level of unnecessary plastic waste. While changes like this may be smaller in scale, they signal the direction of travel and are visible signs to staff that things are changing for the better.

What is needed to go further and faster?

Focusing on areas where UCLH can quantify the environmental, clinical and financial benefits of its decisions has helped it demonstrate progress to its board and drive further action. Real-time data at a granular level will be needed to enable the trust to identify where it can have the biggest impact to reducing its emissions. UCLH is also keen to see improvements to the wider carbon accounting infrastructure, as well as more tools to standardise best practice across the NHS. While the trust is keen to work with 'greener' suppliers as much as possible, it says that the NHS needs to utilise its purchasing power at a national level to encourage the behavioural change needed across NHS supply chains.

Adapting to climate change and building resilience

The NHS recognises that it needs to support efforts to reduce the severity of climate change, which is reflected its net zero targets. However, it will also need to consider how the impact of climate change on local environments and communities will affect the way they run services, including the impact of the increasing frequency of extreme weather events such as floods, storms and extreme temperatures.

CASE STUDY

Yorkshire Ambulance Service NHS Trust

Alexis Percival, Environmental and Sustainability Manager

Yorkshire Ambulance Service NHS Trust has been leading the way for a number of years now on initiatives to protect the environment. It was the first ambulance service in the world to introduce **hydrogen hybrid emergency patient transport vehicles in 2018**. This enabled around 35 - 45% of the vehicles' energy to be powered by hydrogen rather than solely diesel. It was also the first ambulance service in the UK to employ an environmental manager 12 years ago, which has enabled the trust to prioritise this issue.

The service covers **6,000 square miles of varied terrain, from isolated moors and dales to urban areas, coastline and inner cities**. It serves a population of over five million people across Yorkshire and Humber, and its callouts have increased over the years, strengthening the importance of reducing its carbon footprint and adapt to the impacts of climate change.

The context for ambulance services

Ambulance services across the UK are exploring options to transition over to net zero vehicles that make the best use of green technology. The **recent launch of a zero-emission hydrogen and electric ambulance**, developed in partnership with ambulance services, the NHS, industry and Innovate UK, will enable zero emission vehicles to travel further before needing to recharge or refuel. However, comprehensive electric charging and hydrogen infrastructure across the NHS is needed to support ambulance services make the shift to zero emission fleets.

Adaptation and climate resilience

Yorkshire Ambulance Service NHS Trust has a number of projects underway to reduce its carbon footprint, such as installing solar panels on its ambulances, improving its waste management, and trialling new technology for a zero-emission rapid response operational ambulance. It is also thinking about building climate resilience and considering how it can adapt to manage the expected rise in sea level and tidal flooding over the next few decades.

With climate resilience in mind, the trust is planning to develop a new ambulance hub that will have solar panels, battery storage, and be made from greener building materials and insulation. The first hub is going to be situated in Hull, which will provide it with an opportunity to test its climate resilience given that the city is already 80cm below sea level

and is at high risk of flooding. The trust is also considering opportunities to train frontline staff to deal with the climate changes impacting region from flooding to heatwaves, fires to droughts and how they directly affect the patients that they attend to.

Engagement within organisation is important

Employing someone to lead on this work within the organisation has been important, but engagement across the organisation is key to driving this work forward. For example, replacing Entonox gas with greener alternatives requires engagement from paramedics and clinicians, as well as commitment from the trust's leaders to explore alternatives. Starting with smaller changes and building up has helped to bring people on the journey, alongside communicating progress and improvements internally and externally.

The wider political environment around climate change and sustainability has also helped drive behavioural change and push sustainability and climate change up the agenda. COVID-19 has also shed light on the level of waste produced, for example the consumption of 2.3 billion face masks across the NHS in England. A reusable facemask pilot trial was launched to trial the viability of use of reusables within the ambulance service as well as across the rest of the NHS. This is providing the trust with a visible symbol of its impact and the work that still needs to be done.

Recommendations for trusts and national leaders

Board ownership of the sustainability agenda

Boards are leading this work with increasing determination and diligence, and with a high level of commitment, as shown in our survey results. While sustainability is a priority for trust leaders in the year ahead, they also recognise the knowledge and expertise gap that some trusts have in this field and are keen to develop it.

Ahead of submitting their green plans, trust leaders should consider

- whether there is sufficient experience in this area on the trust board, and if not, consider how they can boost the level expertise at a senior level within the trust
- work towards ensuring tackling climate change and improving sustainability is owned across the trust leadership. It needs to become 'business as usual' within organisations, rather than a project done by some.

System working: major changes must happen at scale

The COVID-19 pandemic has illustrated the need to be prepare for future risks to population health and operations. The NHS continues to face significant pressure as it recovers services from the pandemic and manages high levels of unmet need. In order to fit sustainability work into the wider priorities of the trust sector, it will need to be embedded as part of wider organisational transformation taking place as part of increased integration. The examples in this report illustrate the importance of embedding sustainable change into the 'day-to-day' business.

Sustainability is best addressed as a common purpose which brings together thriving places, ICBs and ICPs. A number of trusts are encountering barriers that can only be addressed by working with local schools and housing bodies, transport planners, and those involved in leading economic resilience work within local authorities. To build on cross-government prioritisation of these issues, and reinforce the NHS's commitment to this, there is a need for stronger co-ordination on this agenda.

ICBs and ICPs should consider

- how ICSs can embed sustainability into their strategies and plans, and how all organisations represented on integrated care boards can have a role and a voice in making changes happen across their patch
- how digital transformation can begin to alter where we work and how care is provided in a way that enables the urgent ambitions to improve energy use and efficiency and reduce emissions.

Support from the national bodies

There is further work to be done nationally to help the NHS to move faster and further. The priority given by local systems and trusts to this agenda must be matched by leadership from NHS England and Improvement and the Department of Health and Social Care. At a time of significant operational pressure, it is easy for national leaders to focus on the most politically pressing issues such as waiting lists and operational performance, but ultimately environmental sustainability can be embedded into wider efforts to put the service on a sustainable footing and reduce health inequalities.

National leadership on securing a more sustainable supply chain should support local efforts by trusts to procure more sustainably, to create larger-scale change and give the agenda more weight. However, the work of NHS Supply Chain to alter catalogues and to change transport models should not defray a need to purchase locally, where such sourcing is possible and offers social value.

The NHS is a large landowner and this offers an opportunity to use its estate to the benefit of the climate. However, where ownership of land and buildings are held outside trusts, by NHS Property Services and under PFI contracts, there is a need through policy and dialogue with investors to reset expectations around the pace of change to adapt NHS buildings to meet the ambitions for a greener NHS. Investors in large PFI estate should also consider taking a lead in addressing any perceived conflict between commercial returns and environmental sustainability, and national action may be needed to ensure that this happens rapidly in the next eighteen months. PFI estate cannot delay the wider NHS ambitions that trusts are submitting in their forthcoming plans.

National bodies will need to examine

- which supplier relationships need a clear service-wide steer about the pace and direction of change needed to support large-scale improvements in the sustainability of supply chains
- how best to ensure a standardised approach to accounting for carbon impact is reported routinely at local, regional and national level to improve transparency and aid understanding
- how they can ensure trusts' access to capital is front-loaded and phased to support major changes in carbon emissions nationally by 2030 to enable significant changes to equipment, energy and estate.

Conclusion

There is no doubt of the urgency needed to tackle climate change and to adapt to its impact. The NHS commitment to mitigating its carbon footprint is an important starting point that is enabling trusts to start, or continue, their journey to drive down carbon emissions towards the NHS net zero target.

The impact of the climate emergency on people's health and wellbeing is understood by clinicians and leaders across the NHS. They also understand that actions to address its effects now can reduce inequality and tackle poor health outcomes influenced by the impact of climate change. Trusts are therefore altering their ways of working, the services they offer, and the relationship they have with the resources they consume and embedding sustainability into business as usual. This includes embracing digital, using data to accelerate change, evolving clinical practice with both patient and environmental benefits in mind, and focusing on the role of trusts as anchor institutions to drive change effectively.

As trusts and systems develop their green plans to submit by March 2022, it will be important that their broader approach galvanises staff to propose changes within their organisations and encourages them to adopt changes in their own lives. That is why engaging with NHS staff and drawing on their enthusiasm for this mission is a common thread throughout all our case studies.

Your feedback on this briefing and the development of our wider offer is very welcome – to share your learning so far or offer feedback on our approach, please contact

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For more information:

www.nhsproviders.org/climate-change-is-a-public-health-emergency

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