



NHS

East of England Ambulance Service

NHS Trust



Green Plan 2021 - 2026

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Foreword

The East of England Ambulance Service (EEAST) recognises the impact climate change will have not only our services but our staff, local communities, and the environment. Here at EEAST, we are dedicated to improving sustainability in all our operations and we are proud to have developed our 2021 – 2026 Green Plan which outlines our ambitious roadmap to becoming a Net Zero Trust by 2040. In our 2021 – 2026 Green Plan, we have set ourselves bold reduction targets across the board as we acknowledge that we need to embrace these challenges. Our vision is to deliver ‘Outstanding care, exceptional people, every hour of every day’, although we must do so minimising our impact on the environment.

To align ourselves with the NHS Long Term Plan, EEAST has already invested significantly in terms of decarbonising our fleet and improving energy efficiency across our estate, whilst planning to set targets to become a Net-Zero ambulance service by 2040. Each year we will be assessing our hard work against our newly calculated 2019/20 carbon footprint as we continue to strive to improve our services whilst recognising where we need to act. Keeping sustainability at the top of our agenda is now one of our key objectives as we move forward with plan. In that sense moving forward together with respect to sustainability and wellbeing will be at the heart of operations at EEAST.

In 2021, we have some exciting projects underway such as: energy efficiency measures in several of our large site refurbishments, the recruitment of green champions across the region and the significant reduction of landfill and incineration waste streams through our new recycling schemes.

We certainly understand the challenges we face but at EEAST we are looking to meet these head on with collaboration with the wider NHS community, our staff, and patients. Standing by is not an option for us, so we are committed to fulfil our duty to deliver the best possible ambulance service and the highest possible care within the budgets we have available.

Net Zero board lead

Carolan Davidge Non Executive Director



Overview

The East of England Ambulance Service Trust is aiming to be a leading NHS Trust in achieving the NHS's Long-Term Plan of Net Zero by 2040. The Trust recognised in 2012 the need to integrate sustainability into our activities with the creation of our 2012 Carbon Management Plan (CMP). This plan detailed our current 'state-of-play' with respect to carbon emissions and how we were ultimately aiming to reduce our carbon footprint.

However, in 2021, with a new overarching sustainability strategy and a new set of aims and objectives we are now able to release 2021-2026 Green plan. This comprehensive Green Plan outlines the challenges EEAST faces and how we are expecting to overcome them. The Green Plan will provide the insight into how we expect to achieve our aims and objectives over the next 5 years, whilst providing an effective ambulance service. There is no doubt this Green Plan is ambitious, but we feel that maximising our resources and capturing the enthusiasm of our staff is essential to providing the foundation we require to work towards a more sustainable future.

The Green Plan explains the roadmap to Net Zero by 2040 as well as 10 key areas of focus. We have already made significant achievements within these focus areas and will continue to do so through our Sustainability & Electric vehicle workings groups and our ever-growing network of Green Champions

Sustainability encompasses so much more than simply aiming to reducing our energy demand and improve our recycling rates but looks to integrate and engage with local communities and partnerships as well as internal departments. This joined up approach is vital in ensuring we are providing a positive and effective contribution whilst mitigating our impacting on the environment.





How will we measure our success?

In line with the Corporate Strategy, sustainability will contribute to staff welfare, wellbeing and safety of our staff whilst undertaking their various roles.

Our key objectives of the 2021 – 2026 Green Plan is to:

- ✓ Routinely monitor progress to ensure EEAST are on track to achieve Net Zero by 2040
- ✓ Take action to reduce our Carbon Footprint.
- ✓ Reduce energy consumption of our estate per annum.
- ✓ Increase our annual kWh generation via renewable energy sources – PV electricity generation currently at 1.6% as of 2020
- ✓ Reduce the fleet's fuel consumption – transitioning to electric vehicles
- ✓ Achieve a minimum of 10% of our fleet comprising of Ultra Low Emission or fully electric vehicles
- ✓ Reduce our waste volumes
- ✓ Create a 'future-proofed' network of electric vehicle charging points
- ✓ Optimise our waste collection services
- ✓ Enhance the biodiversity of the estate
- ✓ Promote and implement projects that directly benefit our staff's health and well-being.
- ✓ Promote the use of active travel
- ✓ Increase our network of Sustainability champions





EEAST at a glance

Serving six counties
and covering
7,500 square miles



More than 535
ambulance / rapid
response vehicles



Three control rooms
based in Norwich,
Bedford and
Chelmsford



Taking more than
1.2 million* calls
(2019)



*Total: 1,296,382

Providing patient
transportation services in
Cambridgeshire, Bedfordshire,
Hertfordshire and North,
South and West Essex



Working with
17 acute trusts...



... 15 clinical
commissioning
groups and



... six sustainability
and transformation
partnerships (STPs)
/integrated care
systems (ICs)



More than 4,000
staff and 1,500
volunteers





Key highlights to date



Electric vehicles are just one way we're making the Trust more sustainable, but we need your help... 🌍💚

If you're a member of staff or a volunteer and would like to become one of our Green Champions then please get in touch via sustainability@eastamb.nhs.uk #WeAreEEAST



5 new fully electric vans introduced into the fleet

Centralised recycling bins within each of our AOCs and make ready hubs

Procured 100% renewable electricity contracts of 1st April 2021

A new network of Green Champions

Could you be a Green Champion?

No new year's resolution? Feel like being involved in something new this year? Why not become a Green Champion?

The Trust now has an in-house sustainability team, Sam Woods and Cheryl Duke, who are dedicated to ensuring that the organisation operates efficiently whilst minimising its impact on the environment. The team is already working on a large LED lighting project, organising the distribution of recycling bins to all sites and looking to install more charging points as the Trust increases it's fleet of electric vehicles.

The Sustainability Team have spoken to many members of staff who are really passionate about doing their bit for the environment and are keen to involve as many people as possible in the work they are doing. They would like to recruit Green Champions across the Trust to inspire others to be more sustainable in the workplace, promote environmental awareness and improve wellbeing whilst helping the NHS reach its target of becoming net-zero by 2040.





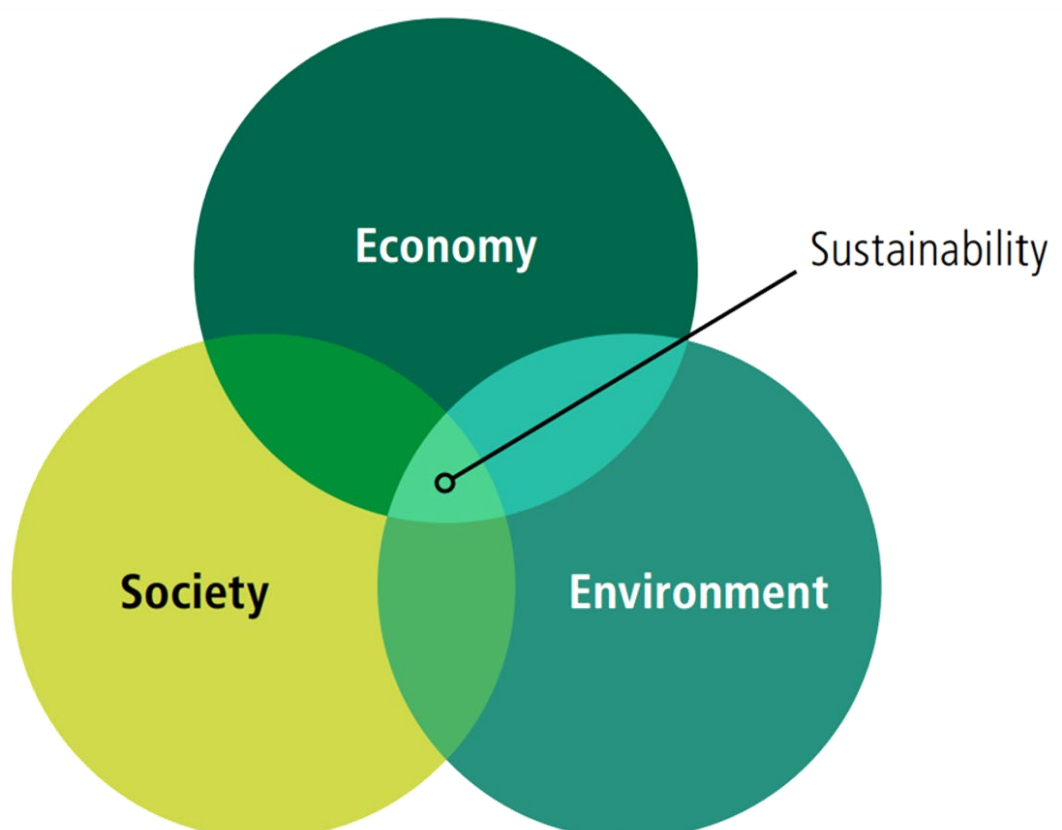
What is sustainability?

Sustainability is defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

United Nations Brundtland Commission (1987)

Sustainability is founded upon three separate, yet interdependent, issues; the environment, the economy, and social considerations. Known as the ‘three pillars’ of sustainability, each of these pillars must be addressed if a truly sustainable health and care system is to be achieved.

- ✓ **Social impact:** the impact an organisation’s activity has on its local communities, and society. More broadly, how the organisation can positively utilise its influence to address health and social inequalities
- ✓ **Environmental impact:** the impact an organisation’s activities have on the environment and the need to focus on activities which reduce or eliminate any negative impact.
- ✓ **Economic impact:** the impact an organisation has on how it controls and spends its money, specifically the contribution sustainable development activities have on its short, medium and long-term financial position.





Helping to create sustainable, resilient, healthy places and people needs to be approached both by enabling the positives and by reducing the negatives allowing virtuous cycles to constantly improve outcomes.

Enable the positives

By valuing our physical and social environment, we can restore our natural environment and strengthen our social assets, whilst enhancing our independence and wellbeing at both a personal and community level. By doing so, we improve the quality of care, build strong communities and generate conditions where life is valued in ways that current generations can be proud to pass on.

Reduce the negatives

By radically reducing the harmful impacts of how we currently live we can stop wasting finite resources, reduce the burdens of preventable mental and physical ill health, reduce social inequalities and reduce risks from a changing climate. In addition, many interventions that reduce harmful impacts also promote positive co-benefits and reduce the burden of disease.





The current state of the climate

The UK government has set targets to reduce the countries emissions by 80% by 2050 enforced through the Energy Act.

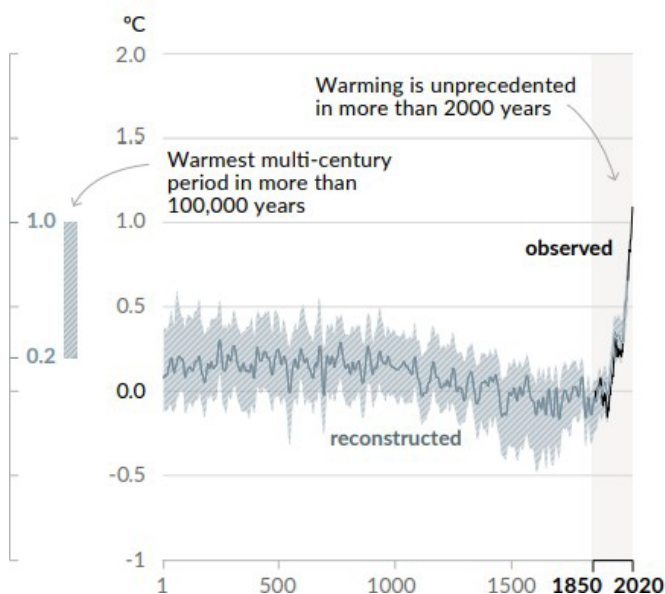
More recently, the International Panel on Climate Change (IPCC) has delivered its sixth report on climate change and a major review of climate science ahead of the COP26 in Glasgow later this year.

The report finds that 'human influence has unequivocally warmed the atmosphere, ocean and land'. Additionally, "human-induced climate change is already affecting many weather and climate extremes in every region across the globe. Evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and their attribution to human influence, has strengthened since AR5".

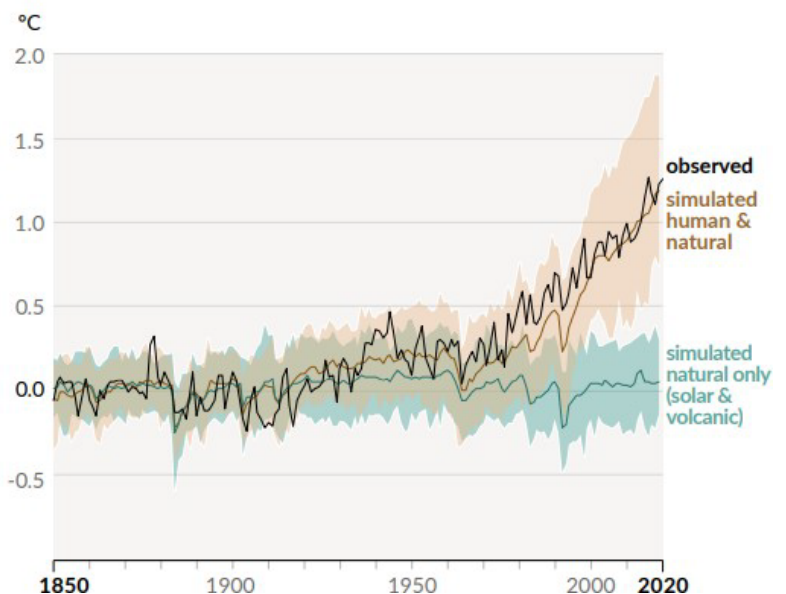
Human influence has warmed the climate at a rate that is unprecedented in at least the last 2000 years

Changes in global surface temperature relative to 1850-1900

a) Change in global surface temperature (decadal average) as **reconstructed** (1-2000) and **observed** (1850-2020)



b) Change in global surface temperature (annual average) as **observed** and simulated using **human & natural** and **only natural** factors (both 1850-2020)



The report provides a stark warning for nations, policy makers and stakeholders across the globe. This report has been released at a time where EEAST are laying out our key sustainability objectives for the next 5 years. The release of the IPCC's sixth report is a stark reminder of the importance of our own journey to net-zero.



NHS - The wider context?

The NHS has adopted a multiyear plan to become the world's first carbon net zero national health system.

The NHS aims to provide health and high-quality care for all, now and for future generations. This requires a resilient NHS, currently responding to the health emergency that COVID-19 brings, protecting patients, our staff, and the public.

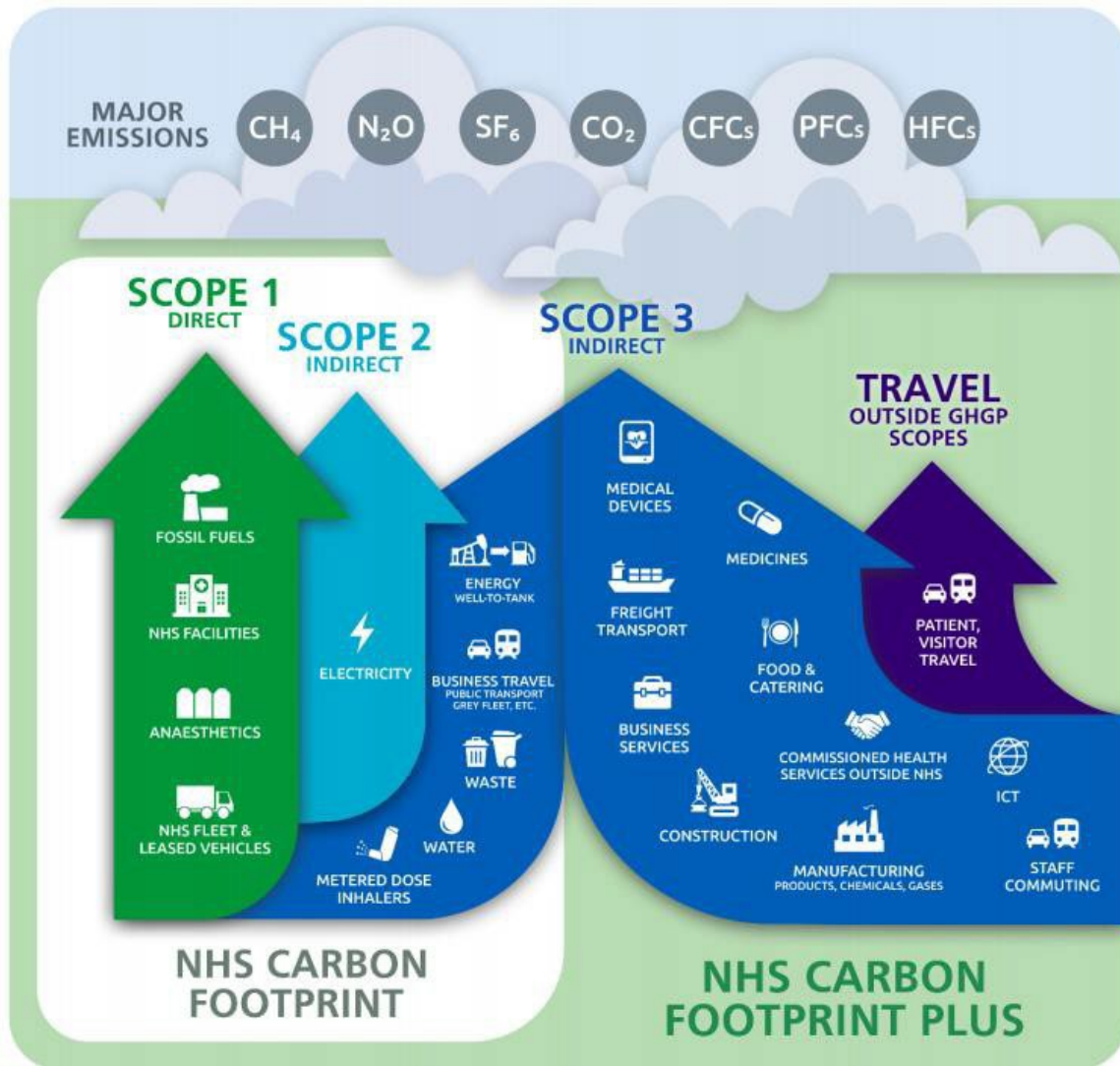
The NHS also needs to respond to the health emergency that climate change brings, which will need to be embedded into everything we do now and in the future. More intense storms and floods, more frequent heatwaves and the spread of infectious disease from climate change threaten to undermine years of health gains.

Action on climate change will affect this, and it will also bring direct improvements for public health and health equity. Reaching our country's ambitions under the Paris Climate Change Agreement could see over 5,700 lives saved every year from improved air quality, 38,000 lives saved every year from a more physically active population and over 100,000 lives saved every year from healthier diets.

In January 2020, the campaign for a greener NHS was launched to mobilise our 1.3 million staff and set an ambitious, evidence-based route map and date for the NHS to reach net zero. This report sets out the initial results of this work, reaching net zero emissions (the NHS Carbon Footprint) for the care we provide by 2040, and zero emissions across the entire scope of our emissions (the NHS Carbon Footprint Plus) by 2045.

Based on the findings of the report the NHS has formally adopted two targets, set as the earliest possible credible dates for the NHS to achieve net zero emissions:

- for the NHS Carbon Footprint (emissions under NHS direct control), net zero by 2040, with an ambition for an interim 80% reduction by 2028-2032, and;
- for the NHS Carbon Footprint Plus, (which includes our wider supply chain), net zero by 2045, with an ambition for an interim 80% reduction by 2036-2039.



Scope 1: Direct emissions from owned or directly controlled sources, on site

Scope 2: Indirect emissions from the generation of purchased energy, mostly electricity

Scope 3: All other indirect emissions that occur in producing and transporting goods and services, including the full supply chain, patient and visitor travel

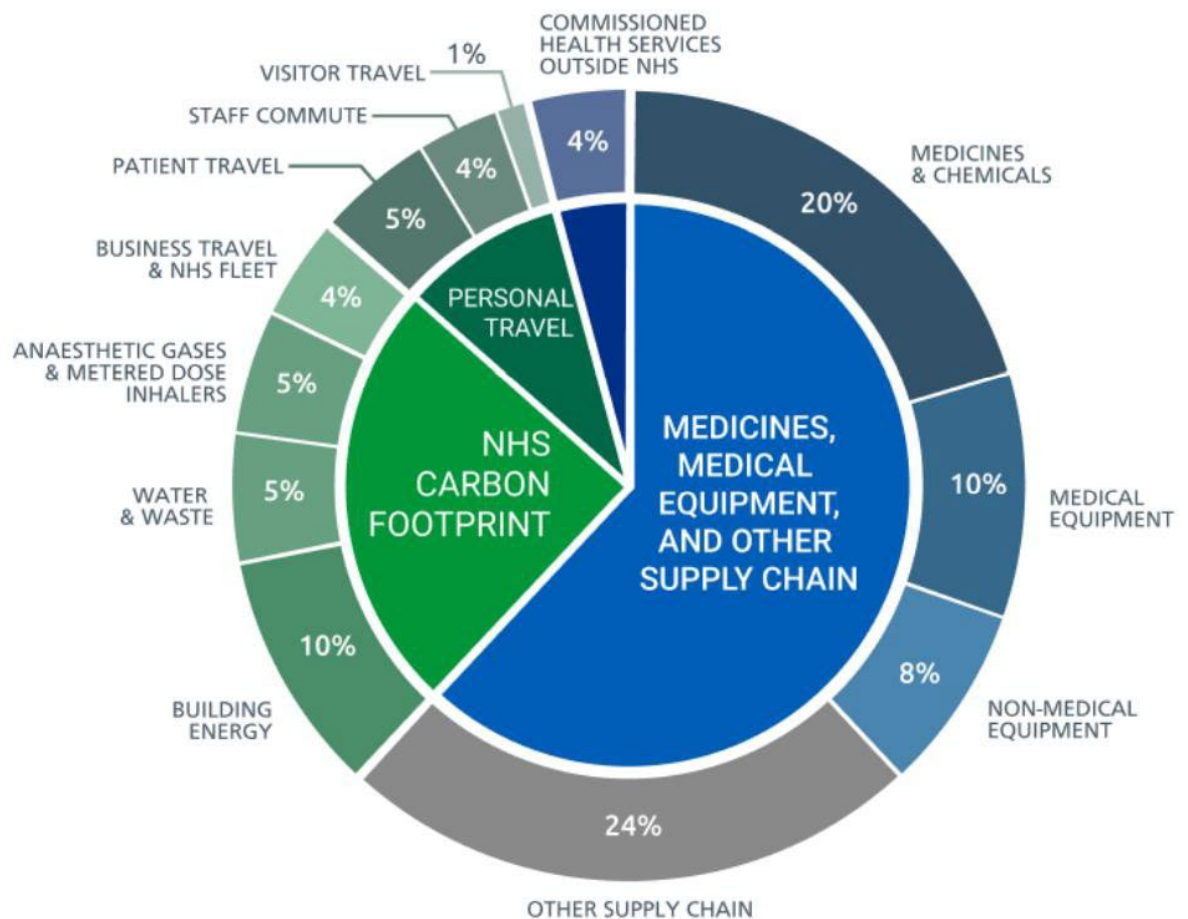
There is no doubt that considerable progress has been made in reducing the NHS Carbon Footprint. While only an approximation, the estimated 62% reduction in emissions significantly exceeds the 37% requirement for 2020 outlined in the Climate Change Act (see Table below). The wider scope of the NHS Carbon Footprint Plus has also delivered a meaningful improvement on the 1990 baseline, with an estimated reduction of 26% by 2020.



NHS emissions from 1990 to 2020

Carbon footprint scope	1990	2010	2015	2019	2020 (est.)
Climate Change Act – carbon budget target		25%	31%		37%
NHS Carbon Footprint (MtCO ₂ e)	16.2	8.7	7.4	6.1	6.1
NHS Carbon Footprint as a % reduction on 1990		46%	54%	62%	62%
NHS Carbon Footprint Plus (MtCO ₂ e)	33.8	28.1	27.3	25.0	24.9
NHS Carbon Footprint Plus as a % reduction on 1990		17%	19%	26%	26%

As the NHS continues to strive towards Net Zero, every area of the NHS will need to act if net zero is to be achieved. However, looking at the wider scope of the NHS Carbon Footprint Plus, (see diagram below) shows that the greatest areas of opportunity – or challenge – for change are in the supply chain, estates and facilities, pharmaceuticals and medical devices, and travel.





Drivers for change

As an Ambulance service provider, the Trust is committed to protecting the natural environment for the benefit of human health and to deliver sustainable healthcare. Sustainable healthcare in the NHS is driven through national and international policy, legislative and mandated requirements and healthcare specific requirements from the Department of Health and NHS England.

2014 - 20

Sustainable Development Strategy for the Health and Social Care System 2014-2020

2020

EEAST sustainability strategy published

2008

UK Climate Change Act

2016

The Carter Review

2017-19

Standard Form Contract requirements for Sustainable Development

2013

Intergovernmental Panel on Climate Change (IPCC) AR5

2016

United Nations (UN) Sustainable Development Goals (SDG's) 2016

2021

EEAST Green Plan

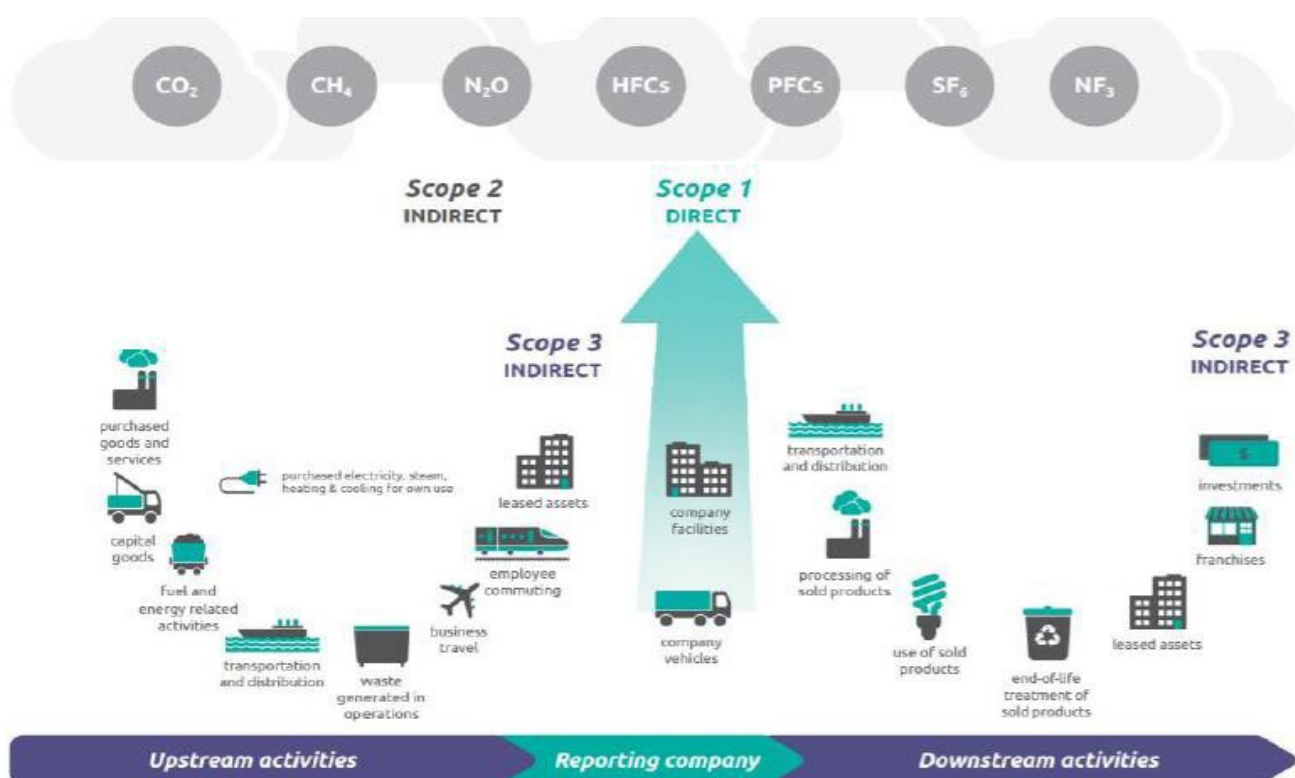


Our starting point

In 2012 the Carbon Trust worked with the East of England Ambulance Service NHS Trust (to establish a Carbon Management Plan (including establishing EEAST's emissions baseline, developing future projections, identifying, and quantifying existing and planned carbon reduction projects (carbon savings and financial costs and savings) and supporting EEAST to embed carbon management practices across the organisation.

The Carbon Trust has conducted the footprinting and baseline validation in accordance with the Green House Gas (GHG) protocol the most widely used and accepted methodology for GHG accounting. The GHG protocol categorises emissions into three scopes:

- Scope 1: All direct GHG emissions (i.e., 'on site' emissions, such as gas from a gas boiler or tailpipe emissions from a vehicle).
- Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat, or steam.
- Scope 3: All other indirect emissions, such as the extraction and production of purchased materials and fuels, transport related activities in vehicles not owned or controlled by the reporting entity, outsourced activities, waste disposal, etc.



Above: Emission scopes, as defined by the GHG Protocol.



Our 2020 Carbon Footprint

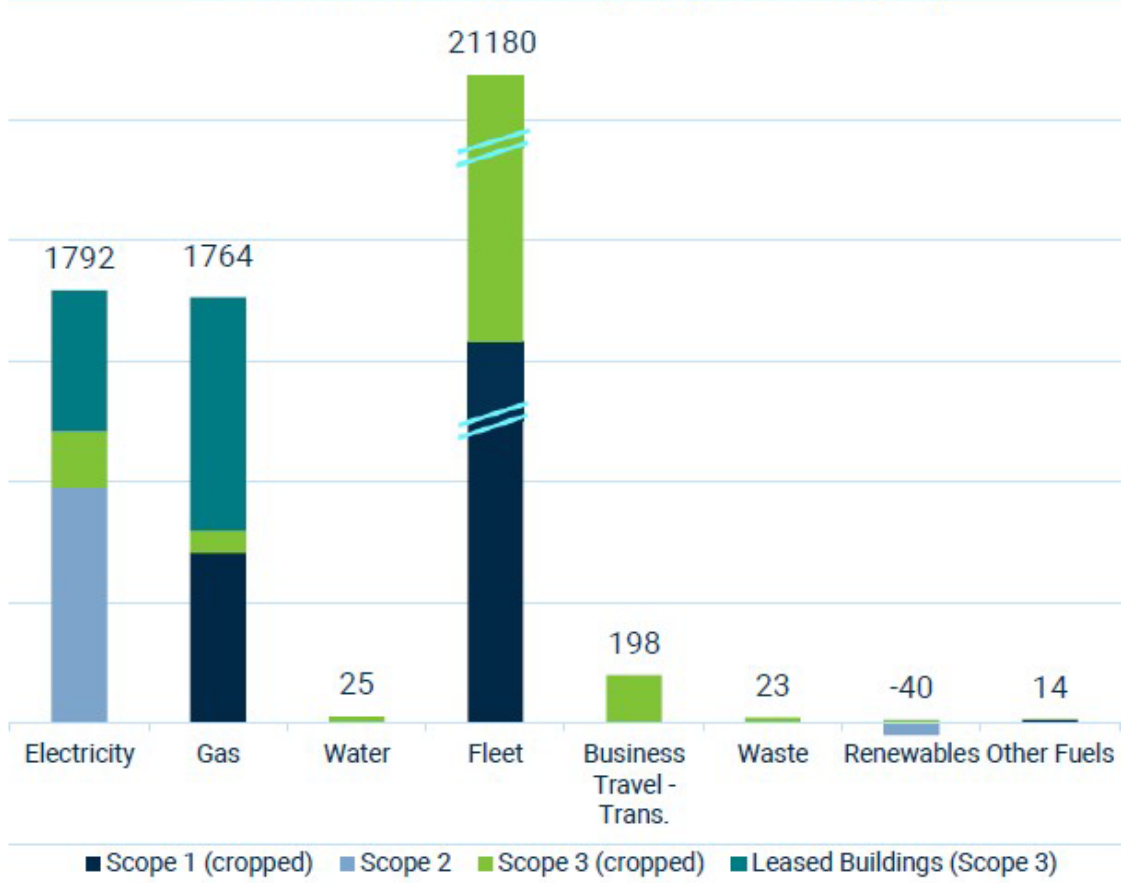
Footprint analysis - Summary

The EEAST's footprint for FY 2019/20 was calculated to be **24,956 tCO₂e**. The majority of emissions, approximately **85%**, are attributed to the fleet.

- Fuel emissions** from the fleet = 21,180 tCO₂e
- Electricity consumption** in buildings = 1792 tCO₂e - (includes 585.6 tCO₂e from electricity consumption in leased buildings)
- Natural gas consumption** in buildings = 1764 tCO₂e - (includes 966 tCO₂e from gas consumption in leased buildings)



Total emissions by category (Fleet cropped)



/// Represents where data has been cropped (The scale has been changed to show data more clearly)



EEAST's Roadmap to Net Zero





EEAST's carbon footprint can be used as a baseline to derive a target for emission reductions. In aligning with NHS England's target of becoming Net Zero by 2040 EEAST has been ambitious with their target setting, and significant investment and commitment will be needed to achieve this target

What is Net Zero?

Net zero means reducing emissions close to zero and using offsets or greenhouse gas removal to account for any remaining emissions that are extremely difficult to eliminate. For most sectors net-zero requires reducing emissions close to zero first of all, before offsetting. There is no one agreed definition of what net zero means for an individual company or organisation though there is general consensus that it is a ambitious target.

The Carbon Trust however defines net zero for a company or organisation as a target that reduces scope 1, 2 and 3 emissions in line with 1.5° science-based target and compensates for any residual emissions with greenhouse gas removals (not all offsets types).

For the purposes of this report the NHS target has been adopted Although NHS England's target does not specify 'absolute zero' emissions must be achieved by 2040 whereby all emissions are eliminated, for vehicle fleet and estates emissions this is the case Since emissions resulting from the vehicle fleet and estates make up the vast majority of EEAST's footprint strategy, the targets presented show an absolute reduction in emissions with the understanding that GHG removals will likely be required to meet this target

The drivers for net-zero

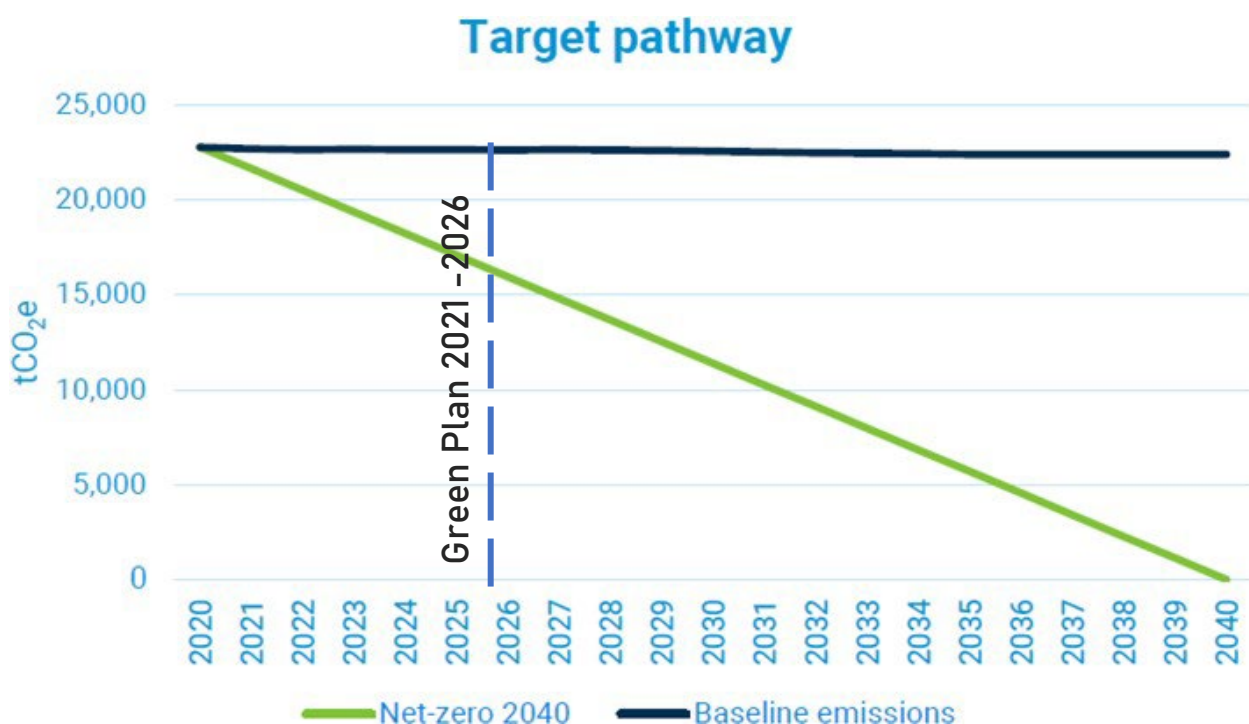
In 2019 the UK Government set a target for the UK to achieve net zero emissions by 2050. This target was recommended by the Committee for Climate Change in order to meet the UK's Paris Agreement commitments. "Delivering a 'Net Zero' National Health Service" was published in 2020 and represented a step-change in ambition



for the environmental performance of the NHS. It makes a firm commitment to a net zero NHS. For controlled emissions, it outlines a target of net zero by 2040 with an interim target of 80% reduction by 2028 – 2032. For emissions not controlled but influenced by the NHS, the net zero target is for 2045 with an 80% reduction by 2036 – 2039. Additionally, “Delivering a ‘Net Zero’ National Health Service” commits to road-testing for what would be the world’s first zero-emission ambulance by 2022, with a shift to zero emission vehicles by 2032 feasible for the rest of the fleet.

Given the NHS target of net zero by 2040 for controlled emissions, and that the calculated carbon footprint for EEAST focuses on controlled emissions, the following analysis considers EEAST’s pathway to net zero by 2040 for its total controlled emissions.

The graph shows the emissions projections between now and 2040. This equates to annual reduction of 1,139 tCO₂e per year. If EEAST were to maintain business as usual (BAU) where energy consumption remains constant, emissions due to electricity will still decrease as a result of grid decarbonisation. Between now and 2040, the carbon intensity of the UK’s national grid is expected to reduce as renewable generation (e.g., wind, solar) is replacing traditional fossil fuels (e.g., coal, natural gas). This BAU scenario assumes that EEAST operations, number of buildings and fleet does not change in future from the current 2019/20 baseline. Given that the fleet accounts the vast majority of EEAST’s carbon footprint and the emission factors for diesel and petrol are not expected to change, the BAU pathway is largely static.





Between now and 2030, the carbon intensity of the UK’s national grid is expected to reduce by 64%. The carbon intensity of the UK’s electricity supply is reducing as renewable generation (e.g., wind, solar) is replacing traditional fossil fuels (e.g., coal, natural gas). Many of the recommendations made in this report focus on the ‘electrification’ of conventional fuel sources so that this greener electricity can be utilised by the Service.

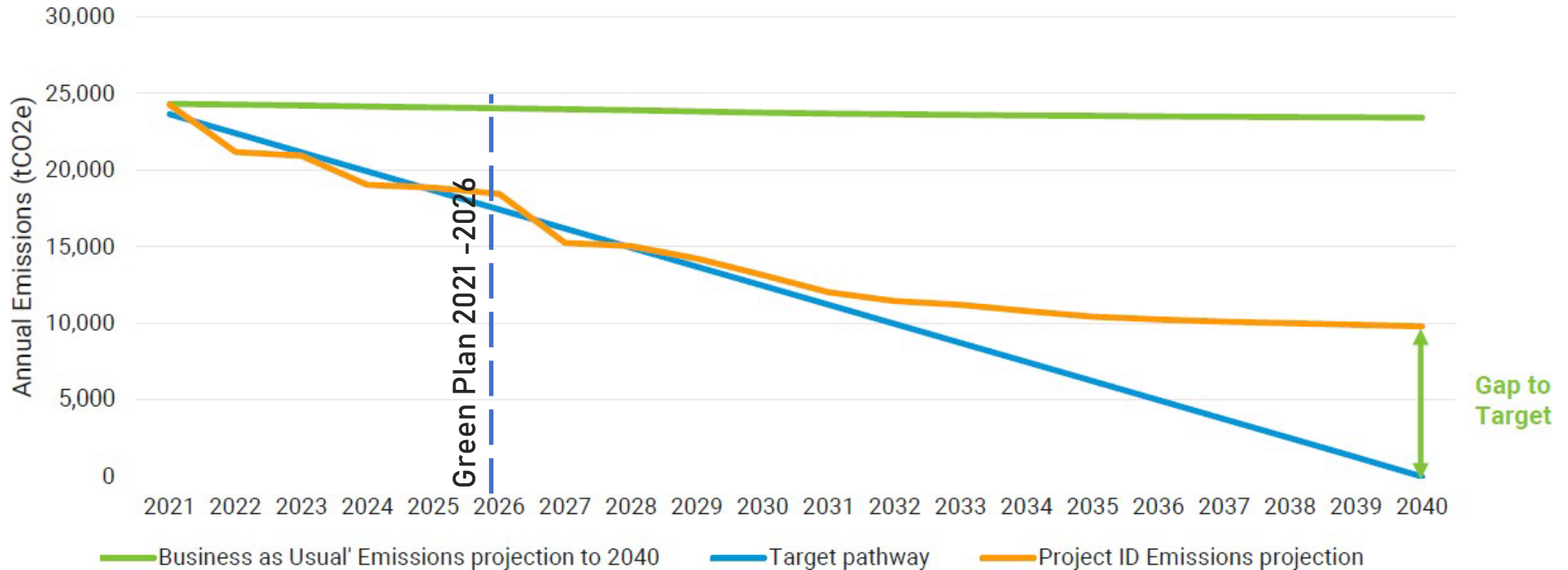
Carbon reduction opportunities

In conjunction with the Carbon Trust, in depth analysis across EEAST’s fleet and estate has been undertaken to identify potential decarbonisation initiatives.

Key decarbonisation actions	
Estates	Fleet
<ul style="list-style-type: none"> • Lighting upgrades (LED) • Installation of Solar PV • Replace gas boilers with heat pumps • Fabric improvements 	<ul style="list-style-type: none"> • Periodically replace diesel-fuelled ambulances with hydrogen/electric • Periodically replace non-emergency fleet with EVs

In a business as usual (scenario, EEAST’s footprint is expected to decrease somewhat due to the decarbonisation of the national grid and increased fuel efficiency in the fleet. In most likely decarbonisation scenario, EEAST has an anticipated gap to target of 9803 tCO₂ e by 2040 against the NHS England target of Net zero by 2040. The majority of these emissions (8863 tCO₂ e) are due to the remaining emissions in the ambulance fleet and is therefore likely that these will be dealt with once the situation around hydrogen fuelled ambulances becomes clearer. Once these emissions have been dealt with, the gap to target will likely be between 1000 and 2000 tCO₂ e annually by 2040. These are emissions that the Service will have to proactively remove from the atmosphere certified GHG removals. The results below show the expected impact of a number of estate wide initiatives contained in this report towards the UK national target.

In a business-as-usual (BAU) scenario, EEAST's footprint is expected to decrease due to the decarbonisation of the national grid and increased fuel efficiency in the fleet. By following reduction measures specified in this report, EEAST will have an anticipated gap-to-target of 9803 tCO₂e by 2040 against the NHS England target of net zero by 2040. The majority of these emissions (8863 tCO₂e) are due to the remaining emissions in the ambulance fleet, which is likely to reduce once electric and/or hydrogen fuelled ambulances enter the market. This is likely to reduce to gap to between 1000 and 2000 tCO₂e by 2040. Given the ~20 years until 2040, in reality this may be smaller. However, to reach net zero these remaining emissions would need to be addressed through certified GHG removals. Consideration of offsets and the development of an strategy to address the should be considered closer to the target deadline (in the early 2030s) when there is greater certainty around the extent of emissions to offset.





THE ESTATE



Estate - Carbon reduction opportunities - LED lighting

Introduction

LEDs have the highest efficiency and lamp life of all widely used lighting types. Cost reductions and a step change in the technological performance of LED lighting over the past 10 15 years has made them the mainstream solution for the vast majority of lighting applications in the UK

State of play

EEAST has a mixture of lighting installed across the site's incandescent tungsten, tubular fluorescent lamps (T12 T8 T5 compact fluorescent lamps (and LEDs The Service is actively trying to roll out efficient LED lighting across the estate Presence detection (is present on some installations, however it is recommended that this is rolled out across the estate to further reduce demand)

Project identification

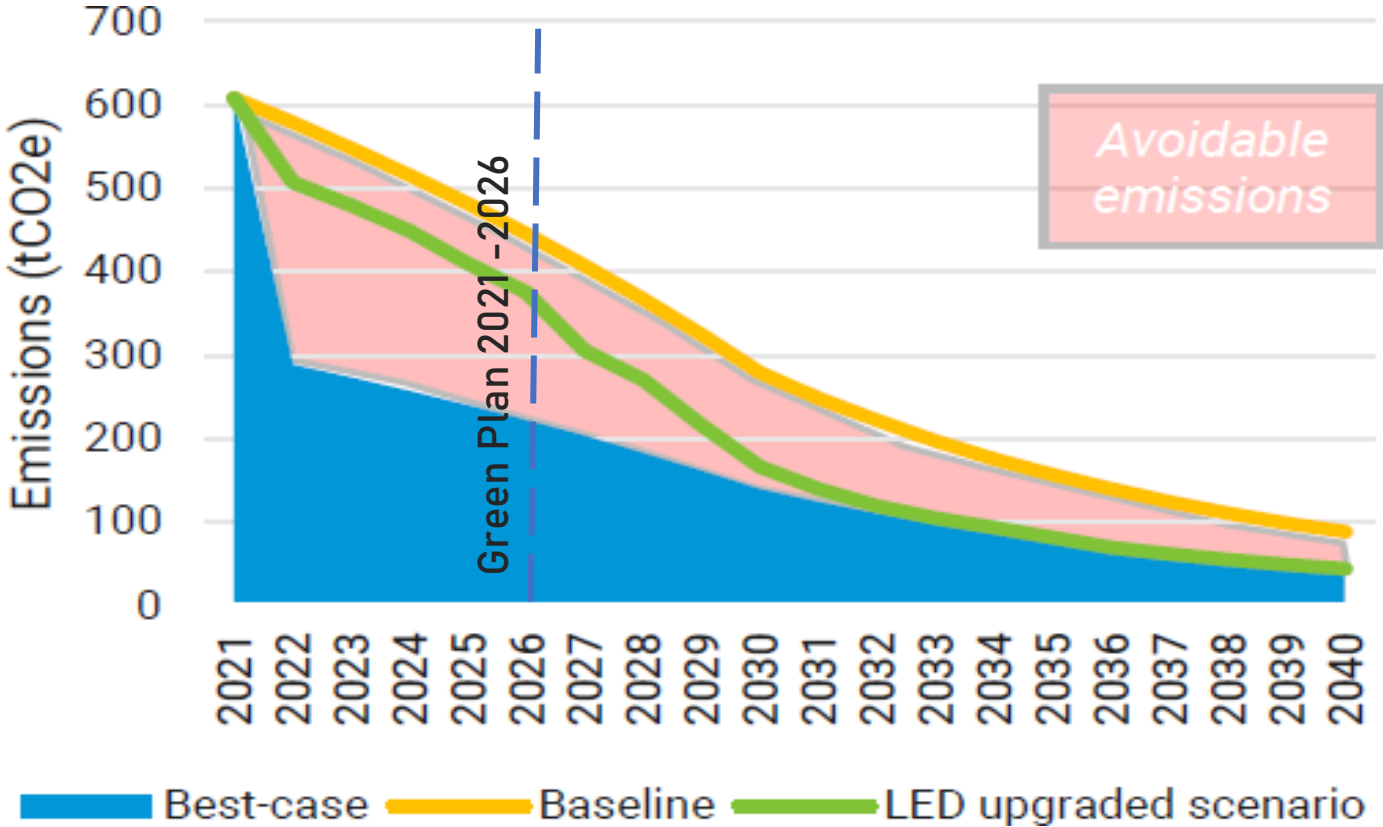
The estates asset register was used to determine the installed lighting types across the estate The costs and emission savings from upgrading the sites to LED were estimated based on replacing all incumbent lighting with LEDs at the end of their economic life

- Lighting was found to consume a large amount of energy in total 50 of all electricity demands in owned building was found to be from lighting (assuming average operating hours of 12 hours per day)
- An annual electricity saving of 1059 MWh was estimated across all sites within the asset register, equating to potential emissions savings of 305 tCO₂ e/yr
- The financial case for LED lighting depends on the usage (which is likely to vary heavily across sites) and on the efficiency of the incumbent lighting Across the owned estate the simple payback varies from



Emission reduction

The falling carbon intensity of the national grid projected up to 2040 means that the emissions savings available up to the target period are reduced somewhat compared to saving achievable from replacing gas heating with an electric system



Three scenarios have been presented, the baseline showing the emissions projection up to 2040 if no lighting was replaced. The Best-case scenario shows the maximum saving achievable if all incumbent lighting was replaced, and the final scenario shows the saving where lighting is replaced at end of economic life



Estate - Carbon reduction opportunities

Solar Photovoltaic (PV)

Introduction

Solar PV is a modular, scalable technology that allows for renewable electricity to be produced at source. Cost reductions over the past decade have made it an increasingly attractive technology and resulted in its accelerated roll out at both utility and small scale

State of play

EEAST has approximately 230 kW* of solar PV installed across 6 sites, which generated 222,641 kWh of electricity in FY 19/20 and avoided 12 tCO₂ e of emissions. The market in the UK is established and there are plentiful providers of solar PV and related services. However, UK government support for small scale projects has been significantly curtailed and any project will be subject to market prices

Project identification

A high-level assessment of potential rooftop Solar PV on a sample of EEASTs larger sites, which do not currently have a Solar PV installation showed a potential further 312 kW of solar PV could be feasibly installed, generating 296,609 kWh per annum

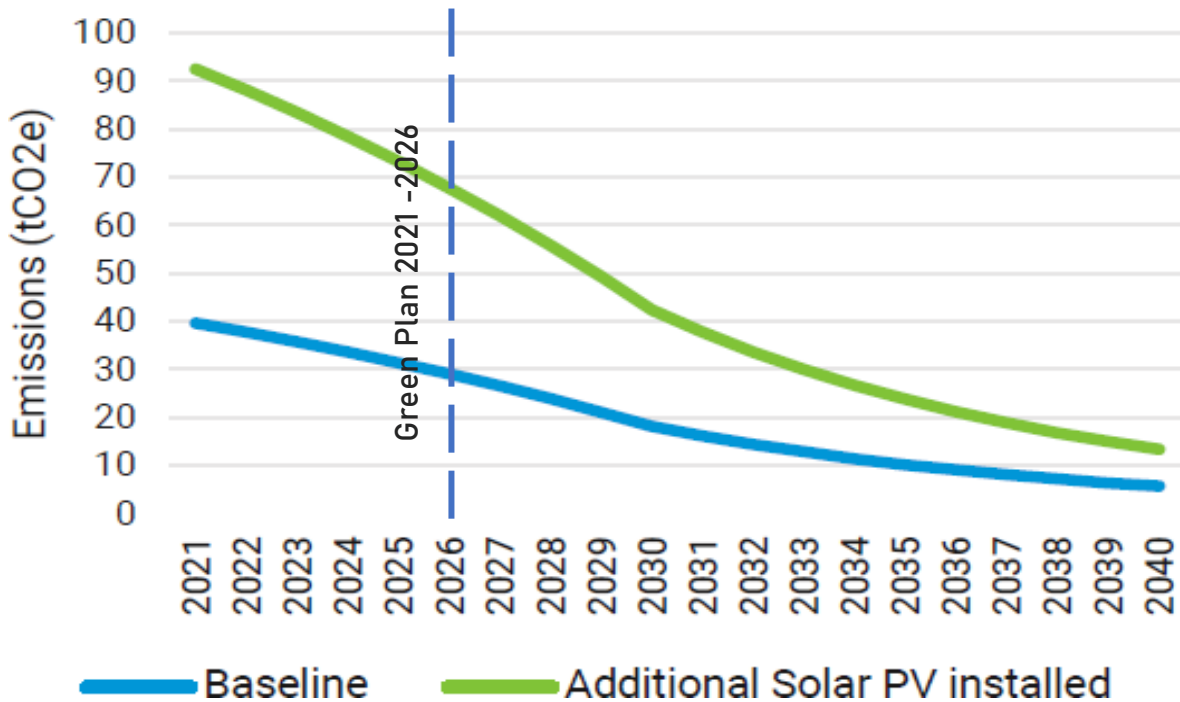
- This represents an 52.8 tCO₂ e emission saving using 2019 emission factors, which is projected to decrease to 7.64 tCO₂ e by 2040
- It is estimated the additional Solar PV is likely to cost approximately £300,000
- Only the higher electricity consuming sites (above 25 000 kWh per annum were analysed since the financial case for solar PV is significantly improved when more solar PV is consumed on site (displacing grid electricity at 12 p/kWh) as opposed to exporting to the grid 5 p/kWh)



Emission reduction

The avoided emissions of solar installations will decrease out to 2040 as the national grid decarbonises and the variance between local, zero carbon generation and national generation decreases

Emissions savings from Solar PV installed (tCO2e)



Solar PV installations on EEAST site

(Pictured Cromer ambulance station)



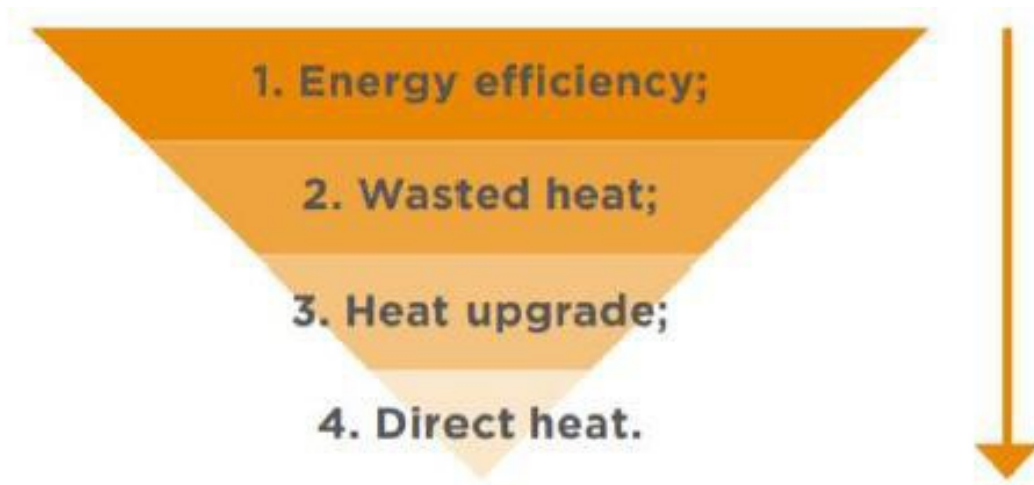
Estate - Carbon reduction opportunities

Heat Decarbonisation

Fossil fuel consumption (predominantly gas) for space and water heating in buildings accounts for 3.3% (7.2% including gas consumption in leased buildings) of EEAST's measured footprint. Compared to electricity, the emission factor for gas usage is less sensitive to policy and technology changes and is expected to remain relatively constant between now and 2030. To achieve their decarbonisation targets, EEAST will therefore have to proactively target a significant reduction in gas use across the estate

The challenge of heat decarbonisation is multifaceted and there is no one size fits all solution that can be implemented across the estate. However, we recommend that any approach to heat decarbonisation should consider the heat hierarchy outlined below. The hierarchy has four key stages, which should be addressed in chronological order

- **Energy efficiency** Reduce the heating demand of the building by improving its thermal performance through fabric upgrades (e.g. insulation, draught proofing) As the initial step, this is referred to as a fabric first approach and should be maximised for each building within the bounds of reasonable viability (i.e. respecting technical and financial constraints) regardless of the heat source
- **Wasted heat** Utilise any heat that is already being produced in other processes but wasted
- **Heat upgrade** (i.e. heat pumps) heat refers to the process of raising a low temperature heat source to a higher temperature that can be utilised in heating system. This process requires an energy input (e.g. electricity) and is the function of heat pumps
- **Direct heat** This is where energy is directly inputted for the creation of heat (e.g. fuel into a boiler) This should be restricted to when wasted heat is not available, or the use of a heat pump is not technically or financially feasible



Above: the heat hierarchy

Source: ADE, A framework for net-zero for new and existing buildings.

A net zero EEAST will likely involve a combination of the above measures in varying proportions. The appropriateness of each option needs to be assessed in the context of the fabric and efficiency of each building to ensure that the space is adequately heated



Estate - Carbon reduction opportunities

Boiler upgrades

In accordance with the heat hierarchy, alternative heat sources are preferred solution over boiler upgrades. However, it is useful to use boiler upgrades as a comparison to show how efficiency savings can be achieved, they are minor in comparison to the savings achievable by replacing boilers with heat pumps. Furthermore, the emissions will be 'locked in' throughout the life of the replacement boiler and won't take any advantage in terms of emissions from the continuing decarbonisation of the national grid

Introduction

Gas boilers being the preferred heating mechanism in the UK, with 1.67 million gas boilers sold in 2019. Though gas fired boilers are carbon intensive, they provide flexibility in heating several building archetypes and often present attractive business case relative to low carbon alternatives Advances in boiler design has increased the efficiency of new boilers to over 90%.

State of play

Most sites have gas fired boilers connected to central heating with radiators, with two sites relying on Oil fired boilers. Of the ~100 boilers listed in the asset register, 32 would be poorly performing due to a combination of their poor performance and age. Supplementary electric heating is expected to be present in several sites, suggesting a lack of efficacy from the main heating system or that the central heating does not cover all areas

Project identification

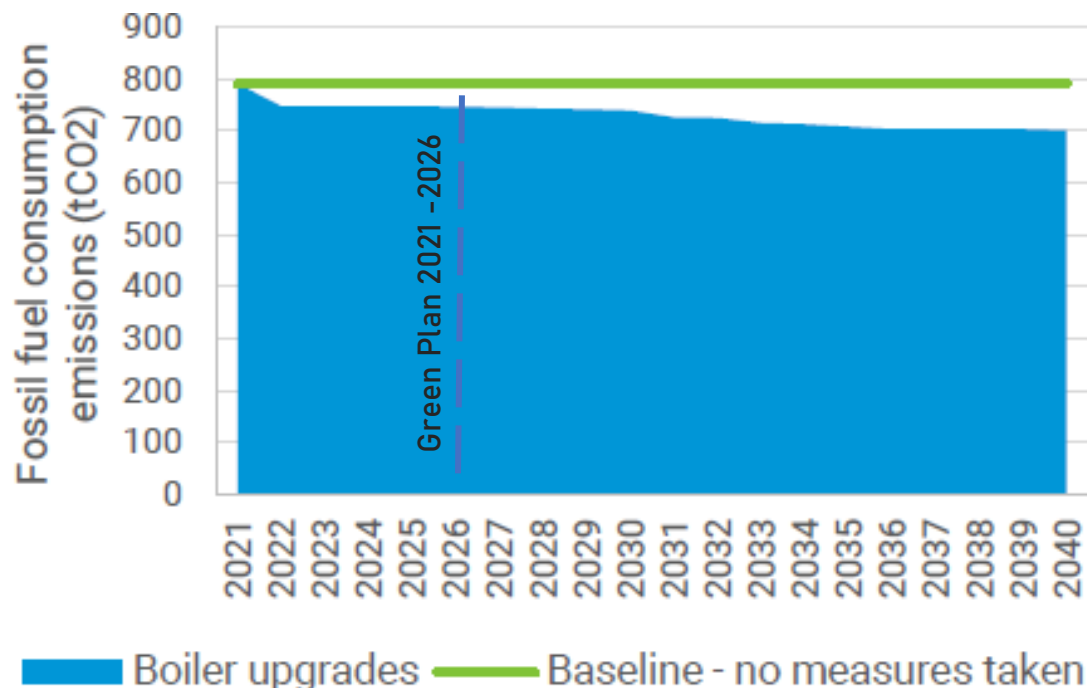
The immediate replacement of incumbent boiler systems operating at an assumed system efficiency of less than 80% with a condensing boiler (operating at 92 efficiency) was modelled, followed by replacement of boilers with adequate efficiency at end of life Key findings include:



- By looking to remove all poorly performing boilers immediately gas savings of kWh can be realised compared to like for like boiler replacement, resulting in cost savings of £16,033 and potential emission savings of tCO₂e per annum
- Replacement gas boilers present a strong financing case However, the emission savings associated with their widespread replacement is not compatible with the Service's decarbonisation ambitions, particularly for larger sites

Emission reduction

Comparatively small emissions savings can be realised through increased efficiencies and the reduction in gas consumption for a given heat load. However, their relative carbon intensity means that the Service should only pursue like for like replacement when the financial or technical constraints for low carbon technologies are overwhelming





Estate - Carbon reduction opportunities

Heat Pumps

The installation of heat pumps should be considered for every heating system requiring replacement and installed as standard in new builds. Heat pumps are not a like for like replacement with gas boilers or conventional electric heating and improved energy efficiency in buildings is often a prerequisite for heat pump retrofit where a building currently performs poorly. Whilst not practically suitable for all applications, the electrification of heat at some sites will be required for the Service to achieve their decarbonisation targets

Introduction

Heat pumps are a highly efficient form of electric heating. They can save ~60%-70% of emissions compared to conventional electric heating and have lower running costs if operated efficiently. Heat pumps perform optimally at lower temperatures than conventional heating systems and require a thermally efficient site to operate effectively

State of play

Currently, there are no heat pumps installed in the EEAST estate

Project identification

The replacement of existing central heating systems with an efficient heat pump was modelled Any supplementary heating was excluded from the analysis. Key findings include:

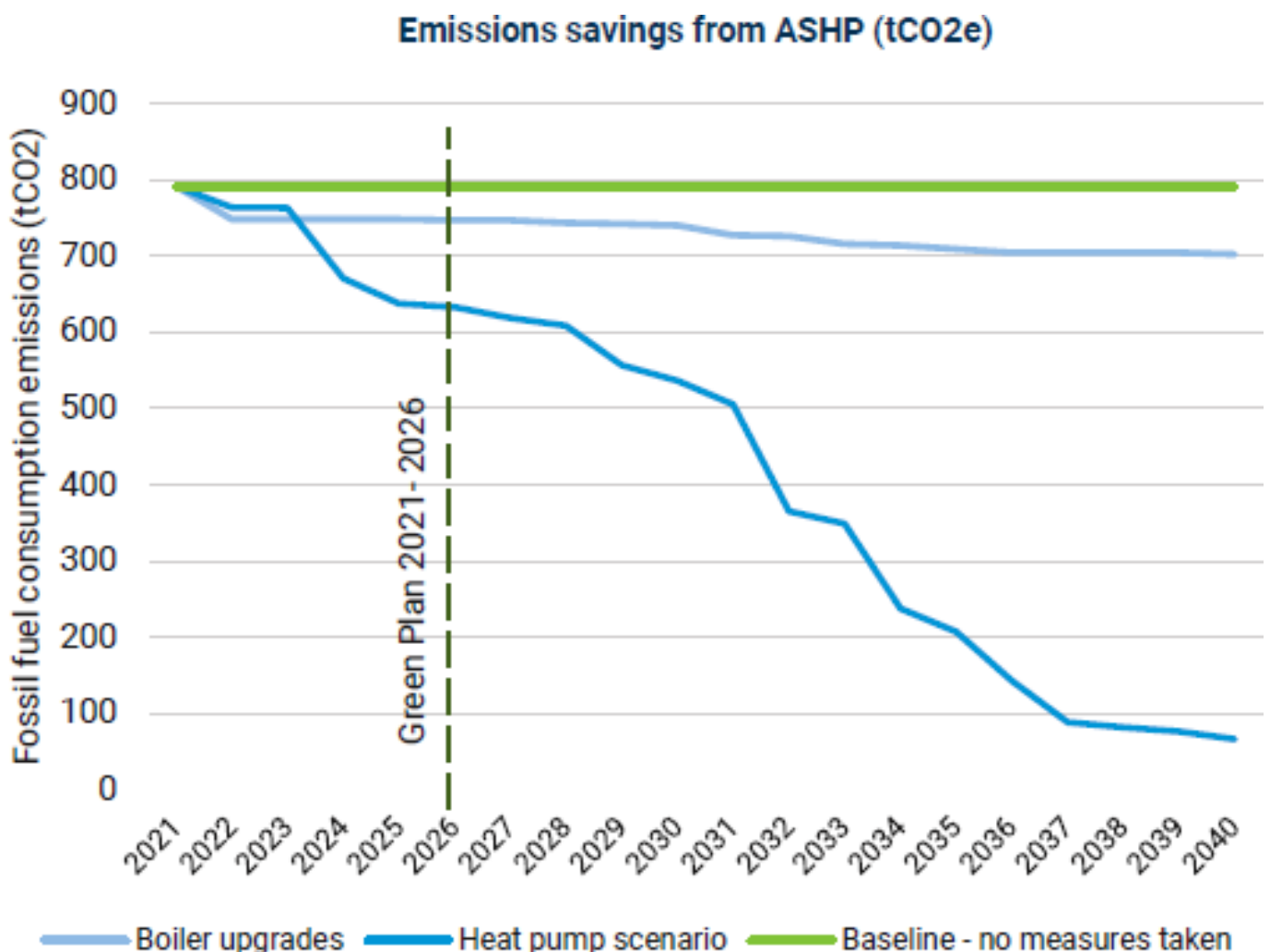
- A comparison was made to a 'baseline' emission projection where boilers have been upgraded to the highest system efficiency feasibly available (92%) to show the significant savings that heat pumps, even if fossil fuel boilers are the highest efficiency
- A reduction of 725 tCO₂e could be achieved by 2040 compared to current emissions equating to a 92% reduction
-



- The business case for installing a heat pump is poor for the majority of sites and environmental weighting will have to be included to promote their procurement Particularly where sites will need to have fabric efficiency measures installed

Emission reduction

The asset register provided by EEAST was used to model the replacement of incumbent boilers with Heat pumps and high efficiency boilers across the owned estate as the current boilers reach the end of their economic life.



The emission savings associated with electrifying heat increase as the national grid decarbonises. This will be further improved if the heat pump is powered by on site renewable power.



THE FLEET



Fleet - Carbon reduction opportunities

Non-Ambulance Fleet

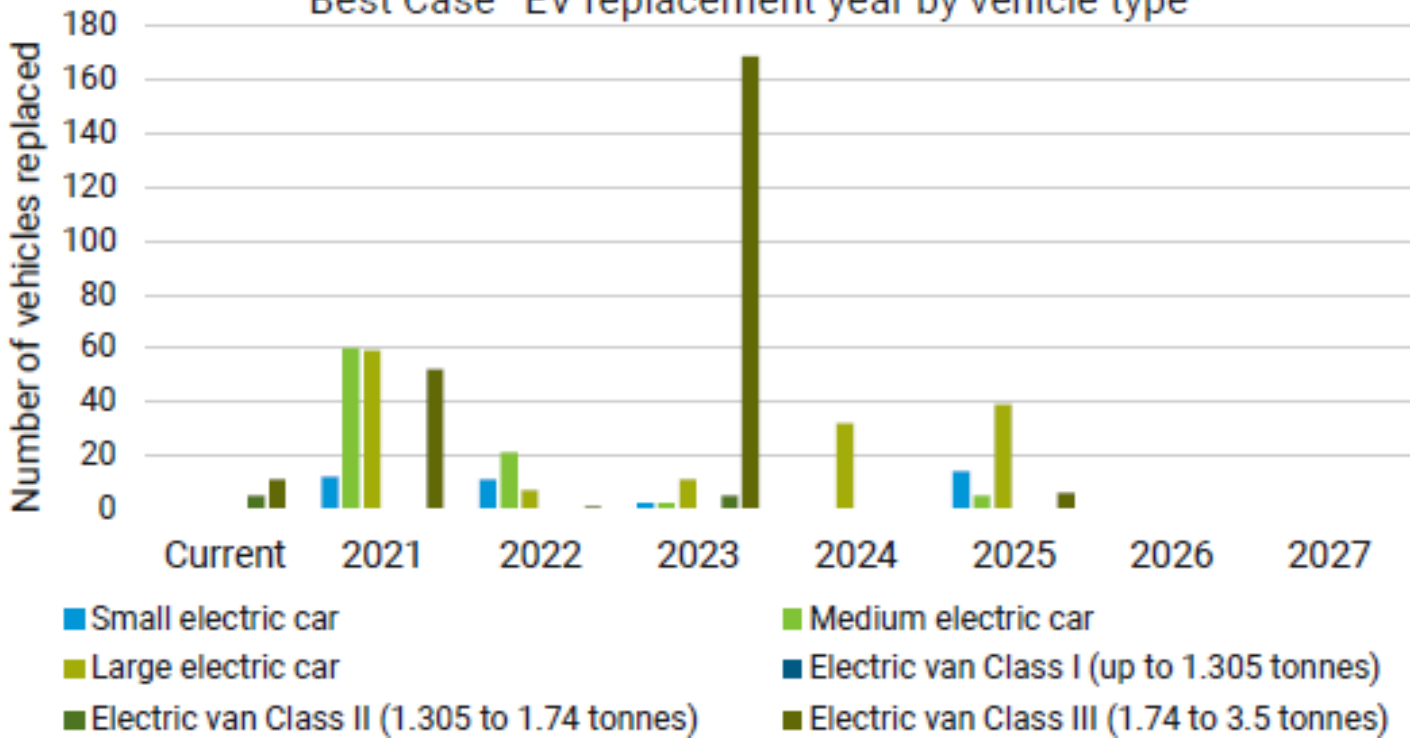
EEAST currently operates a non-ambulance fleet of 508 vehicles that included 79 different types of vehicles. Significant fuel switching of the fleet is required for the EEAST to achieve their decarbonisation ambitions. To understand the potential (theoretical maximum) emissions reductions from electrification of the non-ambulance fleet analysis the following analysis focusses on a best-case scenario if all vehicles were replaced with EVs within the next 5 years. A number of assumptions have been made:

- Each vehicle type has been categorised into a generic vehicle type and a replacement electric vehicle type assigned for each. Replacement electric vehicle types are assumed to be suitable to be implemented immediately.
- Expected replacement years were provided by EEAST for most vehicles. Where no replacement year was provided, an estimate was made based on an average replacement year.
- Each vehicle is assumed to remain in the fleet for 5 years. The business case for EVs is favourable for all vehicle types and sizes over the lifetime compared to ICE equivalents. This is likely to improve throughout the lifetime of the current vehicles as the market shifts away from ICE vehicles towards electric.

The proposed electrification could result in reduce emissions by 88% by 2040 saving 3.8 tCO₂ e annually



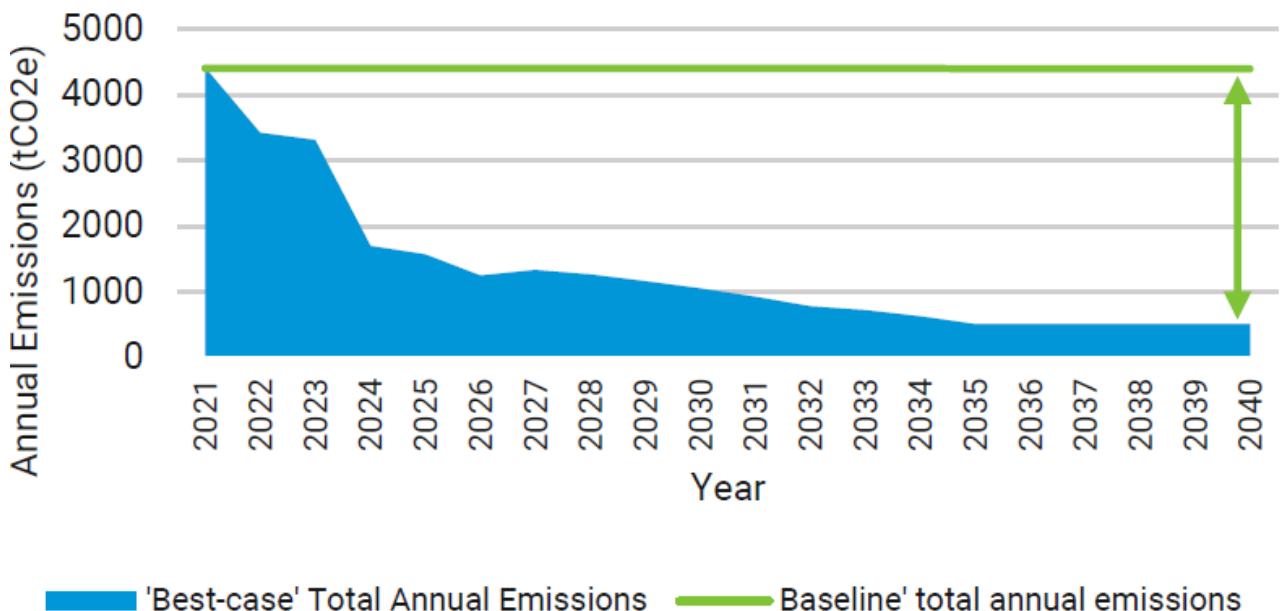
'Best Case' EV replacement year by vehicle type



Having reviewed our fleet (Q2/21) EEAST recognised that there a significant opportunity to transition a large proportion of its non-emergency ambulance fleet to fully electric vehicles. It is acknowledged that as the estate stands this transition would be heavily reliant on the national EV network.

As part of this review EEAST will develop a bespoke EV strategy to fully understand how the Trust will meet the demand of a growing electrical fleet and how this can be best serviced using our own EV infrastructure.

Total Annual Emissions - Non ambulance fleet





Carbon reduction opportunities Ambulances

EEAST currently operates a fleet of 598 ambulances consisting of 2 types (Mercedes and Fiat) Decarbonisation of the ambulance is fleet is challenging but it is anticipated that a shift to electric and hydrogen fuelled ambulances will be the solution to reduce emissions significantly. However, the market for zero/low emission ambulances is still emerging, and there is work to do on cost, but it is anticipated that both H₂ and EV ambulances will be commercially available in the next 5-10 years

Both H₂ and EV ambulances are in demonstration phase at two ambulance services in England

Project ZERRO¹

(Zero Emission Rapid Response Operations), being led by London Ambulance Service, is developing a dual fuel zero emission ambulance This vehicle features an electric drive train with a hydrogen fuel cell to extend the vehicle's range between charges A prototype is to be showcased in Autumn 2021 and will be subsequently trialled by service by London Ambulance Service.

West Midlands Ambulance Service (WMAS) has developed a zero emissions ambulance² by directly replacing the diesel engine in a conventional vehicle with an electric drive train

Testing is underway and is due to conclude by the end of 2021. Finally, a further recent announcement by DfT³ of an award for funding to Hydrogen Vehicle. Systems for the development of a hydrogen ambulance



The image shows the “WAS 500 Zero Emissions Ambulance”. An EV ambulance developed by WAS⁴ an emergency vehicle conversion specialist Its based on a Mercedes Sprinter box van It has a quoted range of 200 km (although this is likely to be a theoretical maximum and highly dependent on driving conditions), it weighs 5.5t.

1- London ambulance hydrogen/electric vehicle project (iaea online org)³

2- WMAS launches the first 100 electric emergency ambulance in the UK West Midlands Ambulance Service University NHS Foundation Trust

3- Zero e H₂ Ambulance Wins Share of Gov Funding H₂ World News Hydrogen World News

4- WAS 500 Zero Emission Ambulance Zero Emission Ambulance Mercedes Benz Sprinter Box Body 5.5 T Wietmarscher Ambulanz und Sonderfahrzeug GmbH (was vehicles com)



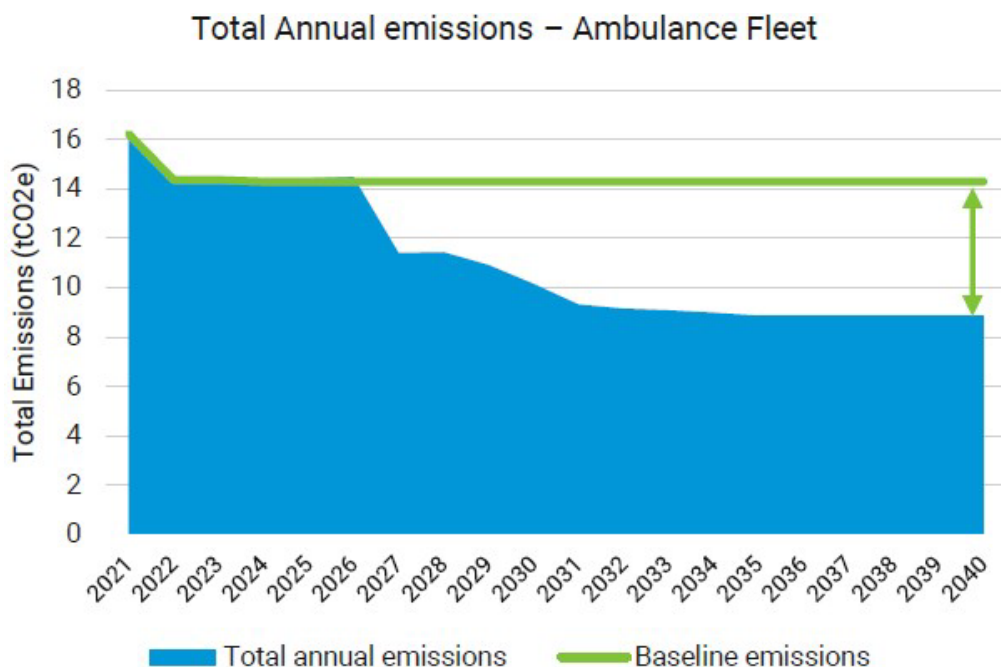
Given current market uncertainties for both ambulances and the hydrogen market, it is difficult to quantify emissions reductions in detail. The significant uncertainties around Hydrogen, emissions reductions resulting from electrification of those ambulances with a lower daily mileage has been estimated. The analysis makes the following assumptions

- No electric ambulances would be introduced within the next 5 years due to the developmental stage of the technology
- In the near term, existing Mercedes ambulances would be replaced with the more efficient Fiat ones (as with the baseline)
- Electric ambulances will then be phased into the fleet from approximately 2026.

The proposed electrification could result in reductions in annual emission reductions of 38% by 2040 5.4 tCO₂ e by 2040

The current roll out of Fiat ambulances is estimated to save the trust approximately 1.9 tCO₂ e annually by 2024.

It should be noted that if measures could be implemented to reduce daily mileage of ambulances, significantly more could be appropriate for electrification. This could further emissions reductions through electrification as the national grid decarbonises. As such, the projections graph should be considered as a minimum emission reduction up until 2040 where it is assumed that Hydrogen ambulances powered by green Hydrogen will be commercially available thus reducing remaining emissions





Next steps for Net Zero

Short term outlook (2021-2023)

- Agree a governance structure and responsible person(s) for the annual reporting of the EEAST's carbon footprint to monitor progress against the net zero target.
- Embed environmental considerations into procurement decisions to ensure that emissions are not 'locked in' for substantial periods and that new/replacement assets are of the highest energy efficiency and net zero compatible, If possible, an annual budget for priority decarbonisation initiatives should be ringfenced that should be additional to BAU upgrades.
- An optimised metering system and updated asset register should be commissioned to improve granularity of the baseline and improve accuracy of energy reduction opportunities.
- An estate wide mapping of incumbent heating systems and thermal performance of buildings should be performed to form the basis of a heat decarbonisation strategy, and the heat hierarchy should be integrated into the EEAST's decision making and facilities managers should become familiar with its implementation.
- 'Quick wins' should be implemented across the EEAST's estate and energy saving measures with attractive business cases (e.g solar PV, LED) should be rolled out. Savings from these projects should subsidise less attractive business cases as part of an overall estate wide decarbonisation strategy.
- EEAST should start the procurement process for retrofitting strategic sites with low or zero carbon heating systems, particularly where buildings have already been scheduled for refurbishment.
- Consider the wider environmental impact of the ambulance service and measure and report on the EEAST's scope 3 emissions Separate action planning and target setting should be considered for these emission sources



Medium- and long-term recommendations are inherently subject to greater degrees of uncertainty. These actions are made based on the current state-of-play and should be reviewed and updated as part of the annual reporting and governance.

It is anticipated that technology advancements, cost reductions and policy support will create a more favourable environment for action in the longer term, and the EEAST should remain agile and actively engaged with the market to take advantage of favourable developments.

Mid-term outlook (2023 – 2028)

- High efficiency and low-carbon technologies should be installed as business-as-usual at EEAST premises, and any fossil fuel replacements should be viewed as special case and require justification and sign-off. A significant proportion of natural gas consumption at the boiler house should be displaced by low-carbon fuel.
- Ground-mounted and canopy solar arrays should be considered once viable rooftop space is fully utilised. Complementary technologies that promote flexibility should be explored as on-site renewable generation increases (e.g., battery storage, EV charging, demand-side response).
- Implementation of a scope 3 action plan (e.g., supply chain engagement, green procurement, student interaction) to reduce the University's indirect emissions.
- Develop a robust carbon removals strategy to balance residual emissions that are hard to decarbonise.

Long term outlook (2028 onwards)

- Bring all EEAST sites up to best practice in relation to energy efficiency and carbon performance.
- Become a sector-lead and collaborate with other ambulance services to share lessons-learnt and encourage decarbonisation amongst peers.



Key areas of focus





Our Green Plan is divided into nine key focus areas as outlined in the Greener NHS updated guidance (Jun 2021). The focus areas are critical to the success of our Green Plan and therefore we will align a comprehensive action plan that ensures all elements is monitored and delivered upon.



Workforce and
system
leadership



Travel &
Transport



Supply chain &
procurement



Biodiversity,
Health & Well-
Being



Estates &
facilities



Food &
Nutrition



Medicines



Sustainable
care models



Digital
transformation



Adaption



Workforce and system leadership

Being an NHS Trust that supports its workforce is key to the success of any Green Plan. This support is a direct result of strong leadership across all departments and a conjoined effort to mitigate our impact on the environment. Having a workforce that understands the direction EEA are taking with respect to the environment and that are engaged with all of our challenges is vitally important.

<u>What have we achieved</u>	<u>What we to aim achieve within this Green Plan</u>
<ul style="list-style-type: none"> ✓ Create and establish a robust GREEN PLAN ✓ Update and align our sustainability strategy with existing strategies across the Trust. ✓ Establish the Sustainability Working Group (SWG) as an integral working group for the Trust ✓ Create a new sustainability newsletter to be communicated to the Trust ✓ We will set initial targets within our Green Plan from which we can benchmark our performance and approach against similar Ambulance Service Trusts ✓ Create a team of sustainability champions across the Trust 	<ul style="list-style-type: none"> ✓ Report the Green Plan progress to the Board every 6 months ✓ Commit to developing our roadmap for becoming net zero carbon, in line with the NHS Long Term Plan and Net Zero National Health Service targets. ✓ Communicate our Green Plan to the Trust ✓ Have a named Net Zero board lead to support our Green Plan. ✓ Ensure all staff are aware of the direction and progress we have made since the Green Plan inception ✓ We continually monitor the implementation and evaluate our Green Plan to maximise its value and benefit



✓ Communicate on a monthly basis via our sustainability newsletter

✓ We will look to provide additional sustainability training for our staff and champions

✓ Create a sustainability statement to be integrated into all relevant policies.

✓ Develop our Green Champion network across EEAST.

Case Study: Hertfordshire Litter pick

With the newly created Green Champion network the enthusiasm was immediately put to work with organising a litter pick to support Earth Day.

Central Hertfordshire is now a little bit greener thanks to the hard work of EEAST. Paramedic and Green Champion, Katy-Lee Winter.

Katy organised litter picks across central Hertfordshire last week/this week, to mark Earth Day, the annual international day of environmental action encouraging people to help in the fight against climate change. Earlier this year Katy, a Paramedic based in West Hertfordshire (Hemel), became one of the Trust's 35 Green Champions, a voluntary role which encourages staff to promote sustainability in their local workplace. With Earth Day on the horizon, Katy decided to take this a step further and take her work to the local community, organising colleagues to participate in a series of litter picks across Hemel Hempstead, Berkhamsted, Tring and St Albans.

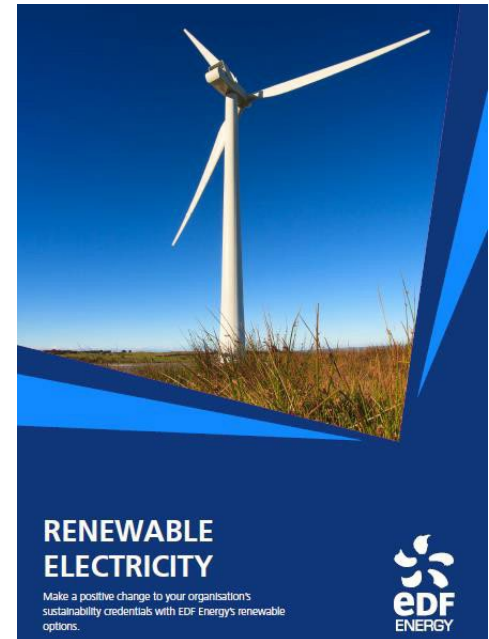




Case Study: Procure 100% renewable electricity contracts

The East of England Ambulance Service Trust as of 1st April 2021 procures 100% renewable electricity contracts. During the financial year of 2019/20 the Trust consumed 5,760,079kWh of electricity. This allowed us to underline our commitment to a more sustainable future.

This is a requirement of the NHS Operational Planning Contracting Guidance 202





Travel & transport



As an Ambulance service Trust, we fully acknowledge that our fleet is the foundation to our patient care. With this in mind, we are now working hard to decarbonise our fleet and transition it to an ultra-low emission and fully electric fleet. It is clear from our 2019/20 carbon footprint our fleet is our highest carbon emitter and therefore requires significant intervention.

<u>What have we achieved</u>	<u>What we to aim achieve within this Green Plan</u>
<ul style="list-style-type: none"> ✓ Undertake an assessment of our entire fleet and produce a calculated carbon footprint report. ✓ Set targets for reduction CO2 associated to the fleet. ✓ Actively take steps to reduce carbon footprint our of fleet i.e., EV feasibility studies, driver training courses etc. ✓ Create an annual staff survey to measure the current methods used to travel to and within our Trust ✓ Continually review our annual carbon footprint with regards to our fleet ✓ Start to develop a comprehensive EV strategy 	<ul style="list-style-type: none"> ✓ Introduce a board approved travel policy to support sustainable travel choices. ✓ Utilise our fleet monitoring telematics software to accurately monitor fuel consumption ✓ Reduce our annual fuel consumption ✓ Increase our existing EV network to support the fleet. ✓ All vehicles purchased/leased are low and ultra-low emission ✓ Promote cycle to work scheme and other sustainable travel funding schemes ✓ Identify and trail new innovative technologies to help reduce fleet consumption



- ✓ Ensure our current EV fleet is on the road, and we report on milage covered

- ✓ Aim to introduce at least 10% of our support vehicles as 100% electric/ULEVs
- ✓ Create Green travel plans for our 'hub' sites to encourage staff to utilise alternative means of transport.
- ✓ Investigate being the lead Ambulance service to trail alternative fuel vehicles
- ✓ Develop a business case to support Workplace EV charging
- ✓ Provide active commuting facilities at all appropriate sites
- ✓ Review our refurbishment and new build practise to promote active travel i.e., Secure cycle parking, bike lock ups, showers, and lockers)

Case Study: Fully electric vehicles

EEAST have invested in 5 fully electric vans to support its clinical engineering services. These vehicles are to be used across all our six counties and replace our 'old' fleet of diesel vans.

We have backed this transition with further investment in 10 strategic locations with EV charging infrastructure. These chargers are regularly monitored in terms of usage for us to understand better – charge times, time of charge, capacity and future demand.





Case Study: Staff sustainability surveys

During May, every Tuesday on Need to Know, EEAST's Sustainability Team have posted a series of surveys varying across a range of sustainability topics from commuting and recycling to ways staff think we could make the Trust a more sustainable place.

Cheryl Duke, Sustainability Coordinator, said: 'We know that a lot of our staff already consider sustainability to be an important topic, many of our colleagues are already very green at home and have ideas about how this could translate into the workplace. The surveys are a great way of getting a clearer picture of staff habits and opinions on this issue and the results will help us to understand where we should be focusing future sustainability projects. Thanks to everyone for taking the time to participate.'

Sustainable Actions Survey

The survey will take approximately 5 minutes to complete.

Hi Cheryl, when you submit this form, the owner will be able to see your name and email address.

* Required

1. What site(s) are you based at? *

Enter your answer

2. Outside of work, how frequently do you do the following?

Always Frequently Occasionally Rarely Never Don't Know

Turn off lights and electronic equipment when I leave an empty room

Choose to walk or cycle instead of using a car when feasible

Reduce paper usage by thinking about if something needs printing or can be kept digitally

Be water efficient, for example turning off taps, fixing leaks, not overusing water etc.

Buy eco-friendly products and brands

Buy seasonal or locally grown food

Volunteer time to a charity or third sector organisation when feasible

Commuting and Transport Survey

The survey will take approximately 4 minutes to complete.

1. What site(s) are you based at?

Enter your answer

2. Currently, typically how many miles do you travel to get to work and back in a day?

- Work from home
- <1
- 1-10
- 11-20
- 21-30
- 31-40
- 41-50
- 50+

3. Before the pandemic, typically how many miles would you travel to get to work and back in a day?

- Work from home
- <1
- 1-10
- 11-20
- 21-30
- 31-40
- 41-50
- 50+



Adaptation



There is no doubt that climate change has and will continue to do so have a major impact on EEAST's operations. Preparing EEAST for even increasing severe climatic events is at the forefront of our of thinking and day-to-day operations whilst providing our patients and staff at the heart of everything we do while delivering our vision of 'outstanding care, exceptional people, every hour of every day'.

<u>What have we achieved</u>	<u>What we to aim achieve within this Green Plan</u>
<ul style="list-style-type: none"> ✓ We will create a baseline year from which we set our carbon targets aligning with Climate Change Act ✓ We create an evolving a carbon reduction programme that is approved by the board ✓ Ensure our Green Plan recognises the impact of climate change and ensure the effects of climate change is communicated to the Trust ✓ Start to develop an EEAST specific adaptation plan and risk assessment 	<ul style="list-style-type: none"> ✓ Designate a key lead responsible for coordination of climate change adaptation and resilience planning ✓ Update the Trust Risk register to include climate change effects ✓ Ensure there is a clear link between our adaption plan and our efforts to reduce our carbon emissions ✓ Ensure we work with local stakeholders to identify and assess climate change events e.g., local river flood risk ✓ All new acquisitions will be assessed for climate change risk and its capability to be adapted to mitigated risks. ✓ Undertake a full review of flood risks to our estate based on current and future projected climate conditions



- ✓ Introduce innovative technologies that are aimed at reducing the risk of extreme climatic events

Estates & facilities



The Trust operate 24 hours a day, 7 days a week, 365 days a year and places a constant demand on its utilities which means a continuing impact on the environment. It is crucial that EEAST ensure its entire estate is operating efficiently, whilst providing staff a safe, clean, and welcoming workspace. EEAST are investing in new low carbon technology to maintain its trajectory in becoming a Net Zero Trust by 2040.

What have we achieved	What we to aim achieve within this <u>Green Plan</u>
<ul style="list-style-type: none"> ✓ Actively monitor energy consumption of all sites across our estate ✓ Produce an energy baseline for annual review and set energy targets for reductions ✓ Produce an annual carbon footprint report ✓ Introduce a capital investment programme to actively reduce our energy consumption. ✓ Procure 100% renewable electricity contracts 	<ul style="list-style-type: none"> ✓ Quantify energy savings measures post installation to ensure measurement and validation process is complete. ✓ Seek alternative funding methods when exploring energy efficiency technology – Salix Funding. ✓ Promote innovative ideas and technologies to enhance our energy reduction strategy ✓ Ensure when leasing, procuring or designing new sites we assess it for energy efficiency performance.



- ✓ Review and adapt the existing capital projects plan/process to integrate sustainable measures where appropriate for all new builds and major refurbishments
- ✓ Ensure our estates team include sustainability as a key consideration for all future works across our estate
- ✓ Start to investigate alternative funding mechanisms for energy efficiency projects
- ✓ Calculate the CO2 and financial savings for all new capital projects.
- ✓ Create a sustainable energy policy for all sites within our estate
- ✓ Undertake energy assessment at our 30 most energy intensive sites and create an action plan for energy saving measures
- ✓ Produce a behavioural change campaign to be shared throughout the Trust to ensure energy management is sustained.
- ✓ Establish a mandatory sustainability training module for all staff We will carry out post occupancy evaluation assessment of all new build/ major refurbishment projects to ensure each meet their design objectives and aspirations.
- ✓ Our Trust's policy is to prioritise the development of brown field sites to minimise our impact of the local environment.
- ✓ We provide a comprehensive handover to the new building occupants to ensure it performs to its specification.
- ✓ We design new buildings and access routes to buildings with embedded green space and use green space constructively
- ✓ All new developments are accredited to BREEAM Excellent



as a minimum standard and will aim for BREEAM outstanding where appropriate.

- ✓ All materials used within our developments will consider its total life cycle and ensure all materials can be either reused or recycled.
- ✓ Develop a Heat Decarbonisation Plan

Case Study: LED lighting scheme at Hellesdon Ambulance Operations Centre (AOC)

One of our flagship AOC sites in Hellesdon has undergone a complete LED lighting upgrade to all of its internal and external areas. With the site operating 24hrs a day it was essential that the lighting provided energy and cost savings but also benefited the health and wellbeing of staff.

It was calculated that the LED lighting would save 69% on electricity consumption when compared to the original lighting scheme.

The new LED lighting consisted of a re-new design of the layout within 999-call centre that benefited from a central building management system (BMS).

“The new LED lighting at Hellesdon has made a huge difference to the office spaces, kitchens, and call centre. The light output in my opinion has given everyone a boost mentally as it utilises the natural daylight and knowing we have reduced our electricity consumption onsite is a real added benefit. This level of investment really underlines our Sustainability programme is starting to make a difference we all look forward to seeing further projects start to rollout across our estate”. – EEAST member of staff based at Hellesdon



Biodiversity, Health & Well-Being



Enhancing the biodiversity of our estate is a major factor in minimising our impact of the local environment. We acknowledge that we must improve our nature surroundings of our ambulances stations as this offers many benefits. One is improving the health and well-being of staff as our estates offers the ability to relax and enjoy the outside spaces when at EEAST.

<u>What have we achieved</u>	<u>What we to aim achieve within this Green Plan</u>
<ul style="list-style-type: none"> ✓ Conduct an estate survey to gather information and data on the current perception of Green Space and biodiversity at site level ✓ We have started to develop a Green Space and Biodiversity development plan ✓ Promote the creation of well-being gardens across our estate. ✓ We have conducted a Trust wide staff survey to gather information and data on health and well-being ✓ We offer opportunities to build skills and experience (e.g., work placements, volunteering and apprenticeships). ✓ We encourage our staff to be part of the organisation's sustainability journey through an engaging and coordinated approach / campaign 	<ul style="list-style-type: none"> ✓ We have a board approved green space and/or biodiversity action plan / strategy. ✓ We have visible processes and support to improve the health of our workforce (e.g., offering fitness classes, enabling active travel, providing healthy food choices, providing accessible spaces for staff for rest and reflection). ✓ Encourage staff to act and implement initiatives that support their Green Space and Biodiversity ✓ Re-conduct our survey to measure the impact of our plan and assess our areas for improvement ✓ We will report annually the progress we have made to the board on our Green Space development plan.



- ✓ Ensure all new staff are made aware of the Trust sustainability objectives and how they can help support these at induction stage
- ✓ We will seek to work with local partners to enhance our Green Spaces and diversity
- ✓ Support our charity working group to develop and enhance biodiversity and Green Space.

Case Study: Longwater Wellbeing Gardens

Thanks to monies raised by Captain Sir Tom Moore, EEAST has been able to revitalise a run-down station space and create a blossoming wellbeing garden for staff and volunteers to enjoy.

As part of the NHS response to the COVID-19 pandemic, NHS Charities Together distributed grants from monies made by Captain Sir Tom Moore to NHS organisations.

The East of England Ambulance Service (EEAST) charity working group was formed from a cross-section of Trust volunteers to identify projects to make use of the EEAST charity grant. Projects would benefit health and wellbeing, in addition to thanking staff and volunteers for their outstanding effort during the pandemic.



The wellbeing gardens project commenced with an aim to enhance outdoor space at stations across the region and to provide a dedicated area for staff and volunteers to have space to relax and enjoy.



The first of these gardens has now been completed and was opened on Friday 13th August at Longwater depot in Norwich by Neville Hounsome, Non-Executive Director and Chair of the EEAST Charitable Funds Committee.

Upon opening the garden, Neville said, “I am delighted that the Charities Committee was able to use funds to support our local team in developing this garden. The last 18 months have been extraordinarily tough for our staff and the public we serve. Having time and space to reflect is more important now than ever.”

Case Study: Green Champions Network

EEAST have set up a Green Champions network after speaking to many members of staff who are passionate about doing their bit for the environment.

We now have 40 Green Champions that act as a contact point for colleagues, collaborate and share ideas on improving the Trust’s sustainability and promoting and distributing material and information to their site. All Green Champions and the sustainability team meet remotely monthly to discuss new ideas that would benefit the Trust and how we can engage with our local communities.



Supply chain & procurement



<u>What have we achieved</u>	<u>What we to aim achieve within this Green Plan</u>
<ul style="list-style-type: none"> ✓ We capture and monitor waste outputs and their associated costs (carbon, financial and social) ✓ We have a resource and waste management action plans to apply the waste minimisation hierarchy in our organisation ✓ We have initiatives in place to reduce overall material use in the products we buy and the services we deliver. ✓ We have a Trust wide approach to ensure a co-ordinated action on waste minimisation (e.g., procurement, FM, Pharmacy, clinicians etc.) ✓ We have signed up to the NHS single use plastic pledge. ✓ Review our tender documentation to reflect sustainability as a key clause. 	<ul style="list-style-type: none"> ✓ We will continually review our waste data to ensure we are decreasing the amount of waste being disposed ✓ We ensure all furniture, IT, building materials, walking aids and reusable medical devices are reused where appropriate ✓ We will standardise waste disposal across all sites within our Trust ✓ Develop a new educational campaign for all staff to increase their knowledge about waste disposal. ✓ Work closely with our supply chain and contractors to drive down our scope 3 emissions. ✓ Eliminate the use of all single use plastic products.



Case Study: Reusable face masks

EEAST has introduced an alternative Respiratory Protective Equipment (REPE) mask. The JSP Force 8 reusable half-face mask is used by patient facing staff and is offered as an alternative to the disposable, single-use FFP3 mask. Around 4,000 reusable face masks were procured by the Trust offsetting thousands of single-use face masks.

Case Study: New recycling bins

EEAST have decided to act in improving our recycling facilities across our estate by introducing a centralised bin project. This project aims to remove all individual desk bins and multiple single use plastic and encourage staff to segregate their waste. These bins are clearly labelled, with further guidance given with our new waste disposal posters. To date we have introduced 156 of these new bins with approximately 500 desk bins removed. We are working on ideas as to how best we re-use these desk bins.

As part of this project, we decided to utilise one of our fully electric vans to distribute these new recycling bins, rather than a conventional diesel-powered delivery service. Using the electric van compared to a diesel counterpart has saved 94,520g of CO2 being polluted into the atmosphere – equivalent to a Boeing 747 aircraft flying for one hour.

Total distance covered – 480 FULLY ELECTRIC miles





Medicines



<u>What have we achieved</u>	<u>What we to aim achieve in 1-2 years</u>
<ul style="list-style-type: none"> ✓ Calculate the volume of Entonox used per annum ✓ We will incorporate reduction in Entonox use within the annual carbon footprint report. 	<ul style="list-style-type: none"> ✓ Reduce the use or atmospheric release of environmentally damaging gases such as nitrous oxide and fluorinated gases used as anaesthetic agents.

Food & Nutrition



<u>What have we achieved</u>	<u>What we to aim achieve in 1-2 years</u>
<ul style="list-style-type: none"> ✓ Promote the consumption of health food choices. 	<ul style="list-style-type: none"> ✓ Increase food disposal facilities at our AOCs sites ✓ We have visible processes and support to improve the health of our workforce (e.g., offering fitness classes, enabling active travel, providing healthy food choices, providing accessible spaces for staff for rest and reflection).



Digital Transformation



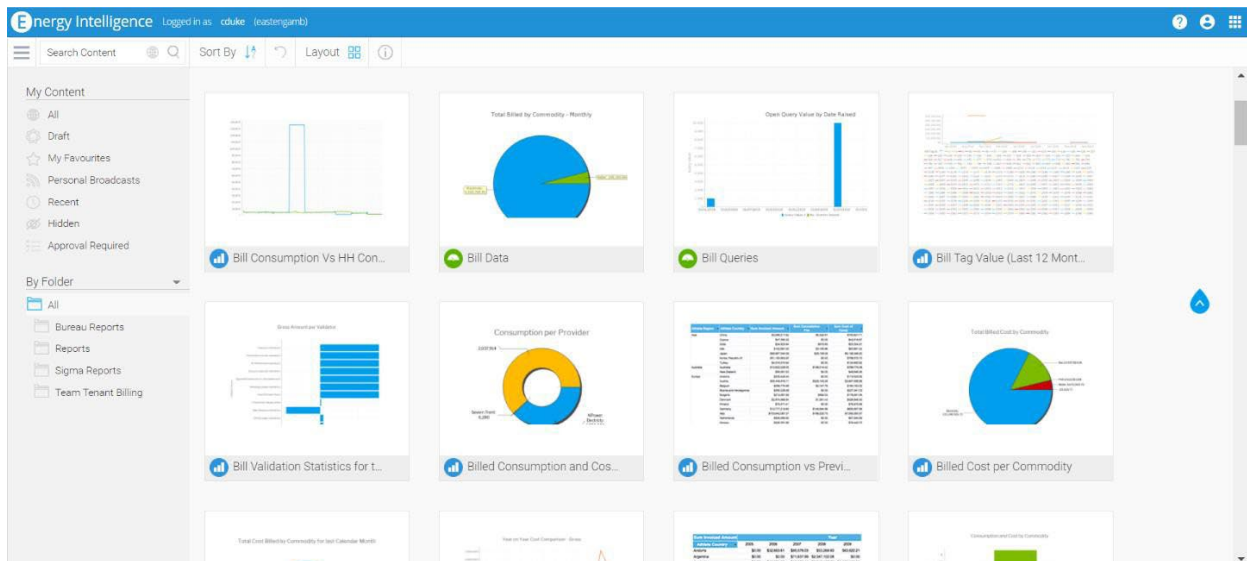
<u>What have we achieved</u>	<u>What we to aim achieve in 1-2 years</u>
<ul style="list-style-type: none"> ✓ Expand our software-based analysis capabilities to ensure accuracy and future proofing of the estate is maintained. ✓ Create a sustainability dashboard that will enable an improve sight of data relating to – waste, fleet and the estate 	<ul style="list-style-type: none"> ✓ Create monthly consumption reports detailing the kWh consumption of all sites within our estate ✓ Ensure that Half Hourly (HH) is utilised to undertake energy analysis at appropriate sites ✓ Investigate whether all paper-based operations could be digitalised to reduce appear consumption ✓ Export purchasing reports to monitor whether sustainability projects are effective i.e. plastic bags, paper towels.

Case Study: Enhanced energy management & bill validation software

To assist EEAST's efforts to meet net-zero targets by 2040, we must reduce our estate emissions. As a service spanning six counties with 130 sites this has previously been a daunting task to undertake and maintain oversight of. We are pleased to now have brought TEAM Energy onboard to provide an energy management service using Sigma.



Sigma energy and carbon management software consolidates utility data into a single data repository to simplify the complexities of energy management across all 130 of our sites. Improving oversight, streamlining resources, cutting carbon emissions, and reducing overheads. Sigma's platform has several beneficial features to the Trust such as better oversight of our large multi-site portfolio, removing the need for manual bill processing and being able to build our own energy reports that can be easily shared with stakeholders.



Case Study: Power BI

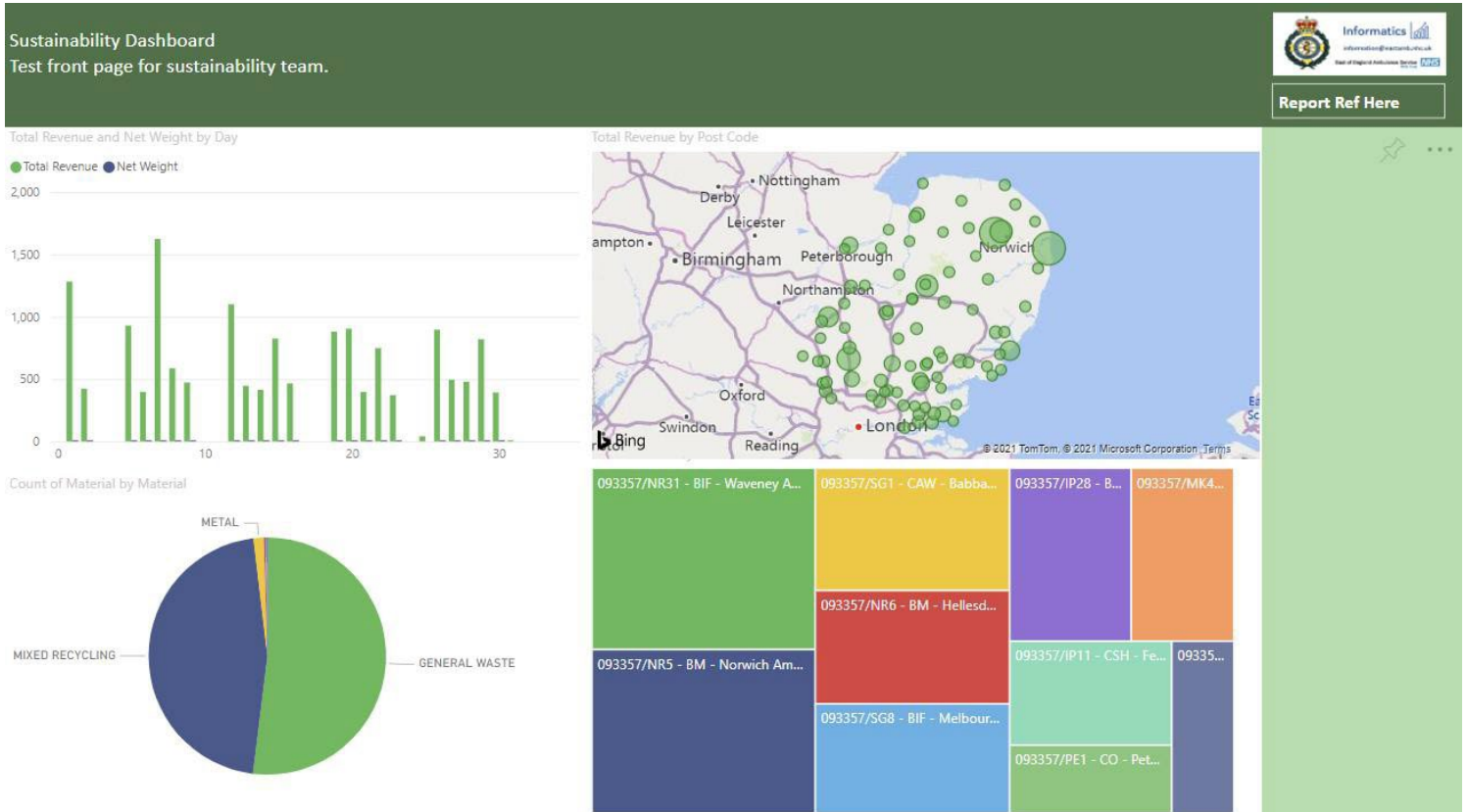
In addition to our work with TEAM Energy, we are also undertaking work using the Power BI platform acting as a sustainability dashboard for our mixed recycling and general waste, clinical waste, fleet, and electric vehicle fleet data. Power BI is a business intelligence solution allowing us to visualise our data across the Trust.

Utilising the features of Power BI, a page can be created for each of our key areas:

- Waste
- Electric Vehicles
- Fleet
- Clinical Waste



When looking at General and Mixed Recycling waste data we can see which sites are producing the most of amount waste and identify which areas reduction efforts should be focused on. For an organisation with 130 sites, this level of data is vital to improving our recycling efforts and stopping unnecessary waste going into Energy for Waste (EfW) streams.



Similarly, being an Ambulance Trust approximately 85% of our carbon emissions are produced from our fleet of over 1,000 vehicles. Power BI allows us to track key metrics such as fuel use, distance covered (miles), MPG and the related cost of our fleet. As we look to decarbonise our fleet aligned to our 2021-2026 Green Plan and wider NHS Long-Term plan tracking these key metrics are of greater importance.



Sustainable care models

<u>What have we achieved</u>	<u>What we to aim achieve in 1-2 years</u>
<ul style="list-style-type: none"> ✓ We will update the board and ensure they aware of the health and financial benefits of embedding sustainable practise 	<ul style="list-style-type: none"> ✓ We will provide adequate training and have a board lead for sustainable care models. ✓ We will aim to communicate to patients and staff that benefits of healthier living and lifestyles.