

Board of Directors (in Public) Item 3.2

Subject: Sustainable Development Management Plan (Green Plan)
Date of Meeting: Tuesday 31st March 2020
Prepared by: Jon Develing, Director of Strategic Partnerships
Presented by: Jon Develing, Director of Strategic Partnerships
Purpose of Report: For Approval

BAF Ref	Impact on BAF
2.4	Production of a Sustainable Development Management Plan (Green Plan)

1. Executive Summary

The purpose of this report is to present an approach to a more sustainable estate. The report takes the required format as promoted by the Sustainable Development unit and NHS Improvement.

2. Background

The climate change act (2008) was introduced to ensure that the UK cuts 80% of carbon emission by 2050. This target, set from the 1990 baseline applies to all sectors. As the largest public sector emitter of carbon the health systems has a duty of care to identify its contribution and make a positive change for the greater good of the population.

3. Sustainable Development Management Plan (SDMP) Green Plan

This paper describes the context, drivers for change, organisational vision, areas of focus and the project approach to the development of the SDMP.

The format of the report follows national guidance and is prepared in such a way as to be developed into a public facing document.

4. Overview

Liverpool Heart and Chest Hospital is one of the largest single site specialist heart and chest hospitals in the UK, providing specialist services in cardiothoracic surgery, cardiology, respiratory medicine including adult cystic fibrosis and diagnostic imaging.

The Trust serves a population of 2.8million spanning Merseyside, Cheshire, North Wales and the Isle of Man. The Trust also receives referrals from outside of its core population base for some of its highly specialised services. We also provide a number of national services in particular quaternary aortic surgery services and robotic cardiac and thoracic surgery.

The Trust has 195 beds.

In 2018/19, it treated:

- 2,117 cardiac surgery inpatients
- 8,061 cardiology inpatients
- 734 respiratory inpatients
- 1,232 thoracic surgery inpatients
- 547 other inpatients (including cystic fibrosis)
- 70,247 outpatients

As at 31st March 2019, the Trust employed 1,643. There were also 22 senior managers – being those persons in senior positions having authority or responsibility for directing or controlling the major activities of the NHS foundation trust.

LHCH recognises that as an anchor institution it has a duty of care to our patients, partners and population to continually improve health and wellbeing, and deliver the highest quality health care whilst minimising negative impacts on the environment. As such this approach is fundamentally different to the traditional role of a tertiary centre and places us as a leader of transformational change

In order to fulfil this role and deliver our new Five Year Strategy 'Patients, Partnerships and Populations' we have developed a bespoke strategy to describe our contribution to the Green agenda.

This 'Green Plan' is a mechanism for organisations to take a coordinated, strategic and action-orientated approach to sustainability. Green Plans form a key part in sustainable healthcare delivery ensuring that services remain fit for purpose today and for the future.

1. Estates Return Information Collection (ERIC)

The 2018/19 Estates Return (ERIC) is a mandatory collection for all NHS trusts including Ambulance trusts. It comprises information relating to the costs of providing and maintaining the NHS Estate including buildings, maintaining and equipping hospitals.

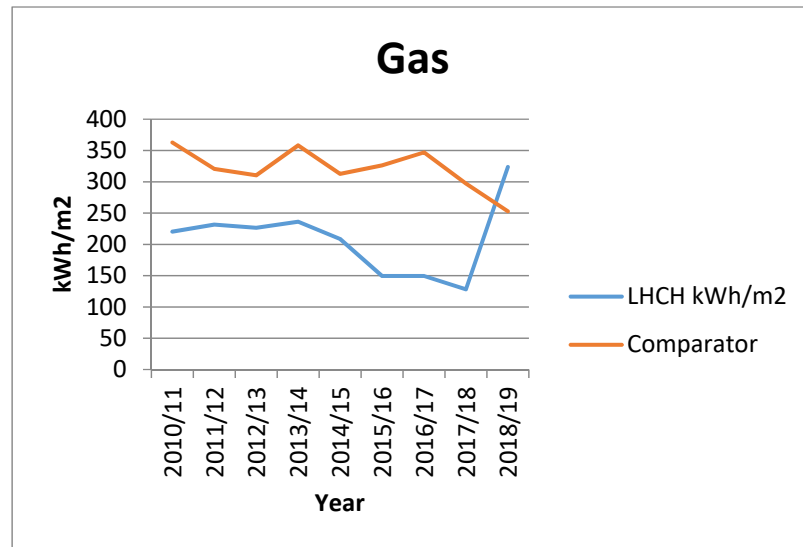
The baseline year for the climate control act is 1990 however systems for capturing granular data on regular basis did not develop for this period, hence the use of ERIC data is widely accepted as a measure of progress.

Key Statistics for the calculation of the LHCH carbon footprint

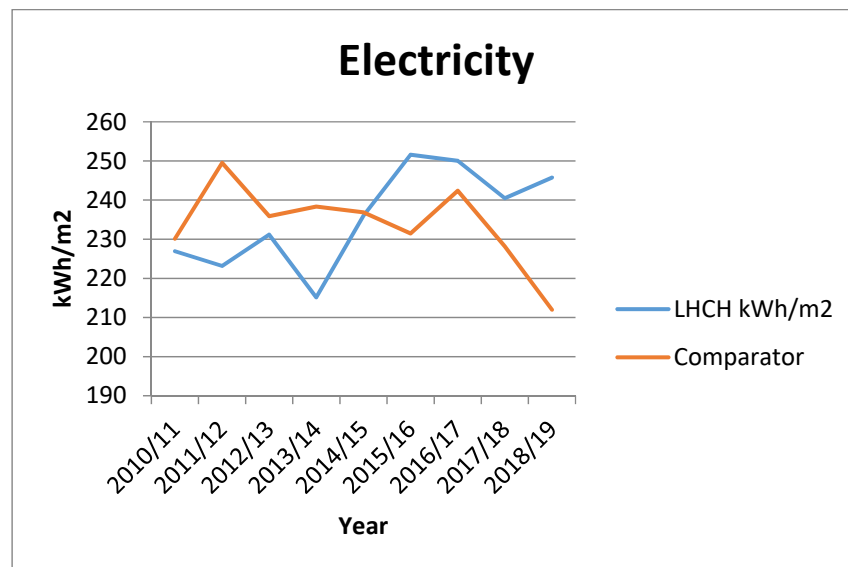
	Gas		Electricity		Water	
Year	kwh	LHCH kWh/m2	kwh	LHCH kWh/m2	m3	LHCH m3/m2
2010/11	5920587	220	6100638	227	43697	1.63
2011/12	6227068	232	5999183	223	49466	1.84
2012/13	6087919	226	6214989	231	48967	1.82
2013/14	6349859	236	5783695	215	48012	1.79
2014/15	5605545	209	6344241	236	52280	1.94
2015/16	4021463	150	6763383	252	49776	1.85
2016/17	4021463	150	6721388	250	44735	1.66

2017/18	3442717	128		6464887	240		47336	1.76
2018/19	8701080	324		6606605	246		44302	1.65

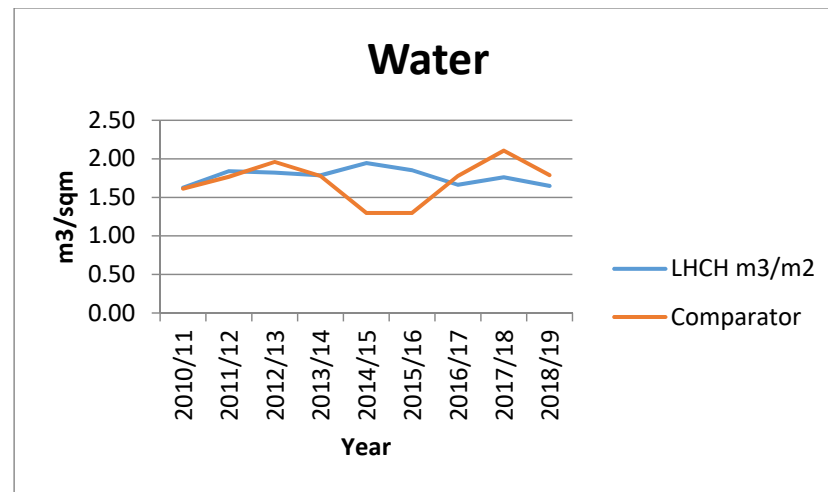
For comparative purposes only the following charts have been developed as a benchmark against a similar sized organisation providing a similar clinical portfolio.



This chart demonstrates significantly lower utilisation when compared to the, most like for like peer organisation. The sharp spike in 2018/19 appears to be an anomaly and is being explored further as there have been no fundamental changes in estate or service demands.



This chart demonstrates significantly higher utilisation when compared to the, most like for like peer organisation. The increase from 2013/14 and sustained use is most likely associated with developments.



This chart demonstrates lower utilisation when compared to the, most like for like peer organisation over the same period.

2. Drivers for Change

Drivers for change can be broadly categorised into five key categories; legislative requirements; mandatory requirements; International guidance; UK Guidance; and Health specific requirements.

Legislative; a list of the key legislative drivers [as of March 2018] is detailed below:

- Civil Contingencies Act 2004
- Climate Change Act 2008
- Public Services (Social Values) Act 2012

Mandatory; those mandated within the NHS

- Standard Form Contract requirements for Sustainable Development 2017-19
- HM Treasury's Sustainability Reporting Framework
- Public Health Outcomes Framework

International; those driven by International Guidance

- Intergovernmental Panel on Climate Change (IPCC) AR5 2013
- United Nations (UN) Sustainable Development Goals (SDG's) 2016
- World Health Organisation (WHO) toward environmentally sustainable health systems in Europe 2016
- World Health Organisation (WHO) Health 2020; European policy for Health and Wellbeing
- The Global Climate and Health Alliance; Mitigation and Co-benefits of Climate Change

UK guidance; those driven by UK Guidance

- National Policy and Planning Framework 2012
- Department of Environment, Food and Rural Affairs (DEFRA) The Economics of Climate Resilience 2013

- Department for Environment, Food and Rural Affairs (DEFRA) Government Buying Standards for Sustainable Procurement 2016
- The Stern Review 2006; the Economics of Climate Change
- Health Protection Agency (HPA) Health Effects of Climate Change 2012
- The National Adaptation Programme 2013; Making the country resilient to the changing climate
- Department of Environment, Food and Rural Affairs (DEFRA) 25 Year Plan

Health Specific Requirements

- The Marmot Review 2010; Fair Society, Healthy? Lives
- Five Year Forward View 2014
- Sustainable Development Strategy for the Health and Social Care System 2014-2020
- Adaptation Report for the Healthcare System 2015
- The Carter Review 2016
- National Institute for Clinical Excellence (NICE) Physical Activity; walking and cycling 2012
- Health Technical Memoranda (HTM)'s and Health Building Notes (HBN)'s
- Cheshire and Merseyside Health and Care partnership 'Better Lives now'
- Liverpool City Growth Action Plan
- Liverpool Integrated Care Partnership Plan 'One Liverpool'

3. Organisational Vision

Liverpool Heart and Chest NHS Foundation Trust (LHCH) has developed a new five year strategy.

This strategy outlines our ambition to deliver world class care, advance outcomes and innovation, increase our value, develop our people, lead through collaboration and improve our population health.

This ambitious approach will continue our pursuit of outstanding care within the Hospital whilst developing new collaborations across our health and care system in such a way as to maximise our collective impact. This approach will be visible in a variety of forms and contribute toward earlier prevention and intervention, sustaining local services and in supporting other system wide at scale initiatives.

The Trust Strategy is known as Patients, Partnership and Populations.

Our vision, is *'to be the best - leading and delivering outstanding heart and chest care and research'*.

Our Mission, every day, is to provide *'excellent, compassionate and safe care for our patients and our populations'*.

Our Values underpin our model of care for our 1,700 staff

- Patient and family centred care
- Accountability
- Continuous improvement
- Teamwork

As a clinically-led organisation, these values shape our work and the outstanding care that we provide to our patients and families on a daily basis.

Our strategy is underpinned by six new objectives.

- Delivering World Class Care
- Advancing Quality and Outcomes
- Increasing Value
- Developing People
- Leading through Collaboration
- Improving our Population Health

These objectives, demonstrate our commitment to the patients we serve, the healthcare partners with whom we work, and to our wider populations.

The first four objectives focus on the highest quality of patient and family experience. Thanks to our national and international recognition as a leader in patient safety, clinical quality and patient experience.

Objective 5 focuses on our leadership role.

Objective 6 demonstrates the passion of our teams to use their expertise for the benefit of the wider population.

Sustainability has been identified as a key deliverable within our new strategy and applies to each of the six strategic objectives specifically referenced within 'Improving value' and 'Improving the health of our Population' chapters.

4. The Green Context - NHS Long Term Plan

In 2007 the NHS England carbon footprint rose to 21 million tonnes of CO₂e (MtCO₂e).

This figure is calculated using the most recent data available and is an update to earlier foot printing reports and to the NHS Carbon Reduction Strategy for England's (CRS) carbon emissions graph.

There are three key changes:

1. NHS England now reports on greenhouse gas (GHG) emissions, displayed in CO₂ equivalent (CO₂e). This means that CO₂ is not the only GHG measured. This is consistent with the 2008 Climate Change Act⁵ and also the 2009 Defra GHG reporting convention.
2. Procurement data has also been updated from 2004 to 2007. It confirms an increase in emissions over this period. This is composed of 59% procurement, 24% building energy and 17% travel sector emissions.
3. The 2020 target has been altered in line with the amendment (May 2009) to the Climate Change Act.⁷ The target is now a reduction of 34% rather than 26% based on 1990 baseline.

Reporting GHG emissions has made a significant change to the shape of the curve in the decade 1990 to 2000. This is primarily due to international action to reduce non-CO₂ GHGs over this period. After 2000 and up to 2020 the CO₂e actual and projected emissions trajectory follows the same upward trend as the original CO₂ projection in the CRS.

Hence it is no surprise find that the NHS Long Term Plan, operating guidance and contractual process all now sets out the following deliverables for environmental sustainability in the NHS.

- Reduce carbon, waste and water: including phasing out coal and oil fuel as primary heating
- Switching to lower carbon asthma inhalers
- Reducing the carbon footprint from anaesthetic gases
- Improve Air quality by cutting business mileages and fleet air pollutant emissions by 20%
- Reduce the use of avoidable single-use plastics

The Long Term Plan for the NHS sets out the following deliverables for environmental sustainability in the NHS.

5. Our Approach

The awareness of Green issues has become more prominent in recent months with activists, climate change related incidents, high profile campaigns and the more recent world economic forum held in Davos, Switzerland.

In respect of the public health impact several conditions such as heart disease, stroke and lung cancer have been partly attributed to air pollution. These three conditions alone are estimated to contribute to around 36,000 deaths in the UK annually.

Sir Simon Stevens, head of the NHS, said:

"With almost 700 people dying potentially avoidable deaths due to air pollution every week, we are facing a health emergency as well as a climate emergency."

The Liverpool the City Region has also declared a climate emergency and there is now a broad-church of support from the British Medical Association, Royal Colleges, and staff side and from members of our LHCH team.

6. Health Care sustainability

The aim of sustainable healthcare is to provide better care for patients today without compromising health and care provision in the future.

Considering the sustainability of healthcare delivery is as important as considering the financial viability of services.

Without a sustainable environment, healthcare costs will rise and delivery will be made more difficult by the changing climate.

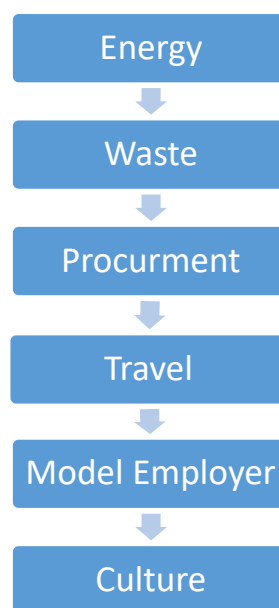
Within the 2020 NHS contract the NHS is proposing a new standard contract that encouraging staff to take action. Staff suggestions include;

- Cut back on driving to work
- Walking and cycling incentives schemes
- Zero emission Lease car offers
- Better use of public transport
- Car sharing
- Refillable water bottles
- Turning off monitors, printers and photocopiers.

7. Going further

In developing our Green plan, through awareness raising sessions, a risk appetite workshop and drop in sessions, our staff team believe we can go further than that of that described.

Hence the following seven step framework been developed which, subject to Board of Directors Approval, will be developed into the Green plan.



1. Utilities – Gas / Electricity / Water
 - Additional low energy lighting
 - Reduction in energy usage
 - Reduction of site footprint
 - Improvement to building management systems
 - Use of green energy systems
 - Personal accountabilities
 - Energy alternatives
2. Waste – Single use plastics, recycling, re-use schemes
 - Assurance of waste disposal off site
 - Recycling initiatives
 - Waste reduction in procurement practices.
 - Re-use schemes
 - Intranet based ebay systems for disposal of excess stock
 - Carbon offset disposal schemes
3. Procurement
 - Introduction of secondary approvals
 - Include a green approach in every procurement decision

- Re-use first scheme before purchasing new items
- 4. Travel
 - Patient transport
 - Staff transport – including cycle to work, car sharing etc.
- 5. Model employer
 - Supporting local opportunities and apprenticeships
 - Implementation of the veterans covenant
- 6. Culture
 - Awareness raising
 - Personal accountabilities
 - Sponsorship's
 - Visibility of recycling opportunities

For each of step of the plan an approach of mapping, baseline data gathering and improvement will be undertaken. Rated using RAG systems - Red, Amber, and Green. Appendix A (in development) maps progress to date and considers stretch targets.

8. Examples

Energy - During the last two years a replacement program for lighting has been in place. LED Lighting now covers approximately 65% of the estate with an intent to achieve 85% by year end 2021.

Intent – achieve a minimum of 85% LED light installations.

Energy - Reduction on Energy Use age. The interdependency of LHCH with the rest of the Broadgreen site has challenges with utility expenditure being attributed not on usage but on square meterage. Hence there has been no incentive to reduce energy consumption as it would have no impact on energy bills. This is no longer acceptable and we believe that as an anchor institution and as stated within our new Trust strategy, we would want to reduce our carbon footprint regardless. In relation to this specific action we will install smart metres to identified areas so we can validate and monitor energy consumption.

Intent – Installation of smart meterage.

Intent – we will scope the opportunity for the installation of solar panels on flat roof areas across the organisation.

Waste – Staff sessions have particularly highlighted waste as an issue. The lack of visible recycling, use of single use plastics, re-use of items and needless of use of plastics have all been highlighted as areas of concern. There appears to be limited opportunity on our estate to recycle and whilst all waste is sorted off site and recycled we believe there is merit in a) Following the waste – seeking assurance from the supplier that waste is sorted and recycled appropriately off site and b) more visible recycling stations are introduces a key places across the estate.

Intent – Assurance of recycling process by `Follow the Waste` initiative

Intent – Installation of Recycling stations at strategic points across the organisation.

Procurement – The opportunities to purchase differently are significant. We believe that a green approach should be a forefront of all procurement policies and approach. Many regular purchased items are reordered as standard practice or off shelf items with no consideration for green consideration.

Intent – Ensure the Green issues are at the forefront of purchasing decisions

Travel - As part of the exploration of strategic partnerships with other specialised providers, sustainability has been discussed. There is a strategic intent to look at these issues and develop a more integrated approach to areas of travel, staff travel, and joint car parking solutions.

Intent – We will explore car sharing, and other travel incentive schemes.

Culture - This is a significant new addition to our Green Plan. Staff sessions identified changes in behaviours and approach as principle driver for change. Enablers for behavioural change will need to be supported and staff are supported of

Intent – We will instigate a number of enabling projects including

- Climate Control Champions
- Communications – examples “We support climate awareness please do not place non-recyclable items here”. More visible examples of recycling are needed as staff want to do more.
- Understanding – common theme through sessions held has been a common understanding of what can be done. There is a lack of knowledge of key data – how much does it cost to run an area, ward, department, personal computer. For example, to leave a personal computer on overnight costs 70p. Staff are keen to turn data into changes in behaviour.

9. Conclusion

The trust recognises the importance leadership role it has in reducing its carbon footprint.



Through this process of review we have undertaken risk assessments and developed a sustainable development management plan (Green Plan) which takes account of UK Climate Projections 2018 (UKCP18).

The trust ensures that its obligations under the Climate Change Act and the Adaptation Reporting requirements are complied with.

10. Recommendation

The Board of Directors are asked to:

- Note the development of the Green Plan in line with agreed timescales.
- Provide insight and comment as appropriate
- Adopt the SDMP as a bespoke strategy for the Trust
- Approve production of the public facing document.

				Status RAG	Impact	Further Work	Impact	Timetable
 ENERGY	DM	Additional Low Energy Lighting	LED lighting installed as part of ongoing capital projects		65%	Replace lighting on an ongoing basis and explore funding opportunities	85%	2020/21
	DM	Reduction in Energy Usage	Install meters to all areas subject to discussions with LUHFT		10%	Obtain funding for installation of energy meters	90%	2020/21
	DM	Reduction of Site Footprint	Plan to reduce site footprint through Strategic Accommodation Group		10%	Identify surplus building and land and prioritise redevelopments	50%	2020/21
	AH	Improvements to Building Management Systems	Daily tuning of building management system and installation of smart systems to ensure efficiencies are achieved		10%	Boiler replacements have already made significant contributions. Reporting of such benefit needs to be established	20%	2020/21
	DM	Green Energy Systems	Implementation of green energy to site. Installation of energy efficient boilers to all areas as replacement is due		75%	Replacement of boiler serving nucleus plantroom (Elm Ward and Birch Ward)	100%	2020/21
	GH	Personal Accountability	Switch off PCs/Monitors/Lighting	NEW	0%	Digital System to implement process and group PC's for shutdown overnight	75%	2020/21
		Energy Alternatives	Offset costs with wind/solar/green planting	NEW	0%	Work with partner organisations	50%	2020/21
		Energy Alternatives	Explore Solar Panels on all possible flat roof spaces	NEW	100%	Work with partner organisations	150%	2020/22
 RECYCLE	SH	New Waste Streams to ensure compliance	Review feasibility of rolling out a bag to bed system for offensive waste across all areas within the Trust following a trial in Elm and OPD		30%	Implementation of the bag to bed system in all ward areas	100%	2020/21
	SH	Recycling Initiative	Implement improved recycling and waste strategies including recycling of glass, plastics, aluminium. Site wide assessment undertaken by I-Clean services and recommendations being reviewed.		60%	Awareness of what is recycled by Waste companies - Introduce local (site wide) recycling initiative "Follow the waste" awareness engage with staff to develop waste champions	90%	2020/21
	SD	Waste Reduction - in line with procurement	Launch "Waste Reduction At Source" initiative reviewing procurement changes	NEW		Seek to install new recycling points	25%	2020/21
	SH	Re-use scheme	Exploring opportunity to work in partnership with Aintree Hospitals or Royal Liverpool	NEW	0%	Sustainability day attended by Facilities staff - Networking with other Trusts	50%	2020/21
	Steve Doran	Intranet Based eBay system - more sustainable use of current resources	Proposal put forward to Finance. Awaiting outcome to roll out across the Trust	NEW	0%	WARP IT profile, pilot		2020/22
 PROCUREMENT	Steve Doran	Secondary Approvals	Identification of those Non Recyclable items of high cost that would benefit from secondary approvals	NEW	0%	New Policy		2020/22
	Steve Doran	Procurement	Sustainable developments incorporated into wider procurement and commercial training, induction and development activity.	NEW	0%	New Policy		2020/22
 Eco Travel	SHOD	Travel	Implement travel survey for improvements in walking, cycling and public transport use. Use the results to identify further opportunities for improvements	NEW	0%	New initiative required to review - Cycling buying scheme, bus routes walking into work Matt Back Comms, OD	50%	2020/21
	SHOD	Patient transport	Explore feasibility of electric mini bus	NEW	0%	Engage LUHFT and SABA to explore opportunity	50%	2020/21
 GOGREEN	SHOD	Community Engagement/Model Employer	Continue with the pre-employment and traineeship programme working in conjunction with Hugh Baird College and MYA to support young people and the long term unemployed with work experience within the Trust. Widen Network to support more local schools. create the number of apprentices in the Trust as part of our WFP and Apprentice Strategy for 19/20 - on-going		0%	Link with the Trust People strategy and apprenticeship opportunities		2020/22
	SHOD	Veterans Covenant Accreditation	Work towards implementing the Veterans Covenant Hospital Alliance Manifesto to championing the needs of veterans in relation to both care and employment.		0%	Will liaise with OD - We currently have a Veterans group within the Trust that has been relaunched - SH to link in with OD		2020/21
 Go Green CULTURE	SHOD	Personal Accountability	Taking waste home / recycling using opportunities	NEW	0%	Raising awareness campaign will include personal accountability	50%	2020/21
	SHOD	Sponsors	Develop climate champions	NEW	0%	Raising awareness campaign will include promotion for climate champions	100%	2020/21
	SHOD	Opportunity	Develop greater awareness and opportunity	NEW	0%	Raising awareness campaign will and engagement with Waste providers will identify opportunities	50%	2020/21
	SHOD	Awareness	Heighten awareness of new cycle to work scheme / Lease car scheme	NEW	0%	Issue regular communications	100%	2020/21
	SH	Recycle	Provide greater opportunities to recycle	NEW	0%	Raising awareness campaign will and engagement with Waste providers will identify opportunities	100%	2020/21