University of Hertfordshire

Environmental Performance Report

2019-2020

University of Hertfordshire UH

INTRODUCTION

Whilst 2019/2020 was an incredibly unique year for Environment and Sustainability and more generally University life, we have still been able to work towards our Environmental Objectives and continue to embed the Sustainable Development Goals through all parts of our organisation from research, outreach, and stewardship We are working towards a clear vision on continually managing our impacts on climate change and reinforcing our position to develop the leaders, and policy makers of tomorrow.

Climate change will affect every country in the world, but its impact will not be felt equally across all regions and some will be worse hit than others because of a range of different threats. Even here in Hertfordshire we are starting to experience the early warning signs, however our staff and more so our student population are likely to be living through more noticeable changes, bringing the threat of climate change a lot closer to home.

As such, our role as landowners and local leaders of an intellectual industry we are walking the walk on such an important issue and reaffirming our position on protecting and enhancing our environment. The University of Hertfordshire has 'transforming lives' as a core vision and we have the ambition, to transform everything we do to protect a sustainable future.

We have developed a good environment and sustainability approach with embedding environmental roles as part of normal business but also making an impact on student graduate prospects through successfully recruiting students that deliver during a placement year and then go on to be employed in their relevant field of interest, who make up our 'green' alumni. We are committed to give opportunities to our students to enable them to become future leaders who have an awareness of climate literacy.

Our University has embedded Sustainable Development Goals as an approach to managing its Environment & Sustainability (E&S) obligations through the Environmental Management System for which we maintained our Eco Campus Platinum certification and ISO14001 standard for 2019-20. UH has achieved success in developing a Student 'Green' Team which has doubled in size over the last two years and we are now currently reviewing all our E&S implementation plans grounded on strong foundations.

ACHIEVEMENTS

1. Carbon: 26% reduction in carbon emissions in the last 3 years from scope 1&2 emissions, leaving us only 2% from our target of 43% below 2005/6 baseline.
2. Waste: Less than 2%(9.860tonnes) of non residential waste to landfill
3. Community work: Fantastic engagement with a range of student focused events
4. Research: A new Climate Change Research Centre for University of Hertfordshire undertaking nearly 30 projects focused at Sustainability

5. ISO 14001 Audit Report 2019-20: “The Environmental Management System (EMS) was observed to be well developed and operating effectively”. Interface Auditor Quote
6. Travel: Bike Scheme launched and staff and students getting into gear and get active!
7. Student Internship Programme: delivered the first ever UH Environment & Sustainability Internship
8. Building a ‘Green’ Alumni: Our Sustainability Placement Student went onto secure a great job in the Environmental Sector

We have developed our own UH E&S approach with embedding environmental roles as part of business as usual but also making an impact on student graduate prospects through successfully having students that deliver during a placement year and then go on to be employed in their relevant field of interest, our ‘green’ alumni. This year we have also had a programme for 3-week interns which has been successful.

SUSTAINABLE DEVELOPMENT GOALS (SDGs)

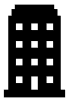
Our generation has a choice, act now and ensure future generations also have choices or stand by and experience a global degradation of all environments. Globally, people, animals, Flora and Funa are experiencing the impact of climate change. As an organisation we are seizing our opportunities to protect, preserve and enhance our environment through, embedding SDGs into our practices which is aligning the work currently being undertaken by the University from our Students, our Academic staff, our Professional staff and our key stakeholder partnerships . At the University of Hertfordshire we have a community who continue to ensure sustainability is considered in each decision. Continual engagement is required to embed, refine and develop.

COVID AND THE ENVIRONMENT

Covid 19 has transformed how we live our lives. These changes have been felt across the globe. For environmental management, threats and opportunities have presented themselves. The threats we have experienced and will continue to experience are single plastic use items and their waste streams, engagement opportunities moving online, energy usage for increased heating and ventilation, reduced use in multiple occupancy travel and public transport. There are however been opportunities. These have included: rewilding of more spaces on campus, reduced total travel, reduced total waste and energy consumption, and finding new platforms to engage with more or new groups.

AN OVERVIEW OF THE UNIVERSITYS PERFORMANCE TARGETS

The University set ambitious and forward thinking objectives for 2019-2020 to further progress our Environment and Sustainability Agenda. The 42 are connected to their particular SDG and associated to responsibleteams. Covid played a significant role in determining the outcome of a number of the objectives that were postponed. Of the 42 objectives the Environment and Sustainability Working Group successfully completed 35 objectives, 6 objectives are ongoing and 5 objectives were postponed due to funding or resource limitations. Graph 1 demonstrated the breakdown of the status for the objectives. The Objectives are split into categories Energy, Waste, Construction, EMS, Engagement, Travel, Procurement, Catering, Biodiversity, Water. For each category the University successfully met objectives in the majority of categories as seen in Table 1.

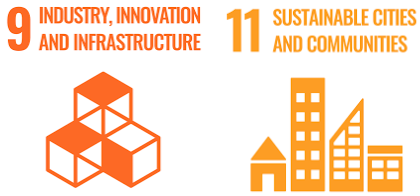
Categories		Number of Objectives	Achieved	Ongoing	Postponed Outstanding
	Biodiversity	**4**	**2**	0	2
	Water	**3**	**3**	0	0
	Catering	**3**	**3**	0	0
	Energy	**13**	**5**	3	5
	Procurement	**2**	**2**	0	0
	Management System	**5**	**5**	0	0
	Construction	**1**	**1**	0	0
	Engagement	**5**	**5**	0	0
	Travel	**6**	**5**	1	0
	Waste	**4**	**2**	2	0

Whilst working offsite due to COVID, the Environment and Sustainability Working Group continued keep to the scheduled calendar for meetings, ensuring that objectives were monitored and addressed and necessary procedures and legal compliance was maintained (waste, F-gas) and that the general running of the Environment Management System was not interrupted. The Environment and Sustainability Steering Group which is chaired by the Group Finance Director and with three members of the Chief Executive Group oversaw the adjustments to the Aspects and Impact Register to take into consideration the possible challenges and opportunities that might have occurred from COVID and the restrictions on activities. The Steering Group also reviewed and republished the Environmental Policy for the forth coming 2020 continuing to pledge to positively improve our impact on the environment'.

Key Sustainable Drivers

Construction

All new buildings meet BREEAM Excellent



Waste

Maintain 95% waste disposal to either recycling or energy from waste

Community

Recruit a Green Team and run an annual programme of events

Carbon

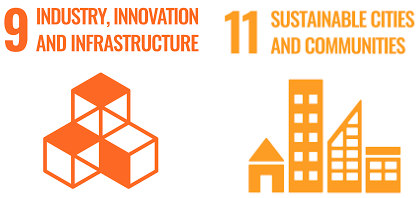
43% reduction in emissions from our buildings and vehicles by 2020 against the 2005-06 baseline

Water

Reduce water use from University-owned buildings to 13m^3 per person

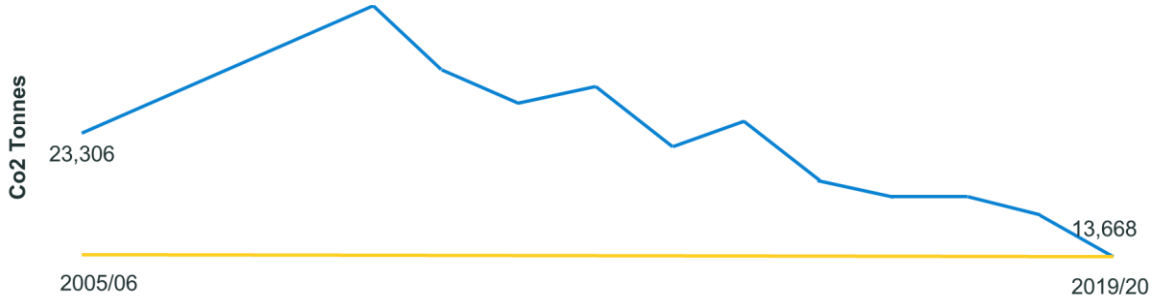
Travel

Reduce staff commuting alone by car to 60% by end of 2023 academic year and Reduce students commuting alone by car to 20% by 2023 academic year



ENERGY AND CARBON FOOTPRINT SCOPE 1&2

Since 2009/10 the University carbon reduction programme has achieved the carbon reduction equivalent of planting 127,725 trees a total of 20,436 tonnes of Co2. Through the University Carbon Management Plan and Energy Management Plans the University Estates Team and wider University community have been consciously and subconsciously working towards reducing and formally recording Scope 1 and Scope 2 emissions and creating plans to formalise the reporting on Scope 3 emissions. Setting the target of 43% reduction below 2005/06 levels by 2020, we are proud to say the University is within 2% of reaching this target having started 2005 with 23,306 tonnes of CO2, increasing to 33,924 tonnes of CO2 in in 2010 then significantly reducing levels to 13,488 tonnes in 2019/2020 (COVID restrictions have contributed to this reduction and the level might not reflect a typical year). UH is just 2% (200 tonnes p.a.) short of its' HEFCE based target reduction of CO2 emissions of 43% from Academic Buildings based off the 05/06 levels by 2020.



This reduction has been achieved through a number of actions from top line approaches via the Carbon Management Strategy, and the Energy Management Plan to Ongoing monitoring, Technical interventions, New build standards, and Renewable power purchase.

Good news story

Since 2017 we have installed 315 kWp of solar panels across the campuses. Over the course of a year, green energy generated by these systems will displace CO2 emissions equivalent to the total produced by 30 average UK dwellings (assuming 4 tonnes CO2 per dwelling per annum). Each of these new arrays is linked to a cloud based performance monitoring system that provides real time performance information. To date the solar panels have saved the equivalent CO2 of 3,861.59 trees and produced 311Mwh of electricity which is used on the campuses.

WATER

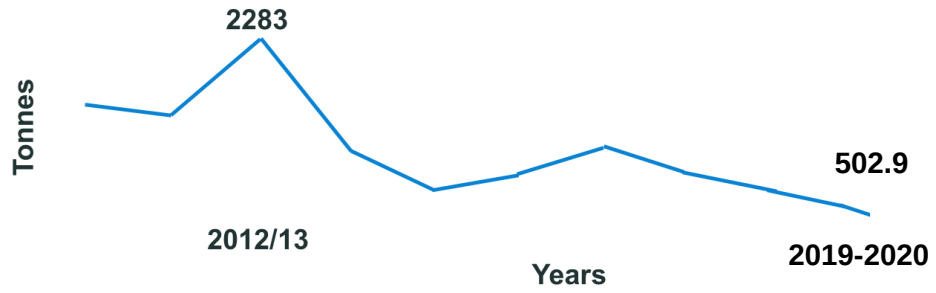
Non-residential water usage on Campus recorded its lowest rates with a 15% reduction from 2018/19 usage and wastewater volume dropped to 188,399.00m3, the lowest volume on record with a 15% reduction from 2018/19. Reduced numbers of people on campus and building usage has had an impact on these reductions and there is likely to be an increase for 2020/21 however with the continued programme

of works currently underway to combat the leaks and water usage efficiency has meant we achieved our Objectives to keep the usage under 13m3 per person.

WASTE

The University has been acknowledged for the robust and effective approach to managing waste from non residential buildings. Since 2012/2013 we have been able to achieve a 90% reduction in overall annual waste output from 2283 tonnes to 205 tonnes. With waste to landfill reduced by 26% and energy creation from waste increased from 0% to 27.4%. This year 2019/2020, only 9 tonnes of waste was sent to landfill (COVID restrictions have contributed to this reduction and the level might not reflect a typical year). This has been achieved through a number of strategies including:

- cultural and operational changes,
- Review of waste management in building portfolio,
- better waste management,
- Consistently achieving recycling at 70-80%,
- improvements with food waste,
- improved procurement,
- reduced paper use,
- reduced single use items & Improved packaging.



This year the University has been able to provide improved data analysis on how our waste potential was released and the benefits our waste management process has had in reducing CO2. Waste production is a scope 3 emission, this data has been an detailed piece of work to provide such clarity and illustrates a forward thinking approach to waste management. The impact of this waste reduction has contributed to the University taking the equivalent of 20 cars off the road and since 2017 has saved 1,713 tree from being cut down for paper and cardboard. Whilst

	2019-2020	2018-2019	2017-2018	2016-2017
Total non-residential waste produced	502.9	649.3	846.1	1142
Average Recycling Rate	72%	71%	76%	72%
Tonnes Recycled at source	362.78	466.70	647.18	528.94
Trees Saved* (12 trees per tonne of paper & carboard recycled)	469	519	725	-
Food Waste - CO2 Tonnes Saved	42.16	58	70.13	-
Food Waste - Kettles Boiled for 1hr	3261	4502	5424	-

Food Waste - KW Produced	9318	12864	15497	-
Food Waste - Cars off the road for a year	20	28.30	-	-
Glass Bottles - Raw Materials Saved (t)	28.69	39.18	-	-
Coffee Grounds - CO2 Tonnes Saved	0.21	0.24	-	-

Waste Case Study

A collective approach to waste management that has successfully brought together behavioural changes, community engagement and waste stream management. Part of the waste strategy was to ensure that the end to end life of a product or material was fully appreciated by the user and that was portrayed in this poster seen in image 2, where the bin colours were used to demonstrate the journey of the waste and how the University approach to reduce, reuse, recycle and convert to energy or reinvest the materials elsewhere is achieved, illustrating the circular economy

TRAVEL

Whilst COVID 19 has significantly altered travel patterns for staff and students with a greater proportion of home working, the University has been able to ensure Travel planning continued to achieve a great deal with the University securing LEP funding for the Hertfordshire Living Lab, the creation of an MSc in Travel Planning with various pathways, planning for the biennial travel survey in November 2021 and the continued uptake in the Bike Hire Scheme and the Work cycle scheme[MK1].

The University Park and Ride scheme continued to recommend 'Ride and Stride' as a way of increasing walking form the park and ride car park. The University Bus company UNO Buses has continued to increase the amount hybrid vehicles in the fleet[MK2].

PROCUREMENT

Reducing the environmental impact of the University's procurement processes is a key theme of our Environmental Objectives and Sustainable Development Goals, in particular SDGs 8,9 and 12. Embedding responsible procurement into the hearts and minds of our staff and day to day working procedures is an integral part of our University approach is to ensure continual improvements to be more sustainable in our actions and decisions. This

year, the Procurement Team have continued to focus on building the foundations and structures for maximising the potential of a circular economy*, which is an economic system aimed at eliminating waste and the continual use of resources. The Procurement Team successfully met their targets to produce key documents such as a Contract Management Template which has a specific Sustainability Criteria, embedding responsible procurement into tender and contract management programmes and creating a reporting criteria for value of impactable spend and value of spend with SME's.

The Procurement Team play a vital role in controlling the types of products and suppliers the University has onsite and their future plans will be to ensure their staff continue to become more aware of sustainability and the role they play in the implementation of the University's Sustainability agenda.

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*__Circular economy__: a systemic approach to economic development designed to benefit businesses, society, and the environment. In contrast to the 'take-make-waste' linear model, a circular economy is regenerative by design and aims to gradually decouple growth from the consumption of finite resources.

FOOD

With food outlets generally closed throughout 2019-2020 many of the objectives set by our catering providers were paused. The food outlets have initiatives in the pipelines to introduce more vegan options, use of ‘Vegware’, engaging with Fair Trade and sustainable produce suppliers. We look forward to having the campus back open and continuing to roll out these initiatives.

WILDLIFE

As an educational institution and Landowner we have a key role to play on protecting and enhancing biodiversity. As written into the University’s Environmental Policy we have been managing this aspect of our environment. We can split our approach into two sections, Engagement and Stewardship. Here are some of the key features we have achieved.

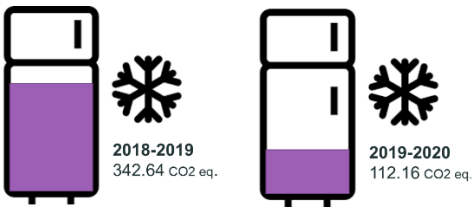
Our biodiversity special adviser Stuart Warrington is the former Head of conservation at National Trust and offers expert guidance and support, most recently on our Biodiversity Action Plan which will be launched in summer 2021.

The University has a produced a biodiversity walk that takes people around the key environmental areas of College Lane Campus showing off the wild flower sites, roof top gardens and Bee Orchids habitat sites, ULiving Ponds, Hazel Grove Woods and much more. The route is mapped out and provided for all staff and students to enjoy.

The University has plans to make the College Lane Campus a Hedgehog Friendly Campus and work towards installing more hedgehog hotels onsite.

FLUORINATED GAS (F-GAS)

F Gas describes a particular family of fluorinated gases which are widely used as refrigerants in air conditioning and commercial refrigeration systems. Through a well-managed programme, the Estates Team successfully reduced UH F-Gas emissions by 67% between 2018/19 and 2019/20.This reduction was achieved by, monitoring of leaks and system upgrades to R32s where possible.



RESEARCH

Case Study 1

Impacts of climate change on occurrence and distribution of the pathogenic seed-borne fungi of wheat and maize in Egypt

Identifying the occurrence and distribution of seed-borne fungi disease pathogens in wheat and maize across Egypt. Assessing the impact of climate change scenarios on economically important diseases and their joint effects on productivity of both wheat and maize. Providing adaptation strategies to achieve sustainable food production in the face of challenges from climate change and crop diseases.

Case Study 2

Shake Climate Change Entrepreneur Programme

The Entrepreneur support programme, Shake Climate Change, was founded in 2019 to help new businesses with innovative ideas develop sustainable solutions to the problem of climate change caused by agriculture. It focuses on closing the gap in business development between the early start-up stage and investable businesses through provision of expert care and advice, sourced through the high-profile consortium behind the Programme and its associated network of mentors.

The projects first four investments support ventures are seeking to:

- Reduce CH4 and N2O emissions from manure treatment and conversion into bioenergy and fertilizers;
- Reduce energy and emission associated with nitrogen and fertilizer manufacture process;
- Improve long-term soil health from biofertilizer application;
- Decrease pressure on natural resources and land;
- Reduce food miles;
- Decrease greenhouse gas output per ton of produce;
- Reduce energy and emissions associated with pesticide manufacturing, transportation and application on farms;
- Reduce energy and emissions associated with transportation;
- Decrease deforestation for soy production in other parts of the world;

Case Study 3

Supporting innovation and best practice in the materials supply chain: communicating and learning with suppliers and end-users

To explore the sustainability decision making in construction industry supply chains using case studies, online questionnaires, and stakeholder and expert interviews. The aim is to define and explore ways to address the impediments to making more sustainable decisions to support sustainability outcomes in built form, with a view to mitigating climate change impacts.

ENVIRONMENTAL MANAGEMENT SYSTEMS - AUDITS

During the summer of 2020 the University was audited by Interface Auditors as part of the ISO14001 cycle. This year was a surveillance audit with recertification to take place summer 2021. The audit was conduced online. Through interviews, presentations, and engaging with key stakeholders the auditor was provided all necessary data to be reassured of the University's current Environmental Management. The Auditor provided the following summary findings:

"The Environmental Management System (EMS) was observed to be well developed and operating effectively. Particular attributes noted were:

- There appears to be effective leadership structures in place to embed the EMS across the organisation.
- The determination of environmental aspects appears thorough, effective and responsive – for example with regards to the Covid situation.
- There appears to be a comprehensive and robust approach to setting and tracking objectives, with resulting reduction in environmental impacts and positive engagement initiatives.
- There is an effective partnership approach and engagement with internal and external parties – Estates, SBUs, contractors (Tenon, Aramark) and students (Green Team).
- There appears to be thorough and robust control and monitoring of corrective actions, internal audit and management review".

COMMUNITY ENGAGEMENT

There has been excellent student and staff engagement via a number of channels over 2019-2020 both face to face and online campaigns and activities. We are proud to share a few case studies of successful engagement events.

Lunchtime Walk and Tidy Litter Picks

The Campus Community Team co-ordinated a series of great lunchtime walk and tidy sessions. These were a joint session with both the Dean of Students office and Head of Business Support from the Estates team. The organisers linked in external businesses into the litter picks too which was on the Hatfield Business Park. The litter picks were often attended by the Students Union, UH students and the Green Team. The litter picks often targeted certain areas of Hatfield close to the University

such as Bishops Rise and College Lane and roads coming off such as Tomsfield. Whilst they were out in the community doing these litter picks, the staff and students were always very well received by the residents which made a positive impact with the local community. This also linked well with our Health and Wellbeing objectives for the University joining together important areas of work.

Pumpkin Saving Events

The Dean of Students Team ran two pumpkin saving events for Halloween on 21st October 2019. The event involved pumpkin carving as a fun activity and the students collected all the unused parts of the pumpkin and used this to cook a meal after. The Organisers provided the students with some example meal sheets that Hubbub* had put together ahead of the event. They then entered these into a competition and the winner with the best meal won a prize. Across both events over 45 students attended the event and joined in with this pumpkin saving event. The event was a success and engaged students that might otherwise not have engaged with environmental initiatives like this.

College Lane Allotment Project

We have the College Lane Allotment projects based on up in the accommodation near Telford court. One of these patches had been used and maintained between a staff member and one student for over 2 years now, within the time period of 2019 – 2020. However, more recently we have started a community project with Groundwork East (local Environmental charity) who have been running student workshops on the allotment patches and they have run over 10 sessions during the year. The workshops include tutorials of how to dig, maintain and plant on the patches. We have seen over 35 different students get involved with the project over the course of the workshops. We have also seen our University police team get involved at a lot of the events, it has been a really nice community activity. A key aim of the project was to boost overall wellbeing of the students who attended the events, something which was well received by those who attended.

Community Garden Project

The Community Garden project is a brilliant outdoor space on De Havilland campus that was put together through some funding and was delivered by Groundwork East (local Environmental charity). The aim was to introduce a flexi space, to promote the improvement of overall wellbeing for the UH community. The Community Garden is located outside Block N and is a great space that can be used at any time by all students and staff. The space includes 6 benches situated around the edge of the grass area, with really nice metal arched entrances along the pathway. Plants have been planted, to grow over the archways. There are very few areas on De Havilland campus which allows for quiet reflection, and as a result of the current Pandemic, areas like the Community Garden are needed now more than ever.

Hubbub: An award winning environmental organisation. We run creative campaigns to encourage positive everyday actions for the environment

Community Fridge Project

Our Community Fridge project has built some really strong relationships with partner stores such as Co-Op Hatfield on Bishops rise and also with other providers such as Sainsburys in London Colney. The project managed to stop over 1.2 tons of food waste just between our 2019/2020 academic year. The food from the fridge was taken by both staff and students so was a good point to highlight a UH community project. Unfortunately, due to the pandemic the Community Fridge Project had to close.

Window Sill Series

During the COVID Lockdown, an online series of events was created to engage staff and students from the safety of their home or local area was created called the Windowsill Series. Our Windowsill Series is all about Wild Connections! We want to celebrate the health benefits of engaging and immersing ourselves in our environment and connecting with the world around us. Through our Windowsill Series we will be out exploring the world around us whether that is on Campus, in our community, our gardens or through our windows. The events included: The Big Garden Birdwatch, Planting for Pollinators, Preparing your Veggie Patch, and finishes with Spring watch.

MEET THE TEAM

Managing the environment is part of everyone's role as a member of the UH community everyone can play a part in making the campus more sustainable and protecting what we already have and making conscious behavioural changes to how we use products and resources. Individuals with key responsibilities are:

Monica Kanwar Director of Health, Safety and Sustainability

Tracey Russell Deputy Director of Estates

Paul Davis Senior Health, Safety and Sustainability Adviser

Tom Andrews Head of Facilities Management

Scott Copsey Senior Lecturer and Transport Planner

Mike Tofts Energy Manager

Darren Summonds Head of Procurement

THE GREEN MOVEMENT STUDENT SOCIETY

The Student Green Team continued to grow, strengthen and achieve a great deal over 2019-2020. Even through disruptions in their usual student experience the Team were able to keep together and continue working on awareness and engagement of the student community. Through their work the Team were highly commended in the Student Union Awards for Student Led Project of the Year.


STUDENTS' UNION
AWARDS
2019
CONGRATULATIONS
The Green Movement
Highly commended for
STUDENT-LED PROJECT OF THE YEAR
Anis Aman
President -
Community
Amal Jolly
President -
Activities
Zaina Hakim
President -
Education
Hertfordshire
Students' Union
hertfordshire.su
hertssu

WHAT DOES 2020-21 LOOK LIKE

For the coming year the University has clear plans to advance the agenda on protecting and enhancing the environment.

- Update Management Plans for Waste, Energy, Carbon, and Biodiversity.
- Create a University Climate Change Vision which sets targets for Zero Carbon
- Develop and Run a Student Internship
- Organise key internal events linked with Fair Trade Week and look towards running an Environment and Sustainability Fortnight in 2022.
- Continual improvement through a programme of internal and external audits in 2020