2021 Annual Report

Title: Annual Management Review of University's Environmental Management System

From: Environment & Sustainability Manager **Date:** July 2021

This management review will examine how successful the performance of the ISO14001:2015 has been for the University of Southampton over the past 12 months; providing Senior Management with the opportunity to steer the EMS to deliver a consistently effective output, whilst ensuring it facilitates our development of continual improvement.

The report will review performance against targets from August 2019 to July 2020 and reference is made to the EMS until July 2021.

The Service Excellence Board is assigned as the Senior Management group (as specified in the EMS procedure UOSEMSP018) whom is expected to review the compliance, performance and embeddedness of the EMS once annually, with minutes to be stored on the University's EMS SharePoint site. The group meet monthly and so the report will presented at the next meeting. It will also be presented to the Sustainability Implementation Group and Sustainability Strategy Group for input and approval.

The outcome of this Management Review will be reported to the Sustainability Strategy Group in September 2021.

Audit

The external audit took place between 6th – 8th July 2021 and was carried out by auditors NQA. The outcome of the audit was very positive, with zero non-conformities and zero opportunities for improvement found.

Internal Audit results: Supporting document location: UOSEMSR012
The most recent internal audit was conducted on 27th and 28th April 2021 carried out by Loreus Ltd.

Internal Audit Findings in April:

Non-Conformities raised – 0
Opportunities for Improvement – 2

The Opportunities for Improvement that were highlighted include; firstly, the sustainability e-learning module, due to be released in August 2021, would benefit from including the Environment and Sustainability Policy. This has now been updated. The second Opportunity for Improvement identified was to update the drainage plan to include a 'grab-pack'. This is currently being reviewed by the Infrastructure Manager.

EMS Changes

Regarding the reporting year 2019/20, the covid-19 pandemic struck mid-year. The government announced lockdown on 23rd March 2020 and this had a dramatic impact on the University campus, with the majority of buildings needing to close. Until this point, the University was running at usual capacity. From March onwards, the use of the University campus went through many changes. Initially, buildings were forced to close, student sent home and those staff that were able, started working from home. The University was also used as a research centre for activities relating to covid and the development of testing and equipment. This change in building use across the campuses led to a reduction in energy and water consumption and reduction in building baseloads. In line with government guidelines, buildings were reopened to accommodate socially-distanced lectures and laboratories, supporting those who were unable to conduct their research and studies at home. This has led to buildings operating, but not a full capacity.

Waste and recycling has also been disrupted by covid, with periods of the year where recycling was not possible and all waste was sent for incineration and energy-recovery.

The internal and external audit process has been adapted to be possible over Teams. Building Managers and other key staff members have enabled 'site tours' by videoing key areas of the campus, ready for inspection by the auditors. Meetings with key staff members were also held via Teams, which proved effective also. Going forward, it is possible for internal and external audits to have a blended approach, partly onsite and partly virtual.

Risks:

- Competition for funding to make energy / building improvements.
- Significant budget impact from the COVID-19 pandemic.
- Require increased and improved project coordination to ensure progress towards electricity, gas and water reduction targets.

Opportunities:

- Increased cross departmental working, between Mechanical Engineers, Planners, Building Managers, Academic Faculties, Energy, PMU & Sustainability Manager
- Faculties to set up sustainability working groups
- Laboratories to adopt the LEAF framework to improve efficiencies
- Increased awareness campaigns through monthly reports to site managers on electricity usage & waste & recycling breakdowns
- Opportunities to build upon behaviour change actioned in response to COVID-19 pandemic.

Objectives & Monitoring

Performance against targets - August 2019 – July 2020

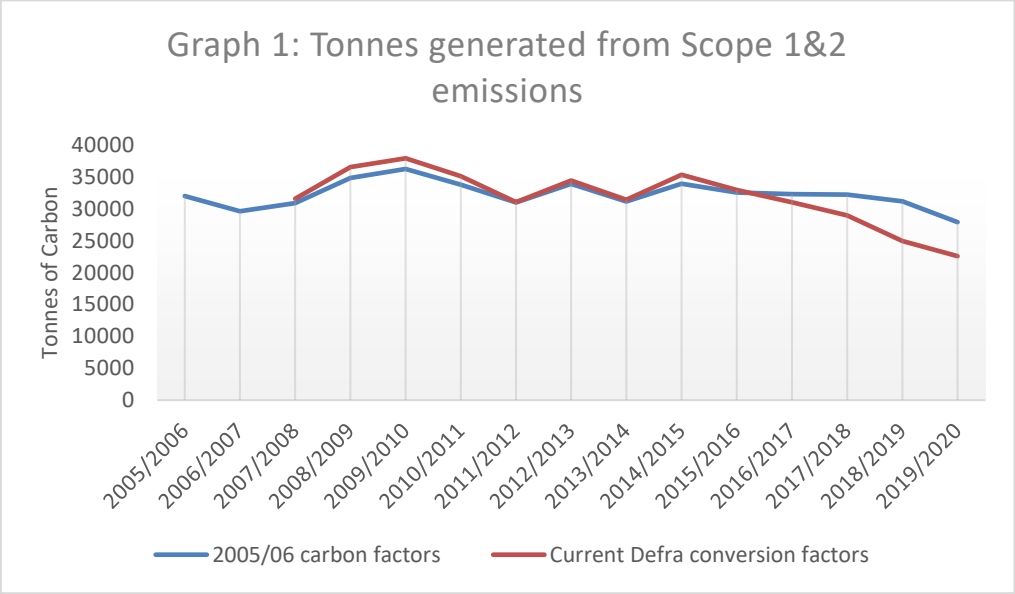
Strategy Goal	Objective	Monitoring
	Biodiversity: Maintain & where possible enhance habitats for the benefit of people & wildlife	Biodiversity Action Plan in use by Biodiversity Group, monitoring progress and promoting continual improvement. - In collaboration with the organisation 'British Hedgehogs Preservation Society' a team of enthusiastic staff and students worked from May 2020 onwards to achieve bronze certification for a Hedgehog-Friendly Campus. This was awarded due to online engagement activities, collaboration with the Landscaping Team and organised litter picks to help hedgehogs thrive in the local environment. - Due to covid-19, the 2020 Bioblitz was online and in collaboration with the Science & Engineering Event SOTSEF. The event gave weekly actions and tips for improving biodiversity at home.
Goal 1	**Carbon:** Reduce carbon emissions by 20% from 2005/2006 baseline by 2020 - **August 19 – July 20**	See detailed energy and carbon data below.
Goal 4	**Education for Sustainable Development:** Sustainability course content; using the campus as a resource for learning	- Intern placement within the Environment and Sustainability Team from September 2020, focussing on communicating sustainability activities with students - Academic and student representation on operational working groups, including: Biodiversity Working Group, SUSU Sustainability working group, Hedgehog-Friendly Campus group and Chemistry Sustainability groups.
Goal 4	**Engagement:** Engage students & staff and the community on the principals of sustainability	- Use of communications portals such as Sussed and Staff Matters to promote sustainability stories to staff. With staff working at home in the latter part of this reporting year, articles included, sustainability and campus in lockdown, information on ISO14001 audit, positive changes from lockdown and articles promoting sustainable travel. - Since the COVID-19 outbreak, newsletters have been circulated within the Estates and Facilities team, sharing stories and communications relevant to sustainability, such as updates of results from ISO14001 audits, news from the Halls Sustainability Fortnight and SUSU Sustainability Week - Social media has been used to promote national events, such as World Environment Day, to share photos of the campus in lockdown, images of thriving biodiversity, as well as engagement with the BioBlitz online event.

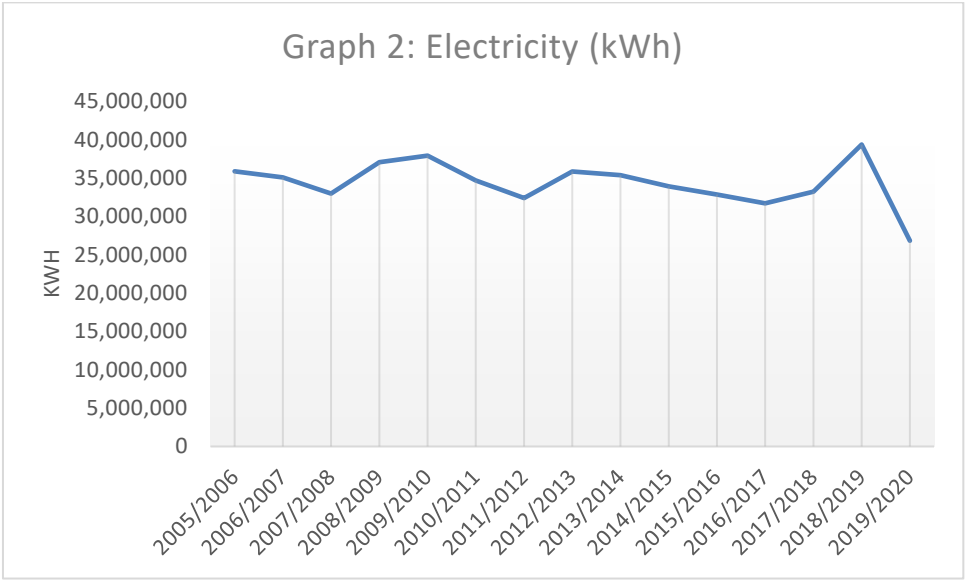
	Environment Management System: Continual Improvement and Enhanced performance	In July 2020, the EMS External Recertification Audit was successful, receiving only two Opportunities for Improvement and zero Non-Conformities. This was conducted remotely during to covid-19. The external surveillance audit was conducted remotely between 6th-8th July 2021, and we achieved zero non-conformities and zero opportunities for improvement. Across 2020, internal audits were conducted in January, May and November. In 2021, we had one internal audit in April.			
	Pollution prevention & legal compliance: Minimise emissions to air, land & water Ensure we operate within our Compliance Obligations	Environmental Incidences are logged on the Register of Environmental Incidents UOSEMSR004. Between August 2019 to August 2020, there were three environmental incidences. 1) June 2020 – an injured hedgehog was found on campus and later died at a hedgehog rehabilitation centre 2) July 2020 – a dead duck was found in the courtyard pond of B.38 as it entered the bird-prevention netting and was not able to escape 3) August 2020 – a fire followed the collection of general waste at Boldrewood. Lessons were learned from incidences and corrective actions were taken.			
Goal 2	**Procurement:** Manage our supply chain by considering the economic, ethical & environmental impacts & whole-life costs of purchasing decisions	The Procurement Sustainability Working Group met regularly until January 2020, but this group was paused at the start of the covid-19 pandemic. The group was reinstated in March 2021, making progress through the development of a Flexible Framework Sustainable Procurement Tracker. This enables to team to demonstrate how they are adhering to each stage of the Flexible Framework to push continual improvement. The grading levels are from 1-5, with current working practices shown to be at Level 3, which is recommended for ISO14001 standard. The team are now working towards levels 4 and 5.			
Goal 1	**Sustainable Buildings:** Design, build & refurbish our estate in an environmentally responsible & resource-efficient way	The Sustainable Buildings Working Group came to a natural end in 2019. The announcement of the University's goal to be net zero by 2030 has guided discussions towards reconsidering the future use of buildings. The future of the CHP is also under current review, as there is no 'silver bullet' to replacing it, following its end of life in 2026/27. The Sustainable Buildings Policy is under review.			
Goal 2&3	**Travel:** Improve transport options available to staff, students & visitors to reduce car travel	The Travel Plan for 2015-2020 was successfully delivered, with a focus to now release the Travel Plan for 2020-2030. There has been a delay in releasing the updated version due to the covid-19 pandemic changing our ways of travel and frequency. Covid-19 changed many travel habits away from public transport, towards active travel and single-car occupancy, as well as changing behaviour to working from home and avoiding travel. It is expected that an increase in flexible working will continue post-pandemic and the Travel Plan will be updated to reflect this.			
Goal 2	**Waste:** Manage our waste according to the waste	**Recycling KPIs:**	**2009/10 Baseline:**	**2018/19:**	**2019/20:**
		65% from all resource streams	46%	49%	47%
		60% by bin weight - Campuses	49%	59%	50%

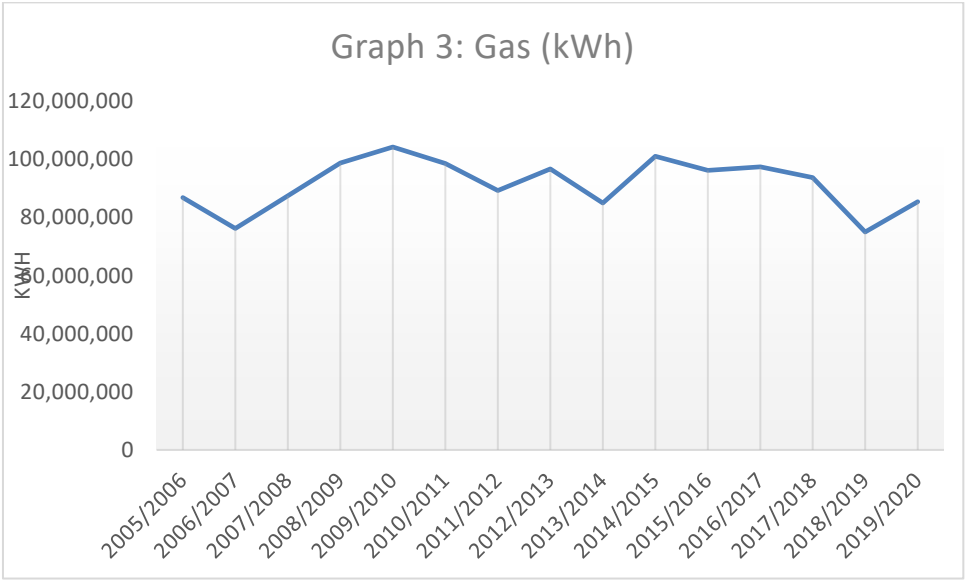
	hierarchy – prevent, reuse, recycle, recover, dispose **August 19 – July 20**	50% by bin weight – Halls	34%	40%	36%
		85% from all refurb projects	92%	94%	*gaps in the data due to data losses from contractors during pandemic
		85% from all new builds	98%		
Goal 2	**Water:** Reduce by 30% from 2009/2010 baseline by 2020 **August 19 – July 20**	There have been good water savings throughout the year due to covid-19 changing the use of buildings across the estate. With many staff and students working from home and halls of residences at low capacity, water savings have been significant. The target was to achieve <398,678m^3 by 2020, we achieved 351,607m^3. This is a 38% reduction from our 2009/10 baseline. Since 2018/19, there has been an 18% reduction on water, year-on-year.			

Energy and Carbon - Performance against targets - August 2019 – July 2020

Strategy Goal	**Energy and Carbon Reduction Targets** KPI = 20% Reduction	Result	Reason

Goal 1	Tonnes of CO_2 generated from Scope 1&2 emissions	Baseline: 31,983 tonnes of CO_2 2019/20 Actual: 22,563 tonnes of CO^2 Target: <25,586 tonnes of CO^2	 Graph 1 shows the carbon reductions made considering both the baseline 2005/06 and the annually updated Defra conversion factors. This target has been reached with a 30% reduction in Scope 1 & 2 CO^2 since the baseline year despite the growing size of the estate. This has been achieved through ongoing change in carbon conversion factors and our energy-saving initiatives. The decision was made to report using 'current' conversion factors for each relevant year, which takes account of the decarbonisation of the National Grid. The carbon conversion figures used for 2019/20 were, therefore, current figures from Defra. If conversion factors from 2005/06 were used, the carbon reduction to date would be 13% from baseline, reflecting the pure effect of energy-saving initiatives.

Goal 1	Electricity Usage in kWh	Baseline: 35,868,000 kWh 2019/20 Actual: 26,827,448 kWh Target: 28,694,400 kWh	 Graph 2 shows electricity consumption since baseline year. This target has been reached with a 25% reduction since the baseline year. However, the 32% reduction from 2018/19 to 2019/20 is largely due to the covid-19 pandemic requiring much of the university staff and students to work from home and buildings to close. The years 2017/18 and 2018/19 were unusually high in consumption as the CHP was not working at full capacity, resulting in higher electrical demand.

Goal 1	Gas Usage in kWh	Baseline: 86,838,279 kWh 2019/20 Actual: 85,428,164 kWh Target: 69,470,400 kWh	 Graph 3 shows gas consumption since baseline year. The target for gas consumption has not been met with only a 1.6% reduction since the baseline year. There has also been a 14% increase from 2018/19 to 2019/20. This is due to the CHP now functioning at full capacity with both engines, after two years of running only one engine for long periods. This resulted in lower gas use for 2017/18 and 2018/19. There have also been several changes to the running of the estate due to covid-19. There has been increased ventilation in buildings to increase airflow, resulting in loss of heat. There was also a prolonged cooler spring, resulting in the heating season finishing late at the end of May. These figures do not take into account the growing size of the university since the baseline was set.
Goal 1	Kg of CO_2 / £ turnover	Baseline: 0.103kg/£ 2019/20 Actual: 0.048kg/£ Target: 0.08kg CO2/£	Against the baseline year, there has been a 53% decrease in carbon emissions per turnover, achieving the 2020 target.

Goal 1	Tonnes of CO_2 / FTE student & staff	Baseline: 1.37 tonnes CO_2 2019/20 Actual: 1.05 Target: 1.096 tonnes/FTE	CO_2 reductions have been achieved steadily through the years, with a significant reduction experienced in 2019/20, with a 23% reduction from the baseline year. This is due to lower emissions and steady FTE figures.

Communication

Communication continues to be an important part of promoting the good work of the EMS and the University's Sustainability Strategy. There is continued use of social media to promote key awareness days, sustainability events, good news stories and advice to staff and students. There have been sustainability-based articles and updates in the Staff Matters magazine, as well as Sussed articles and website updates, with articles addressing issues such as sustainable travel and biodiversity. This is to engage staff in sustainability issues and encouraging others to contribute to the university goals.

At the start of the pandemic, sustainability articles were released in line with current issues facing staff and students. At the beginning of lockdown, an article showing the empty campus was shared. Further into the summer came the partial reopening of local attractions and workplaces, and so there was a focus to encourage staff and students to use active travel. There has been a focus on biodiversity to encourage readers to appreciate nature during lockdown. Tips were shared on social media, advising readers how they could help their local wildlife. In January 2021, SUSU had a Sustainability week, which was shared on social media and included online events. Shortly followed was the Halls of Residences Sustainability Fortnight in February 2021, sharing daily top tips on how to be more sustainable in halls of residences and giving away prizes for the best ideas for sustainable living. The decision was made to move away from awarding Amazon gift cards as prizes and instead chose a local producer of fruit and veg boxes to give away gift cards, further helping to drive the sustainability agenda.

Continual Improvement

The Control of Contractor process has been improved this year, with greater expectation of environmental performance placed in the hands of contractors. As part of the Faculty Projects tender process, a new environmental awareness document has been added, detailing the University's expectation to improve environmental standards. This has been well received, with tenders received including environmental reports showing how requirements will be adhered to. These expectations of contractors include:

- Monitoring of waste, energy and water use whilst onsite
- Reduction in plastic packaging of materials
- Increase in reuse and recycling
- Measures taken to reduce noise
- Reduction in hazardous waste kept onsite
- Measures taken to increase air quality
- Environmental incidences to be minimised and the correct spill kits in place to prevent escape to the environment
- Minimise damage to biodiversity and local habitats

This process has been trialled at the Chemical Engineering project development. Contractors, Brymor, have been shown to be delivering high environmental standards and adhering to the environmental rules as seen in the tender process. Brymor are monitoring their energy and water use, which is a great start in understanding their

consumption whilst onsite. The team are also reducing their scope 3 emissions through an engrained culture of reuse and waste reduction. Shelving from the building strip out has been reused by the Estates and Facilities team, existing doors have been reused as hoarding, locks have been saved and returned to the locksmiths and existing furniture has been saved and reused in the site office. There has been great consideration for the environment too, with filters across near-by drains to prevent dust and debris entering the drains, sound-reducing equipment used during construction and paints and chemicals are taken offsite each day to prevent environmental incidences occurring onsite.

In Autumn 2020, a Carbon Reduction Strategy Paper was submitted to the Sustainability Implementation Group to support goal 1 of the Sustainability Strategy to 'Achieve net zero emissions for Scope 1 and Scope 2 by 2030'. The paper suggested recommendations necessary to start the journey towards net zero, such as the switch to renewable electricity supply and the adoption of ISO50001, both of which have now received funding by the Sustainability Strategy Group. The paper also detailed what was necessary to continue to make carbon savings, including a review of the CHP, a review of energy performance in buildings and adopting a methodology to assess the funding of future carbon reduction projects. A 'Future of the CHP' group has been established, bringing together key members of staff to find a viable solution to replacing the CHP at its end of life in 2026 and finding a solution that supports goal 1 of the Sustainability Strategy.

In January 2021, the University gained Hedgehog-Friendly Campus status, achieving a bronze award following the hard work of staff and students through the pandemic. To achieve the award, the team worked to complete ten hedgehog-friendly actions on campus and through online events. An example of the actions included:

- Engaging with the Landscaping Team to ensure that their tools had hedgehog-friendly stickers, reminding staff to check bushes and hedges for hedgehogs before starting work
- Promotion of how to contribute to being hedgehog-friendly on social media
- Organisation of litter picks to help hedgehogs and local wildlife

This award has helped to re-engage many staff and students in biodiversity and giving them a fresh interest of how they can contribute to help biodiversity at home. The Hedgehog-Friendly Campus team is now a recognised SUSU society and are working towards a silver award.

During January 2021, LEAF (Laboratory Efficiency Assessment Framework), which was started by UCL, has been adopted in several of our laboratories, with the aim to make savings and efficiencies. This framework gives laboratories ways to be more energy efficient, make improvements to waste management and reduce their environmental impact. LEAF reports that laboratories can consume 3 to 10 times more energy than other academic spaces, so specific action targeted to laboratories can have significant impact. Two laboratories have now achieved a bronze status and are working towards silver. Following this trial, LEAF is being encouraged to other laboratories across the University.

Conclusion

The covid-19 pandemic has enabled many of our energy performance targets to be reached this year, following the closure of many University buildings. Considering that the University is not a full capacity in July 2021, energy savings will continue to be seen into the next reporting year also. However, it is important not to lose sight of driving forward further energy and water saving projects to help reduce our environmental impact and continue on the path to achieving our carbon reduction targets.

Communication has continued to be important over the past 18 months, to ensure that staff and students have been connected to the sustainability agenda through the pandemic. Biodiversity has also become increasingly important through the pandemic, as many of us have been spending more time at home and in our gardens and local green spaces. This has helped to drive forward the importance of biodiversity and how we can all contribute to improving our local and wider areas.