Annual report on progress of the Sustainability Sub-Strategy 2021-28,

Sustainability Sub-Strategy - Background

1. The University's Sustainability Sub-Strategy (SSS) has entered its fourth year of delivery since its development and sign off by Council in July 2021. Originally set for delivery by 2026, this has been extended to 2028, in line with the University's Strategy, as part of the light touch review completed in summer 2024.

2. The SSS is comprised of 13 priority areas, indicating the breadth of activity that is required to embed sustainability throughout the University.

3. The 13 priority areas are:

    1. Scope 1 and 2 Carbon Emissions
    2. Scope 3 Carbon Emissions
    3. Education
    4. Research
    5. Biodiversity and Grounds
    6. Water Management
    7. Waste and Recycling
    8. Travel and Transport
    9. Food and Drink
    10. Sustainable Buildings
    11. Space Use
    12. Finance and Procurement
    13. Our Community.

4. This paper covers recent progress on delivery of the SSS, focusing on successes and highlights, as well as challenges since Winter 2023. Information covered in previous updates has not been included to avoid repetition.

Overview

5. 2023-24 has seen continued good progress on environmentally sustainable action at the University, despite financial pressures that have impacted colleagues across all areas.

6. Much of the 'groundwork' set in the initial delivery years of the SSS has now been laid, which allows us to push forward with actions that will help us to better integrate sustainability across areas of work. There remain challenges in demonstrating that sustainable choices are everyone's responsibility to take, but change is progressing and future SSS actions aim to help steer choices and increase visibility of progress being made.

SSS KPIs

Table 1: Summary of KPI progress as of November 2024

KPIs	Total
Achieved	13
Under way	26
TOTAL	**39**

7. The KPIs in the SSS indicate overarching success of measures in the action plan up to 2028. Details below are highlights of progress over the last year. A full overview for each KPI can be found in Appendix 1 (page 20).

8. Our carbon emissions (scope 1 and 2) are continuing to decline overall, as we progress towards our target to reach net zero by 2035, although bigger strides will become increasingly challenging without substantial investment. To date, our emissions have reduced by approximately 31% from the 2019 baseline. In contrast, our energy consumption has declined 24% per m2 of gross internal area (GIA), compared with 2019 (KPI 30). If funding in the CIP continues at the current level (£2.5m per annum) through to 2035, it is forecast the scope 1 and 2 carbon emission reduction will be insufficient to achieve our net zero target of 2035 (KPI 1).

9. Further PV solar panels are being installed on South Courts accommodation, and once complete we will be generating approximately 8% of own electricity; the target is to reach 25% by 2028 (KPI 2).

10. The University's second detailed scope 3 emissions analysis has been completed for 2022-23 and included additional data that was previously unavailable; the figure comes to a total of approximately 80,000 tCO_2e. Our ability to control these

emissions varies, and for some activities is limited. We are yet to determine a date to aim to reach net zero for scope 3, although this is unlikely to be before 2050 (KPI 3).

11. For all course periodic reviews, course leaders and external panel members are asked to address the question "How has sustainability been taken into consideration in the design and delivery of the curriculum in accordance with the University's sub-strategy for sustainability?" For Annual Review of Courses, Schools and Departments are asked to consider what progress has been made against all University goals, including the SSS (KPI 6).

12. As signatories of the Concordat for Environmental Sustainability of Research and Innovation, we now have sector-wide guidance for embedding sustainability into our practices, and the opportunity to innovate (KPI10).

13. Biodiversity surveys indicate a 4% increase in acres of habitat areas on the Colchester campus and a 4.4% increase in habitat areas (compared with 2023) (KPI 16).

14. Overall water usage in 2023-24 declined by 7%, compared with 2022-23. When compared with the 2019 baseline usage is up, largely attributable to lower campus activity during the baseline year as a result of the pandemic. The target is to use no more than the 2019-20, delivered through further efficiency measures including reducing the waterflow from taps and low flush urinals and toilets (KPI 18).

15. We are seeing an overall reduction in waste produced, with our target to lower this figure by 5% year on year (KPI 19) (based on Colchester only due to data availability when setting our target). The overall rate of recycled material segregated on campus reached 34% in 2023-24; the target is 50% by 2026 (KPI 22).

16. To date there has been a 22% reduction in parking permits issued, compared with a 2019 baseline, which will have had a positive impact on the emissions of student and staff commuting (KPI 23).

17. Essex Food's menus for the new academic year include 30% vegetarian/vegan options, while Stem and Root café is fully vegetarian (KPI 28).

18. Reuse of furniture on campus continues to be popular, particularly as departments look to achieve financial savings. Since November 2022, 281 items have been rehomed across our campuses, estimated to have avoided £30,000 in

expenditure and saved nearly eight tonnes of CO_2 through avoided manufacture and disposal (KPI 33).

19. Strong participation levels in the Sustainable Essex Awards programme continue, with teams across all directorates taking part, spanning 37 teams (KPI 32 and 38). The programme is being refreshed for 2024-25 to help departments to engage with the 13 priority areas of the Sustainability Sub-Strategy.

Priority Areas – Progress summary

20. Table 2: Summary of actions by target date, colour coded progress indicators. (Red = action yet to start; amber = action under way; green = action completed)
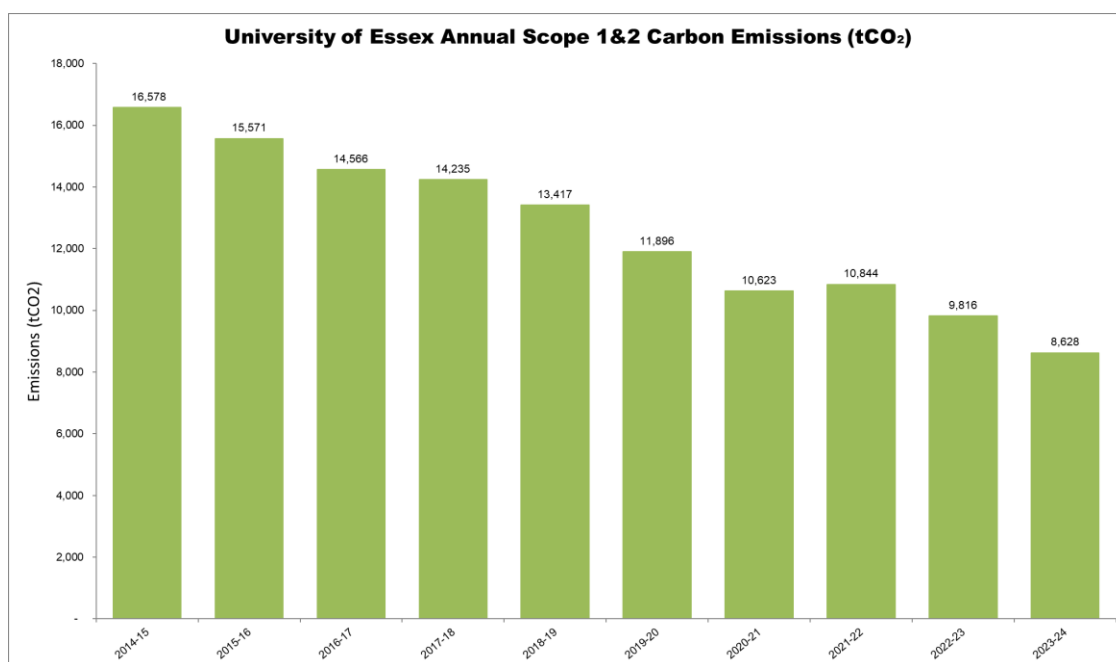
Action Plan Target Dates				Total
2021-22	0	2	40	42
2022-23	2	19	37	58
2023-24	1	18	12	31
2024-25	4	30	12	46
2025-26	2	13	4	19
2026-27	0	3	0	3
2027-28	1	3	0	4
TOTAL	10	88	105	203

21. To date, just over half of the actions have been delivered, 43% are in progress and on track, and 5% have challenges associated that are being worked through.

22. A range of causes contribute to delayed completion of some actions, which include resource challenges (i.e. staff capacity and/or financial constraints), availability of data and competing priorities (for example when one action leads on from another, a delay to the preparatory work has a knock-on effect with further steps). In some instances, there are more embedded hurdles to overcome, including readiness for change, overall maturity of Higher Education (HE) sector/wider initiatives that then allow us to deliver the ambitious targets we set ourselves, and unforeseen external factors.

23. The following sections provide more detail on successes and challenges during 2023-24 for each of the SSS priority areas.

Priority 1 – Scope 1 and 2 Carbon emissions

24. The University's carbon emissions for 2023-24 is c.8,628 tonnes CO_2e. Due to the rebilling process of our utilities supplier this may fluctuate slightly over this financial year. This is positive progress in line with a steady reduction in emissions, as seen in Figure 1 below.

Figure 1: University of Essex scope 1 and 2 carbon emissions graph 2012 to 2024.

25. Work to deliver carbon emissions reductions in 2023-24 included continued efficiencies from building management systems (BMS) such as lowering average heating temperature, and the effect of decarbonisation of the electricity grid.

26. We continue to develop a better understanding of our overall energy use and the associated carbon emissions of our buildings. An audit of all our buildings, in terms of energy use and efficiency, has been undertaken by consultants Mitie to assess energy efficiency opportunities and to advise on next steps, recommending areas to optimise, economise and decarbonise through distinct areas of prioritisation.

27. Additional PV solar generation is being installed on South Courts accommodation, and once complete we expect to be generating around 8% of our total electricity demand. This is phase 2 of our current PV projects, with phase 3 in development.

Priority 2 – Scope 3 Carbon emissions

28. The second year of scope 3 data have been estimated. We continue to use the [Greenhouse Gas Protocol's Corporate Value Chain Standard](#) for all relevant categories across our upstream and downstream (scope 3) emissions. This includes (but is not limited to) student and staff commuting, purchased goods and services, leased assets, waste and recycling, and business travel.

29. For 2022-23, the figure is estimated to stand at circa 80,000 tCO_2e, based on available data. Around one third of this comes from purchased goods and services. Under current methodology this is calculated based on spend, and thus is mostly influenced by increases or decreases in expenditure.

Figure 2 - breakdown of scope 1, 2 and 3 emissions, highlighting how scope 3 dominates.
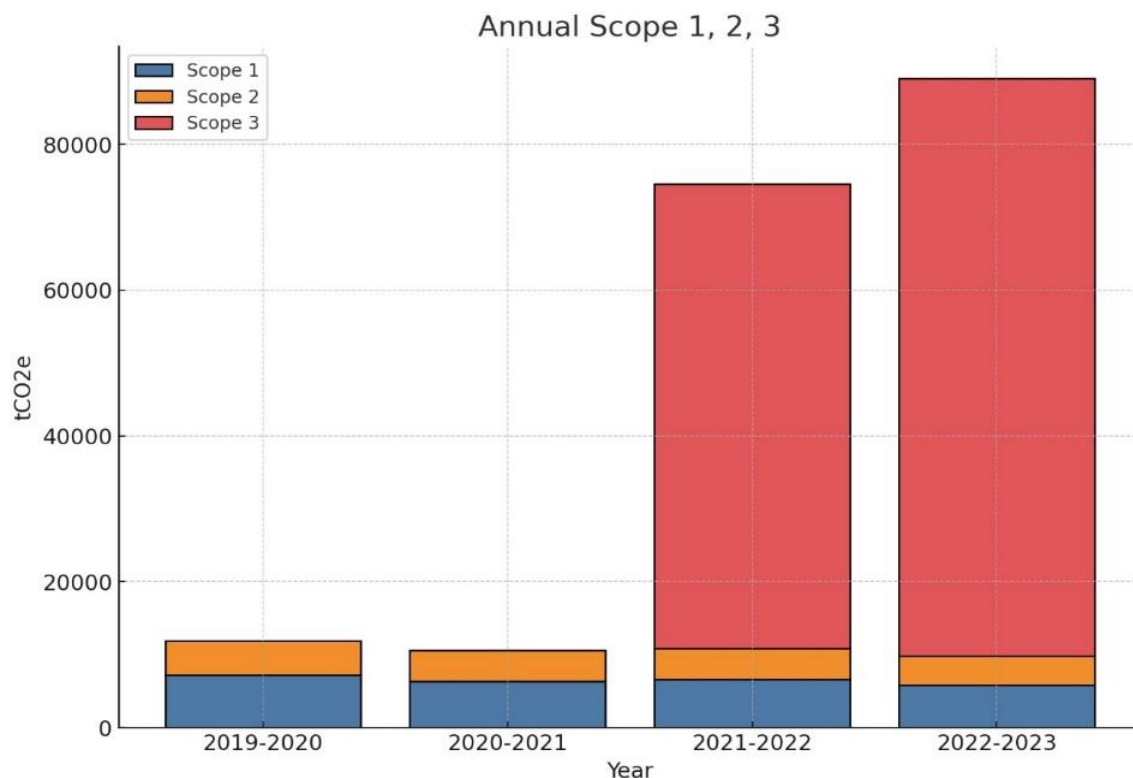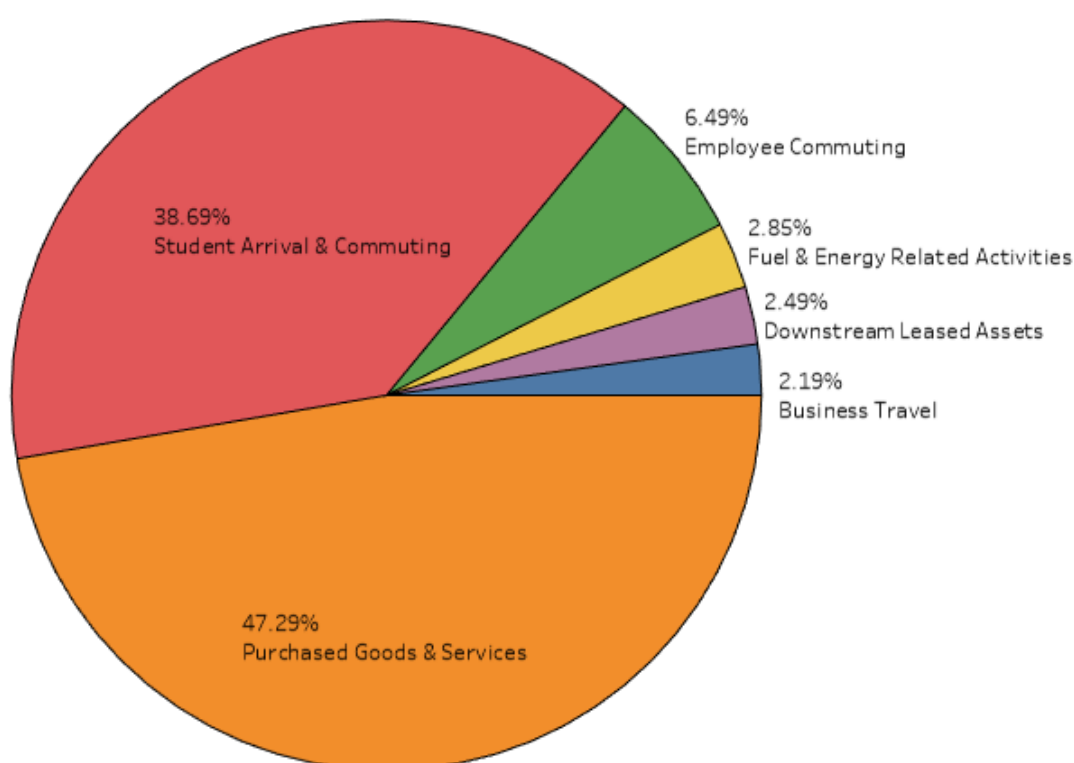
Figure 3 - proportional breakdown of scope 3 by category for 2022-23.

Priority 3 – Education for Sustainability

30. Embedding sustainability into the curriculum is developing in a variety of ways. Content through the EPP and MPP brings students into contact with sustainability themes pre-arrival, and a number of Departments/Schools are expanding opportunities to incorporate sustainability, driven by course periodic reviews, that ask how sustainability is taken into consideration during design and delivery of the curriculum. The Sustainability team runs sessions with a number of Departments/Schools, typically on an ad-hoc basis.

31. The Education for Sustainability section of the SSS action plan was included in the supporting Curriculum Review Moodle course in 2022-23 and 2023-24. The Curriculum Review included a diagnostic tool to identify areas of future focus, workshops, and surgeries, and supporting resources.

32. For staff, sustainability information is embedded into the How We Work At Essex training course, and content will be reviewed each year to ensure it is fresh and up to date.

33. Work to recognise leadership in Education for Sustainability is in progress, and will be part of the 2024-25 recognition and reward processes. Sustainability-related activity will be included as an example in the published guidance.

34. Timetable efficiencies have been incorporated into the new Academic Calendar considerations, to be mindful of environmental efficiencies if possible – for example grouping classes to reduce the number of days students need to travel to campus and making best use of teaching spaces to optimise space heating use in the winter, as well as lighting.

35. Extracurricular opportunities for students to engage with sustainability are evolving, with activities through Chart My Path available, as well as ad-hoc events such as Sustainability Awareness Week (March). Via the EPP, interested students are invited to join the Sustainable Students' Group, which aims to give them the space and support to organise their own initiatives. The 2024 Autumn intake has yielded a motivated group, who are already planning events linked to COP29 (November) and Sustainability Awareness Week (March).

Priority 4 – Research

36. Work continues to develop a framework for delivering climate-conscious research, driven through our commitment to the Concordat for the Environmental Sustainability Research Innovation and Practice. The sector is increasingly looking to institutions to identify and demonstrate how research contributes to sustainability, or will be delivered in a sustainable way, as funding bodies are starting to stipulate this in criteria.

37. We are working towards participation in the Laboratory Efficiency Assessment Framework (LEAF), developed by University College London (UCL), which recognises sustainable labs and will support some funding applications.

38. The Pro-Vice-Chancellor Research (PVCR), Faculty Deans Research (FDRs) and Research and Enterprise Office (REO) are working collaboratively to identify climate, ecology and sustainability calls for research, to supplement the very proactive work going on within Schools and Departments, as part of work to develop complementary areas of research.

Priority 5 – Biodiversity and Grounds

39. A Green Space policy is being developed which will set out how any planned impact on green spaces and the ecology of our campuses are avoided, mitigated and managed.

40. Actions are ongoing to encourage biodiversity on campus, with more wildflower areas and an increase in 'no mow' areas under trees during summer. There are now eight hedgehog boxes seven new log piles to create more habitat areas.

41. An annual survey of our community's awareness and engagement with our green spaces indicates that those asked are using Wivenhoe Park for enjoyment, but more can be done to raise awareness of the variety of areas that can be explored.

42. Operationally, the Grounds team continue to monitor advancements in electric grounds vehicles (as opposed to diesel), however there are none currently available that meet their needs.
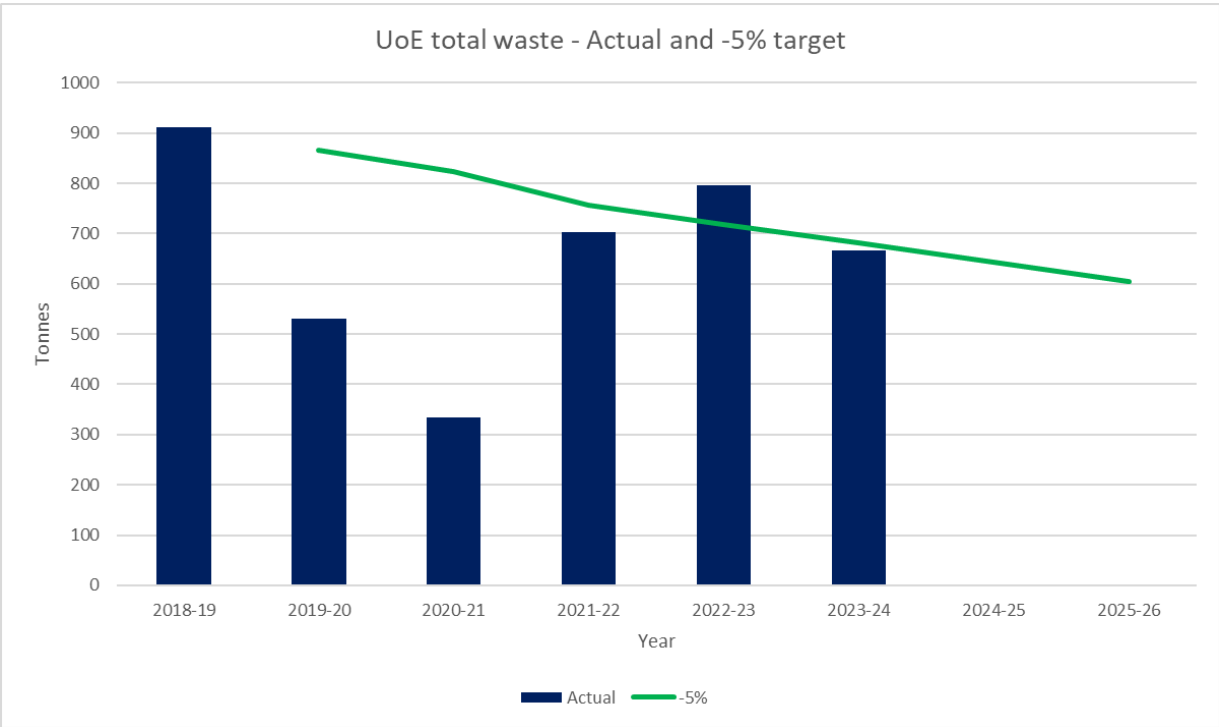
Priority 6 – Water Management

43. Analysis of water usage, normalised to pre-COVID levels, indicates that we currently use around 5% less mains water compared to 2019, at just under 200,000 m^3 in 2023-24. This equates to approximately 11m^3 per person.

44. Efficient use of water remains the focus for initiatives, alongside raising awareness of water saving actions amongst our students and staff. A survey of taps across the Colchester campus has taken place and installation of restrictors and new taps has begun in November 2024, due for completion by the end of January 2025. Works will take place across academic areas as well as accommodation. It is estimated the project can realise savings annually of around £15,700 due to lower water usage and reduced gas usage (for heating hot water).
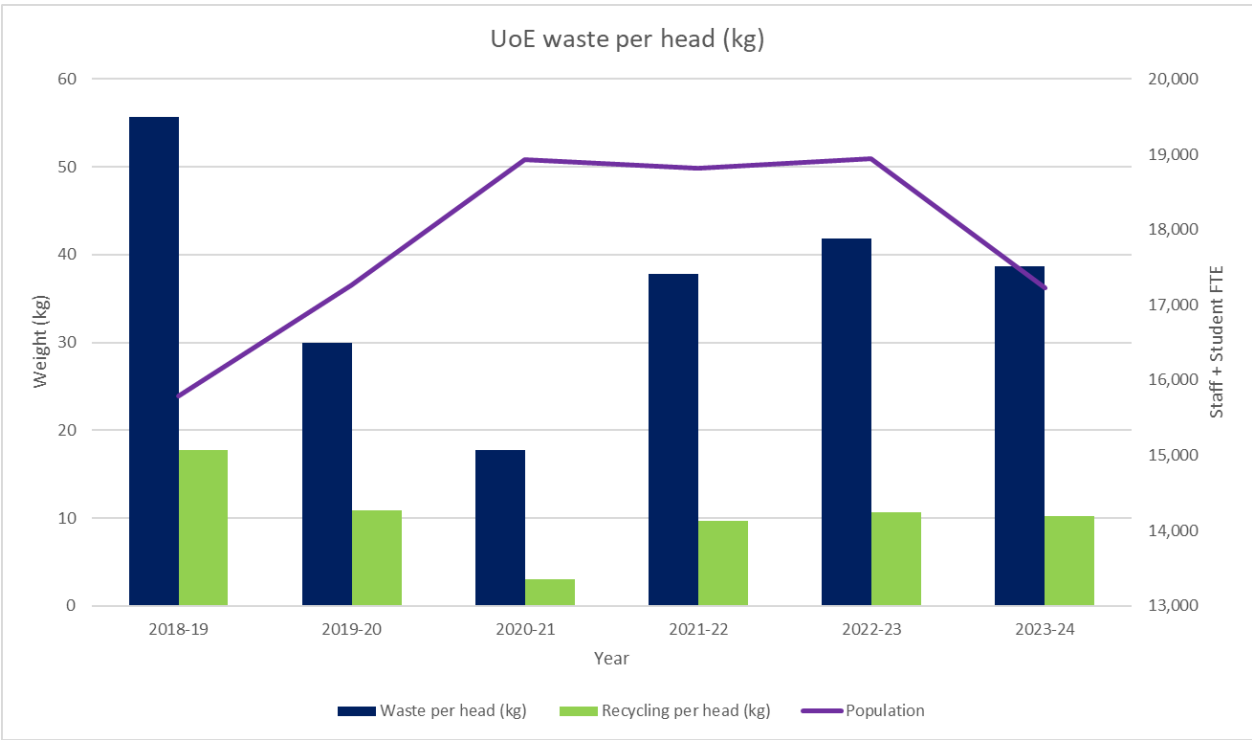
Priority 7 – Waste and Recycling

45. Waste generated by the University declined in 2023-24, compared with 2022-23, and has brought us in line with our reduction target (5% annually). Figure 4 below shows the waste figures annually from our contractor Veolia (Colchester only), with the green line showing the target trajectory.

46. Increases and decreases in on-campus activity and overall community population size impact the overall waste generation, so we also track our performance on waste and recycling based on overall mass and recycling mass (in kg) per head

(Figure 5). In 2023-24, waste per head (kg) has reduced by 5%, while recycling per head (kg) has remained steady.

Figure 4: Annual total waste, overlaid with the aspiration to reduce by 5% y-o-y.

Waste data Figure 5: Waste per head (total and recyclable)[1]

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[1] Note the total figures used here only includes data from our waste contractor, due to the availability of historic data for other types.

47. Waste data is collated to bring together all available sources, as there are a variety of contractors for different types of waste/recyclables and their treatment. When all types of recycling and reuse are factored in (with available data to date), the University's recycling rate for 2023-24 was 34%, up from 33% in 2022-23; the target is to reach 50%.

48. New 'Simpler Recycling' legislation is due to commence from March 2025, which aims to standardise recycling materials, separate food waste for collection, and separate dry mixed recyclables. Full guidance from Government is not yet available and we are examining what impact, if any, this change may have on our bin infrastructure, both in central campus locations and in accommodation.

49. On-campus (and intra-campus) retention and reuse of serviceable furniture items continues to be successful, particularly as teams seeks to reduce their expenditure. Since the project began in late 2022, based on the cost of new furniture, the University has saved circa £32,000 (compared with buying new, at conservative prices), and an estimated eight tonnes of CO_2 avoided.

50. A Single Use Plastics policy has been drafted, with the aim of guiding decision-making and reducing unnecessary items and waste at source. It is expected to be ready for launch in early 2025.

Priority 8 – Travel and Transport

51. Fees for staff/visitor (i.e. not university fleet vehicles) electric vehicle charging were introduced in August 2024, which has helped to free up capacity of our existing chargers and limited the need to install further at present.

52. Work to develop a Business Travel policy, with the aim of encouraging low-emissions and/or reduced air travel is ongoing. It can be a challenging topic to address as international travel can be seen as an inherent part of academic/researcher prestige, however many people are open to discussions.

53. Some Travel & Transport initiatives are currently on hold due to budget constraints, but plans are in place should funding be available in the future (for example lift-sharing app, further bicycle shelters, additional bicycle maintenance service).

Priority 9 – Food and Drink

54. The Essex Food team maintain ethical procurement and supply chain practices, led, in particular, by their contract with Pelican, which allows them to set their expected standards at the outset to identify suitable suppliers.

55. Essex Food outlets continue to optimise energy efficiency of their equipment. A review of inventory has taken place, an asset replacement list has been compiled, and priorities set for each area. A phased approach is being taken to spread cost impacts.

56. Customer engagement and focus groups have taken place to better understand their needs, in relation to delivered catering. Training is in place for the delivered catering team to inform customers at point of order/booking of suggested quantities to avoid significant leftovers/food waste after events.

57. All menus now include at least 30% vegetarian/plant-based dishes (up from 25% last year). Further work is being explored to indicate carbon impacts of dishes to help customers make informed choices.

Priority 10 – Sustainable Buildings

58. Further LED lighting upgrades have taken place at our Colchester and Southend's campuses, that include sensors to control lighting levels and turn off lighting when no presence is detected. Audits to identify opportunities for further locations is taking place. Audits will also be completed during the winter months to identify areas where lighting can be switched off outside of usual operating hours (i.e. where unnecessarily on and wasting energy).

59. Further moderation of heating and cooling times has taken place, to ensure energy waste is minimised, with benefit gained from further Building Management System (BMS) installation allowing more precise control.

60. A window design standard is being developed for windows across the original 1960 estate at the Colchester campus. The design standard will set out the approach to window replacements, including appearance, thermal properties, ventilation and noise.

61. Solar PV panel installations at South Courts accommodation are in progress, due to be complete by the end of the calendar year, to help supplement demand for electricity in these buildings.

Priority 11 – Space Use

62. Making best use of our building envelope remains a priority, to avoid adding to our energy use and carbon emissions burden. Given current fluctuations in student numbers, this has been a prudent approach to take.

63. Multi-functional/shared space considerations are now part of the space planning process at space request stage, supporting the smart use of space for greater energy efficiency and further reducing the need for new constructions.

64. Further sub-metering installations have taken place, providing a greater level of insight into how energy and water are used across our buildings. The data allows prioritisation of measures which realises efficiencies.

65. A review is taking place to ascertain how and when our spaces are used and the control of access to these spaces. The findings and subsequent actions will improve how we use space, how spaces are maintained and how we heat, cool, light and ventilate these spaces.

Priority 12 – Finance and Procurement

66. An estimate of carbon impact per new post was incorporated in the 2024-25 planning round, to serve as an indicator, and this will continue to be refined. Further work will be required before carbon emissions could be given strategic priority in the same way as other themes (i.e. money).

67. Sustainability is embedded into the Strategic Planning Advisory Group (SPAG) agenda, and support is given where projects require some strategic oversight is necessary, to help move them forward.

Priority 13 – Our Community

68. Departmental teams continue to show good leadership on sustainability through the Sustainable Essex Awards. Through the programme, many now develop their own sustainability action plans, however big or small, to help shape environmental thinking amongst their teams. In 2023-24, 37 teams participated, undertaking initiatives that covered themes such as waste reduction and recycling, social responsibility, carbon reduction, circular waste principles, education and sustainable food.

69. For 2024-25, the Sustainable Essex Awards have had a refresh, aiming to bring teams closer to the themes of the Sustainability Sub-Strategy. The Bronze, Silver and Gold awards remain, and a Platinum award has been added, which focuses on fostering collaboration between teams and/or with students.

70. The Student Sustainability Group for 2024-25 is up and running, largely run by the Students' Union (SU) but supported by the Sustainability Engagement Team. The group consists of engaged students who are keen to learn more and support action amongst their peers. Their input provides a means of ongoing consultation, helping to ensure student voices influence change and shape opportunities in ways that meet their requirements.

71. The Low Carbon University Action Plan is being developed. It aims to supplement the Our Community section of the SSS, to support integration of sustainable choices and action into our staff and students' life on campus.

Recommendation

72. USG is asked to note the updates included in the paper, offer feedback on progress and/or comment on areas where additional support may be given.

Daisy Malt, Sustainability Manager

Rob Davey, Director of Sustainability

18 November 2024

Appendix 1 - Sustainability Sub-Strategy Key Performance Indicator Summary

KPI Maturity Rating	
13	Achieved
26	Under way

Priority Area	Key Performance Indicator	RAG
Scope 1 and 2 Carbon Emissions	**KPI 1:** By 2035 Scope 1 and 2 carbon emissions reduced 76% from 2019 baseline	
	KPI 2: By 2028 25% of our electricity is generated through renewable sources	
Scope 3 Carbon Emissions	**KPI 3:** Scope 3 emissions data defined, collected and reported on an annual basis and by 2025 have an agreed date to aim to achieve Scope 3 net zero carbon emissions	
	KPI 4: By 2023 scope 3 emissions reduction actions included in Carbon Management Plan	
Education for Sustainability	**KPI 5:** Sustainability in Education is embedded in appropriate policy and strategies by 2026	
	KPI 6: Sustainability integrated into all course approvals, ARCs and periodic reviews by 2026	
	KPI 7: Sustainability training available to all new starters (students and staff)	
	KPI 8: 100% of current students and staff to have received Carbon Literacy training by 2028. Completion of carbon literacy training will be recorded on the HEAR for students and recorded as part of staff essential training	
	KPI 9: All prospectuses, module content and assignments to be paperless by 2026	
Research	**KPI 10:** The opportunity to consider sustainability is embedded at all stages of the research planning, costing and delivery process by 2025	
	KPI 11: A sustainability module is developed for the Researcher Development Framework (RDF), and sustainability is embedded across the RDF more generally by 2025	
	KPI 12: There is an increased number of funding, knowledge exchange and impact activities in the areas of climate, ecological and sustainability research by 2025	
	KPI 13: There is an increased number of events showcasing our climate, ecological and sustainability research to internal and external stakeholders by 2023	
	KPI 14: The strategic plans for the Environment and Society and Centre for Public and Policy Engagement are delivered by 2023	

Priority Area	Key Performance Indicator	RAG
Biodiversity and Grounds	**KPI 15:** Greenspace policy delivered by 2024/25	
	KPI 16: By 2024 achieve >5% increase in biodiversity from 2022 baseline	
	KPI 17: By 2025 surveyed student and staff's awareness of green spaces increases by 15% and use of green spaces increases 10% both from a 2020 baseline	
Water Management	**KPI 18:** Average annual consumption to be no more than 2019 levels (average allows for seasonal variations) by 2026	
Waste and Recycling	**KPI 19:** By 2026 total waste reduced by 5% (measured in tonnes) year-on-year from a 2019 baseline	
	KPI 20: General food waste audit across all areas and food waste trial undertaken in accommodation areas by 2023	
	KPI 21: By 2024 single use plastics will not be used by events or marketing materials	
	KPI 22: Average annual recycling reaches 50% by 2026	
Travel and Transport	**KPI 23:** 20% reduction in parking permits issued from 2019 baseline and a 100% increase in proportion of EV/Hybrid vehicles being used for commuting by 2026	
	KPI 24: By 2026 a 5% increase in student and 11% increase in staff journeys by sustainable means (bus, train, bike, walk) from a 2019 travel survey baseline	
	KPI 25: 75% of University of Essex fleet vehicles to be electric by 2028	
	KPI 26: 30% reduction in business air travel from 2019 baseline (2,188 tCO2e, 3,844 trips) by 2026	
Food and Drink	**KPI 27:** Sustainable Food and Drink Policy that ensures ethical and sustainable purchasing using local and seasonal produce created and being delivered by 2023	
	KPI 28: By 2026, vegetarian and vegan food will represent 50% of all menu choices available within Essex Food restaurant menus	
	KPI 29: By the end of 2024 single use plastics will not be used by delivered catering or be made available in catering outlets	
Sustainable Buildings	**KPI 30:** By 2035, reduce energy sourced from the grid by 76% per m^2 of GIA from 2021 baseline	
Space Use	**KPI 31:** Student and staff number growth incorporated without further growth to the built environment	
	KPI 32: 100% achievement of the Sustainable Essex programme by all departments / sections by 2023	
	KPI 33: 100% of all furniture, fixtures, fittings and equipment are recycled within or without the organisation, or via recycled waste by 2025	

Priority Area	Key Performance Indicator	RAG
Finance and Procurement	**KPI 34:** Carbon and environmental impact is integrated into procurement process, life of contract and embedded into financial planning processes and whole life cost of capital purchases are used to minimise financial and environmental impact by 2026	
	KPI 35: Investment and banking processes align with our environmental and ethical principles by 2028	
Our Community	**KPI 36:** Sustainability embedded into pre-arrivals and inductions for new starters by 2023	
	KPI 37: Regular opportunities for idea sharing and consultation in place by 2023	
	KPI 38: All departments participating in and achieving a minimum of Bronze in Sustainable Essex Awards programme by 2023	
	KPI 39: Students report satisfaction in provision of sustainability education and extra-curricular activities, measured through NSS or equivalent by 2026	

Appendix 2 – Full URLs for hyperlinks included in main document

Paragraph 4: 2022 SSS Update - https://www.essex.ac.uk/-/media/documents/sustainability/sustainability-sub-strategy-(sss)-annual-report-2022.pdf

Paragraph 15: Digital prospectus - https://prospectus.essex.ac.uk/

Paragraph 33: Energy projects webpage - https://www.essex.ac.uk/sustainability/sustainability-on-campus#energy-efficiency-and-infrastructure-projects

Paragraph 38: Green House Gas Protocol Corporate Value Chain Standard - https://ghgprotocol.org/corporate-value-chain-scope-3-standard

Paragraph 54: University of Essex Sustainable Development Goals Report 2023-https://www.essex.ac.uk/sustainability/development-goals