Environmental Management System

Investors in the Environment

Version 12a
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Contents

Version Information

Version	Date of Issue	Review Date	Comments
1	13/03/2013	12/09/2013	Version 1 created
2	04/04/2013	03/10/2013	Version 1 superseded by Version 2
3	20/01/2014	19/07/2014	Version 2 superseded by Version 3
4	23/04/2015	22/10/2015	Version 3 superseded by Version 4
5	06/05/2015	05/05/2015	Version 4 superseded by Version 5
6	25/3/2016	25/09/2016	Version 5 superseded by Version 6
7	25/4/2017	25/10/2017	Version 6 superseded by Version 7
8	3/5/2018	3/11/2018	Version 7 superseded by Version 8
9	03/10/2019	09/10/2019	Version 8 superseded by Version 9
10	03/08/2020	16/09/2020	Version 9 superseded by Version 10
11	09/09/2021	30/07/22	Version 10 superseded by Version 11
12	06/09/22		Version 11 superseded by Version 12

Introduction and Scope

In September 2018 the University of Northampton (UON) moved to the new £330m Waterside Campus, located close to the heart of Northampton's bustling town centre. The new campus provides a modern, urban environment, making use of carefully designed spaces for learning and teaching, socialising, sport and leisure for up to 11000 students. Three halls of residence are all that remain of Park Campus, which is now referred to as Scholars Green Student Village. Several satellite buildings are also occupied by the University.

The UON Environmental Management System (EMS) considers the environmental impacts of the institution across the estate and provides a systematic approach to planning and implementing continual improvements to its environmental performance. The system is based on the Investors in the Environment (IIE) six step process, with all University activity including teaching, research, administrative and operations under scope and is maintained by the Environment and Sustainability team, within the Estates and Campus Services department. Led by the Environment and Sustainability Manager, the Environment & Sustainability team consist of 3 additional roles including an Energy Officer, Environment Advisor, and Sustainable Travel Officer. Together, they are dedicated to developing and demonstrating a commitment to environmental management and sustainability at an institutional, local, and national level.

The University Management Team (UMT) have overarching accountability for the EMS and provide the strategic direction through the governance structure. The UON is committed to continually improving the environmental performance across all functions and operations and according to all legal, regulatory, and service requirements. The University recognises that our activities impact upon the local and global environment and is committed to lessening this impact through embedding sustainability across the institution.

To embed sustainability across UON, the UMT agreed a Sustainability Governance Structure. This governance structure ensures effective oversight and decision-making on strategy, performance, responsibility, and accountability. This structure has been in place for over 12 months and consists of a Sustainability Board, attended by senior academics, team leaders or members from the wider university, members from Action Groups and representatives from the Environment & Sustainability Team. The Board meet three times per year, and the agenda includes feeding into specific activities covering the Sustainability Leadership Scorecard, new policies and presenting in specific topics that are linked to sustainability.

Environmental Policy

The UON is one of the youngest Universities in the UK and one of the first to be named as a Changemaker Hub, reflecting a special focus on social impact. This means that as an institution, we work hard to have a positive impact on the world around us. The University recognises our activities can have a negative effect on the environment both locally and globally and we are committed to managing and minimising that impact. The full UON Environmental Statement can be read here.

The University's Environmental Policy has been established by the Environment and Sustainability Team to enable delivery against our Environment and Sustainability objectives. The policy is reviewed annually, with the last review taking place in August 2022 (V14) where a full rewrite was undertaken to reflect UON updated targets.

Measuring Resource

There are numerous methods used by the University to measure resource use, enabling annual, monthly and more refined measurements. Sophisticated cloud-based utility management database and software, information received from utility suppliers, data received from waste service providers, and employee surveys all have an important role to play in our EMS.

Electricity

Waterside Campus is supplied via two half hourly tariff meters on North and South HV ring mains that cover the entire campus. Electricity is supplied via half-hourly tariff meters across the majority of the estate. All sites are supplied with 100% renewable electricity with REGO's (Renewable Energy Guarantees of Origin) via our provider.

The primary use of electricity within the University of Northampton is lighting, office and classroom equipment such as screens and computers, catering facilities, air handling units, and plant. We monitor our bills monthly.

Operating hours vary across the University estate. Building settings change seasonally to accommodate the changes in temperatures. Operating hours are generally set either from 6am to 6pm or 8am - 10pm for teaching, except for our main academic building which has 24-hour access. Other parts of our estate include halls of residence which are also 24/7.

Lighting

Waterside campus is fitted with sensor LED lighting throughout, except for back of house areas such as plant rooms. Sensors are in classrooms and open spaces where lights will come on when the space is occupied. The lighting system is maintained by the University's facilities team to

monitor the sensors and identify any issues or challenges at the first instance so that it can be resolved.

Other sites have a mixture of sensor LED lights in common areas such as hallways, open offices, and shared kitchens in the halls of residences. Other areas do not have sensor LEDs but are still fitted with LED lighting. The only lights that remain on are fire exit lights which is a legal requirement.

Office Equipment

The UON uses office and classroom equipment at Waterside and our satellite sites. This includes computer monitors, laptops, photo copier and printers and LED screens in the classroom and throughout the academic buildings at Waterside for digital displays.

The screens are managed through a software operated within the IT and AV department. The screens have three settings: off, idle and in use. They operate between 8am and 7pm. The space booking system is connected to the meeting room screens and will automatically switch on and off around meeting times scheduled in via the space bookings. When screens are in idle mode, they are running at 20%.

Staff use laptops which are the responsibility of the individual and are therefore switched on and off per use. Monitors at the University are not controlled by a software and will be manually switched off or left on standby mode.

Kitchen Equipment

Kitchen equipment in office spaces at the University include fridges and an instant hot water tap. There are a few microwaves located in office and open spaces in the academic buildings for students and staff to use. Fridges must be left on to prevent food waste and to maintain hygiene standards.

Our catering facilities, including two restaurants and three take away coffee stations use chillers, fridges, barista coffee machines and instant hot water boilers. Operating hours vary between 8am and 9am opening and 3pm and 10pm closing. When some of these facilities close for term holidays (e.g., summer period) all equipment is switched off at the mains. When the facilities are open, fridges and chillers remain on for hygiene standards and to prevent food waste.

The ‘switch off’ campaign launched in Spring 2022 is aimed at staff and students to switch off appliances after use, such as microwaves and printers. A sticker system was used to visually identify the appliances that are included in this initiative.

Air Conditioning

Air conditioning is used at Waterside Campus in the data center rooms, one located on each of the four floors with one Main Equipment Room on the 4th floor. This must always be kept on

ensuring the IT equipment does not overheat. There is air conditioning in the sports labs and Senate meeting rooms. A natural ventilation system where ambient air is drawn in and cooled and ventilated through the building is used for most of the spaces. Sensors are located across the buildings in rooms to monitor air quality. These are linked to the Trend BMS, managed by the facilities team.

Further Information

Plant equipment such as chillers are required for our academic buildings. We have 1x chiller on academic buildings Senate and the Creative Hub, and 2x chillers for the third and largest academic building, The Learning Hub. Two extra chillers are required to cool the Main Equipment Room.

Measure

Our baseline year for reporting is 2018/19. Since this year, the University estate has reduced as Avenue campus was decommissioned in 2020/21 and the Newton building is leased as of May 2022. Monitoring is a mix of monthly utility invoices, manual reads and submeter data.

Most of our tariff meters are half hourly, supplying our electricity provider (EDF) with accurate data. Cost and consumption data from our EDF online account is input onto spreadsheets to enable comparison to sub-metering data and figures from previous years. This spreadsheet is updated monthly by our Energy Officer where data is regularly analysed for our reporting. Consumption data is used tocompile annual Display Energy Certificates and to complete carbon foot printing.

All tariff meters are included in the University's utility monitoring system, provided by Elcomponent, which also includes building–level sub-meters for most on and off campus buildings, giving real-time consumption readings every half-hour. This data is stored on a central server and can be interrogated by the Environment & Sustainability team. The sub-metering software allows us to review and compare data against invoices for bill ratification.

Baseline annual electricity consumption for 2018/19 academic year was 11,202MWh. Annual electricity consumption for 2021/22 academic year was 8,990 MWh. This represents a decrease of 2,212 MWh from the base line, a decrease of 20%. Annual electricity consumption in 2020/21 was 9,736MWh. 2021/22 usage shows an 8% decrease against 2020/21.

Baseline (2018/19)	kWh used	Previous Year (2020/21)	kWh used	Current Year (2021/22)	kWh used
August	894,495	August	688,874	August	633,309
September	901,757	September	725,992	September	667,660
October	1,107,091	October	882,378	October	772,258
November	1,007,463	November	897,242	November	812,118
December	915,058	December	898,770	December	771,196
January	1,058,139	January	872,597	January	836,653
February	947,654	February	794,551	February	781,321
March	1,001,068	March	894,592	March	799,477
April	800,193	April	801,262	April	738,420
May	910,518	May	814,604	May	770,414
June	792,286	June	756,742	June	701,107
July	866,620	July	709,170	July	706,122
Total	**11,202,342**	**Total**	**9,736,772**	**Total**	**8,990,055**

Table 1a: Electricity kWh used vs baseline

Gas

Waterside Campus has two gas supplies. A medium pressure main serves the energy centre plant which provides gas to the campus except for the ICLT building which is supplied via a low-pressure main. Boughton Green Road has one supply point servicing the student halls and the Newton building is supplied via 1 tariff meter.

At Waterside Campus, a 995KW biomass boiler is the primary source of heat. Three 12KW gas boilers provide the surplus heat whilst the biomass takes the baseload and distributes heat across the campus on the district heat network. The new baseline year moving forward is 2018/19 when the Waterside campus was opened, however, the biomass boiler was not operational until January 2019.

Biomass and gas are used to heat our academic buildings and halls of residences. Temperature, seasonal and operational settings are controlled by the BMS.

All tariff meters are either already included or soon to be added in the University's utility monitoring system, provided by Elcomponent, which also includes building level sub-meters for most on andoff campus buildings. This data is stored on a central server and can be interrogated by the Environment & Sustainability Team. Data provided by billing is also reviewed and analysed monthly by our Energy Officer for monitoring and reporting. Consumption data is used to compile annual Display Energy Certificates and to complete carbon foot printing.

Baseline annual gas consumption for 2018/19 academic year was 11,358 MWh.
Annual gas consumption for 2021/22 academic year was 6,357 MWh. This is a 44% reduction when compared to the baseline with an 18% reduction when compared to 2020/21.

During the AY 2021/22, the University's biomass boiler generated 3,453MWh of low carbon heat energy. This has produced 43 tonnes of CO_2e emissions. Using biomass as a heat source has saved 589 tonnes of carbon emissions when compared to using the same amount of MWh from natural gas. Total annual consumption during 2021/22 has increased by 54% when compared to 2020/21.

Gas (kWh)

Baseline (2018/19)	kWh used	Previous Year (2020/21)	kWh used	Current Year (2021/22)	kWh used
August	307,301	August	140,029	August	171,906
September	405,306	September	219,147	September	269,410
October	1,030,282	October	798,975	October	425,628
November	1,298,614	November	900,266	November	783,116
December	1,348,126	December	997,585	December	944,785
January	1,518,086	January	1,041,666	January	848,110
February	1,357,460	February	794,164	February	718,255
March	1,220,513	March	741,207	March	678,841
April	1,0625,11	April	775,535	April	613253,
May	900,809	May	496,046	May	453,802
June	593,417	June	407,850	June	302,602
July	315,117	July	395,929	July	147,518
Total	11,357,542	Total	7,708,400	Total	6,357,226

Table 1b: Gas kWh used vs baseline

Biomass (kWh)

Baseline (2018/19)	kWh used	Previous Year (2020/21)	kWh used	Current Year (2021/22)	kWh used
August		August	0	August	0
September		September	154,524	September	84,462
October		October	445,834	October	409,875
November		November	99,131	November	383,923
December		December	130,124	December	295,696
January	367,942	January	261,287	January	391,785
February	328,721	February	395,298	February	548,945
March	243,494	March	0	March	552,463
April	487,871	April	0	April	391,458
May	256,494	May	217,977	May	273,098
June	236,460	June	342,215	June	121,656
July	73,139	July	194,460	July	0
Total	1,994,121	Total	2,240,850	Total	3,453,361

Table 1c: Biomass kWh used vs baseline

Water

Waterside campus has two water supplies. One serving the administrative block called Senate, and the second serving the remaining campus. There is one main tariff water meter at all other satellite sites including Halls of Residence.

Water is used primarily for window cleaning, amenities and showers. The supplier is Anglian Water, and our provider is Wave. Our bills are monitored monthly. The University is in a framework with Wave as the provider. This was set up at the end of academic year 2020/21 and will support the monitoring of the estate's water consumption. This is done using monthly water bills and through a mix of manual meter reads and sub-metering.

Toilets

The toilets at Waterside campus are dual flush cisterns (four and six litres). Flushing of urinals is sensor controlled so they only flush once they have been used. Cistern size depends upon the number or urinals on a run.

All toilet areas have sensors connected to solenoid valves on the water supplies. These turn off the water to the toilets, basins and urinals when the toilets have not been used for a while to reduce the water waste. The taps are either percussion or electric sensor operated.

Drinks

Hot water taps are in staff kitchen areas, eliminating the requirement of kettles. Access to free drinking water is provided through water coolers situated throughout the site, a watercooler map is available to show the locations of each station, therefore cold drinks, including just water, do not need water from the mains supply.

Washing up

Kitchen sinks are in staff rooms for minimal washing up. There are four hospitality areas onsite, 2x restaurants and 2x coffee shops which have sinks for washing up equipment.

Processes

Water is used for window cleaning which is contracted to a third party. This is monitored by the contractor and External Services team. Water from the mains supply where it is then filtered through a purification process and used to clean all windows on each building across the estate. Wastewater from the purification process is diverted into a separate tank where it can then be reused for the Grounds team for plant and tree watering. Consumption of water for this use will begin in academic year 2022/23.

All mains water supply usage is monitored by the Energy Officer through water bills and meter reads.
Trade Effluent is a product of the Tannery. This is also metered and monitored through the provider, Wave.

Measure

Cost and consumption data from invoices are input onto spreadsheets for data monitoring and reporting. During 2020/21, all the University's water supply was moved onto a contract with one sole provider, instead of having more than one provider across the estate. This is to allow for a more streamlined and manageable approach to collect water consumption data.

The baseline year for water reporting is 2019/20. This differs to energy baseline reporting due to the level of historic data that is available. Water management has previously been heavily estimated due to issues with the wholesaler and retailer. Whilst data from 2019/20 and 2020/21 contains estimates, there are less gaps in the data. 2021/22 is the most reliable and complete dataset for water consumption since Waterside opened in 2018.

Baseline water consumption for 2019/20 academic year was an estimated 55,227 m^3 with the data that was available. Annual water consumption for 2021/22 academic year was 83,275m^3. This shows an increaseof 84%, however, this is not a true representation of water supply consumption changes, due to the level of estimated data used in 2019/20.This increase was predicted in last year's report.

Meter reads are carried out by meter operators at a frequency depending on the size of the meter which is standard in the industry. Water meter readings are taken when possible, for additional measure, but due to the location and accessibility of the tariff meters (under heavy manhole covers), it is not possible to do this each month.

An Automated Meter Reader (AMR) was installed on the main tariff meter at Waterside on the 25th of May 2022. This is to provide us with accurate, robust data for improved reporting compared to previous years.

Water use and waste data is stored on a central server and can be interrogated by the Environment & Sustainability Team. Data provided by billing is also reviewed and analysed monthly by our Energy Officer for monitoring and reporting. Consumption data is used to complete carbon foot printing.

Baseline (2019/20)	M3 supply used	Previous Year (2020/21)	M3 supply used	Current Year (2021/22)	M3 supply used
August		August	3938	August	5523
September		September	3996	September	5537
October		October	3304	October	6116
November		November	5014	November	6507
December		December	3768	December	6314
January		January	3600	January	5440
February		February	3326	February	6025
March		March	4227	March	11249
April		April	4220	April	9465
May		May	3968	May	6303
June		June	2681	June	9059
July		July	3221	July	5436
Total	**55,227**	**Total**	**45,264**	**Total**	**83,275**

Table 1d: Water M3 used vs baseline

Waste Management

The UON Waste Policy demonstrates a strategic approach to waste management, a target has been set to make a 5% reduction in waste recorded as General waste across the estate by 2030. This will be achieved by focusing on the Prevent / Avoid principle at the top of the Waste Hierarchy and every effort made to support the correct segregation of waste to maximise the recycling opportunities and reduce waste sent for energy recovery. The Avoidable Waste Policy is to be approved at the Sustainability Board meeting in October 22, with the Waste Policy due for review in November 2022.

Applied Waste Hierarchy Principles:

Prevent / Avoid

Communicate with staff and students to be mindful when making non-essential purchases along with the university's definition of avoidable waste.

Re-use

Ensure items are maintained, repaired, refurbished, used for spare parts or donated where applicable. This is evident in a recent project to decommission The St Georges Avenue Campus, through the donation of desks, chairs, IT equipment for use here in the UK and in Djibouti.
We also encourage student initiatives such as Hazaar and have a long-established relationship with The British Heart Foundation with donation banks on site for staff and students to donate quality clothing, books, DVDs etc. Further information on the work we have completed with Phoenix and The British Heart Foundation can be found here.

Recycle

Every effort has been made to make waste segregation easy for staff, student and visitors across the campus through the installation of internal and external recycling stations. These allow for separation of food, mixed recycling (plastic, paper, card, cans) and general waste.

Our halls of residence have the same bin segregation structure as the rest of the campus, with the addition of glass segregation bins. Campaigns take place on a regular basis to encourage waste segregation and increase recycling rates including recycle week, zero waste week and the first UON Go Green Week. All labelling is the same across all areas of the campus to ensure consistency of messaging.

In addition to mixed recycling, we offer coffee cup recycling through our Up For The Cup campaign with special cup recycling bins in place to allow for the separation of the lid, liquid and cup to reduce contamination and optimise recycling rates.

Recover

All non-recyclable waste is processed as a source for low carbon energy production by Suez, our waste management service provider. This enables us to divert our residual waste from landfill and to recover value from a resource by producing energy.

Waste Measurement

Each segregated waste collection taken from UON by Suez and monthly weight data is supplied via the customer portal and is accessible by Environment & Sustainability Team and Facilities Management. This data is for routine day-to-day campus activities but does not include waste from construction or refurbishment projects.

Regular waste audits continue to be conducted across the campus by students or Suez to enable us to establish the effectiveness of our segregation and potential contamination, the most recent was carried out in March as part of the Halls Environmental Scorecard initiative. This identified some halls where students were excellent at segregating their waste, including food. However, it also highlighted many halls where no segregation was evident at all. The bins for halls have been assessed to ensure that they are fit for purpose and not in any way contributing to the lack of segregation. It was found that there are no suitable alternative solutions and therefore the focus remains on behavioural change and messaging across halls.

Waste sent to Landfill

The ash from our biomass boiler is proving to be the most challenging waste stream to dispose of this Academic Year. The first collection was taken in September 2021, the method of disposal provided by our current waste contract Suez was landfill capping, where the mix is used to cap the site used for landfill. We strived throughout the year to source an alternative route of disposal; this has involved a number of laboratory tests to determine the characterisation of the ash. At the time of writing this report we are in discussion with a 3rd party who may be able to use the ash in land restoration projects.

Travel

Commuting by single-occupancy car

The University encourages students, staff and visitors to consider using alternative transport modes when travelling to the campus to reduce the congestion and pollution caused by single-occupancy vehicle travel. The University's Travel and Parking Management Plan (2018) highlights the ways in which the University is developing alternative travel options to help reduce commuting by single-occupancy vehicle. The University has set a five-year target to reduce single occupancy vehicle travel by 20% by 2023.

Staff and student travel surveys have been carried out since 2008 and are undertaken at regular intervals to measure and understand the mode and level of commuting to and from the University. The baseline and progress figures have been calculated using sampled data from the University's travel surveys.

Before the relocation to Waterside in 2018, the last travel survey was conducted in 2016 for Staff only. This survey showed that SOV travel was at 75%. One year after relocation to Waterside, the 2019 Staff survey showed that SOV had reduced to 71% while cycling and walking had both increased by 1%.

The most recent travel survey (2021/2022) was conducted for Staff and Students, a summary comparing the results is below:

Mode	SOV	Cycling & Walking
2016 – Park Campus (Staff)	75%	9%
2019 – Waterside (Staff)	71%	10%
2020 - Waterside (Staff)	37%	11%
2020 - Waterside (Staff & Students)	27%	16%
2021 - Waterside (Staff & Students)	54%	34%

Table 2: 2020 Travel Survey Results

Single Occupancy Vehicle travel increased since 2020, as a direct result of staff and students returning to campus rather than working from home as was the case during the pandemic. However, active travel has also increased within the staff and student community.
The IEA suggests working from home is the greener option if your journey to work is more than 4 miles. The University has produced a Smarter Ways of Working Policy to encourage working from home for the long term.

Operational Fleet

The University operates a fleet of vehicles for operational purposes. Fuel consumption is monitored and reported to account for greenhouse gas emissions of these vehicles. The fleet has additional electric vehicles and is managed by the individual teams who use the vehicles rather than the Environment &Sustainability team enabling teams to manage the fleet efficiently.

Biodiversity

At the University we recognise that wildlife supports healthy ecosystems and are weakened through wildlife loss. Waterside Campus offers a diverse range of habitats for wildlife, from the River Nene, to grassland to wildflower habitats, which we will conserve and create where possible to enhance wildlife on and around campus.

A Management Plan for Biodiversity is nearing completion which documents the UON approach to biodiversity across the estate and highlights our goals and aspirations to conserve and enhance the natural habitats and variety of species we have. Prior to the construction of Waterside Campus, an ecological assessment was completed by Betts. A Plan was formulated that identified the species we have across the site and recommendations for actions to be taken pre-build, during the build and once the build was completed.

Three years on, the UON Management Plan for Biodiversity will supersede the Betts Management plan and guides us in the actions needed to conserve and enhance the species we have across our estate. The Management Plan for Biodiversity is supported by a series of action plans which enable the achievement of each target.

In December 2021, Waterside welcomed two new, spiky residents following a hedgehog rehoming initiative set up in partnership with local hedgehog rescue organisation Little Wiggly Snouts and UON project AWESOME. A hedgehog house, feeding station and food were all put in place to support a successful release back into the wild.

Phantom (below, on the left) and Warlock successfully moved in as part of the University of Northampton's 'hedgehog-friendly campus' initiative.

Figure 1: Phantom (on the left) and Warlock

UON retained the Hedgehog Friendly Campus Silver Award in 2021 and are continuing to work towards the Gold Award in 2022.

In recognition of the important role that biodiversity plays in providing health benefits to our students, staff and the wider community and of experiencing nature, we aspire to ensure that our spaces can be used to educate and support the mental health and wellbeing of everyone who uses Waterside campus. This is achieved through working with the Student Union, Sports Groups and various events including guided wellbeing walks and litter picking activities.

Target and Performance

Performance against target in the ten measured resources, including scope 1&2 carbon footprint:

Resource	Target	Unit of measure	2018/19	2019/20	2020/21	2021/22
Total building area (GIA)	Efficiency factor	m²	141,423	152,880	125,169	124,738
Electricity	2% year on year reduction in consumption	MWh	11,202	10,150	9,737	8,990
	Efficiency measure	kWh/m²	79	66	78	72
	Consumption compared to baseline (from 22/23 previous year)			-9.4%	-13.1%	-19.7%
Gas	5% year on year reduction in consumption	MWh	11,358	12,072	7,708	6,357
		kWh/m²	80	79	62	51
	Consumption compared to baseline			6.3%	-32.1%	-44.0%
Biomass	Supplying a minium of 85% of Waterside heat demand	% of total Waterside heat demand	1,994	2,458	2,241	3,453
	Efficiency measure	kWh/m²	14	16	18	28
	85% of Waterside heat demand			23.3%	12.4%	73.2%
Water	1% year on year reduction in consumption	m³	143,170	83,460	61,051	83,275
	Efficiency measure	m³/m²	1.0	0.5	0.5	0.7
	Consumption compared to baseline			-41.7%	-57.4%	-41.8%
Waste sent to landfill	No higher than 1% of total waste produced by 2030	Tonne	0	0	15.9	4.94
	Compared to baseline				2.7%	0.7%
Waste recorded as general waste	5% Reduction in general waste	Tonne	252	172	202	231
	Compared to baseline			-32%	-20%	0%
Food waste recovery - non residential	5% Reduction in food waste by 2030	Tonne				82.22
	Compared to previous year					
Commuting by single-occupancy car	20% reductoin compared to baseline (up until 2023)	% of staff & students	63%	71%	37%	79%
	Compared to baseline			13%	-41%	25%
Carbon Footprint*	30% reduction by 2020	Tonne CO2	5,610	5,142	3,950	3,006
	Reduction compared to baseline			-8.34%	-29.59%	-46.42%
Sustainable Travel	% increase in mode of sustainable travel	% of staff & students				61%
	Compared to previous year					
Waste sent to recycling	80% recycle rate by 2030	% recycled	68%	71%	67%	68%
	Reduction compared to baseline			4.41%	-1.47%	0.00%

Table 3. Resource Table 2021/22

Performance Analysis:

Summary of performance against annual targets for 2021/2022

Plan	Overall Target	Annual Target(s)	Responsible Person	Performance Summary
1	To not exceed electricity consumption beyond 2018/19 levels	Reduce electricity consumption across the estate by 8% compared to 2018/19 levels.	Danielle Bird	Electric consumption has decreased by 20% compared to 2018/19 levels. Consumption has decreased by 8% compared to 2020/21. The large decrease from the baseline could in part be explained by the decommissioning of the old Avenue Campus which was completed at the end of 2020/21 and the final building leased in June 2021/22.
2	To not exceed gas consumption beyond 2018/19 levels	Reduce gas consumption across the estate by 25% compared to 2018/19	Danielle Bird	Gas consumption decreased by 44% compared to baseline levels. There was an annual decrease of 18%. The biomass boiler at Waterside is now running more efficiently and this was the first year it was throughout the year, this could explain some of the decrease in gas consumption. There has been an overall improvement in energy management and monitoring since 2018/19 which has allowed for better savings and reliable consumption reporting.
3	To not exceed 2020/21 water consumption (supply and waste) levels by 10%	Reduce water consumption in existing buildings by 5% in 2021/22 compared to 2020/21.	Danielle Bird	Water consumption in 21/22 has shown an increase in 84% supply compared to 2020/21. This is because we have a full year of data with minimal estimations whereas previously we had many gaps in our data and did

Plan	Overall Target	Annual Target(s)	Responsible Person	Performance Summary
				not have a full year of accurate usage.
4	Reduce the generation of non-recyclable / avoidable waste by 25% by weight of total waste arising by 2030 and increase recycling rates to a minimum 80% by weight of total waste arising.	Increase recycling rate by 12% from 68% of total waste in 2021/22 to 80% in 2022/23. Reduce general waste sent for energy production by 5% in 2022/23 compared to the 2018/19 baseline data of 252 tonnes 2021/22.	Emma Stone	Our annual recycling rate increased slightly to 68% from 67% the previous academic year. Our total general waste produced reduced by 8% from the revised 2018/19 baseline from 252 tonnes to 231 tonnes.
5	Increase glass and food recovery so that all possible material is collected	Increase glass and food waste rates by 10% in 2020/21 compared to 32% in 2019/20	Emma Stone	Our combined Food & Glass Collection reduced slightly from 267 the previous year to 255.5 in 2021/22. Due to a focus on reducing food waste we have decided to remove glass collection from this measure and focus on food waste only going forward. The glass collection is monitored via audits and reported on in the recycling %
6	Reduce the proportion of staff and non-residential students commuting to the University by single-occupancy car by 20% by 2023 and increase the active travel (no limit)	Reduce staff and students commutin g by single-occupancy car by 20% by 2023	Hollie Darby	Whilst the SOV has increased since the return to campus after 2020 lockdowns, the active travel, mainly walking and cycling, has increased and we shall continue to push encouragement in forms of literature, competitions, reward schemes and social groups.
7	To conserve and enhance biodiversity andto realise the wider benefits.	To engage and educate students and staff in the importance of	Emma Stone & John Howes	A Management Plan for Biodiversity is currently being written as a collaborative approach across the Estates team

Plan	Overall Target	Annual Target(s)	Responsible Person	Performance Summary
		biodiversity on the University estate.		and Academia. The plan is scheduled to be presented to the Sustainability Board in October 2022.

Normalisation

Normalised targets for electricity, gas and water are normalised using the gross internal floor area of all our buildings:

	GIA (m2)				
Factor 18/19	141,423				
Factor 19/20	152,880				
Factor 20/21	125,169				
Factor 21/22	124,738				
Resource	**Electricity**	**Gas**	**Water**	**Biomass**	**Carbon footprint**
Baseline Factor 2018-19	11,202	11,358	143,170	1,994	5,610
Factor	79.2	80.3	1012.4	14.1	0.040
2019-20	10,150	12,072	83,460	2,458	5,142
Factor	66.4	79.0	545.9	16.1	0.034
2020-2021	9,737	7,708	61,051	2,241	3,950
Factor	77.8	61.6	487.7	17.9	0.032
2021-2022	8,990	6,357	83,275	3,453	3,006
Factor	72.1	51	667.6	27.7	0.024
Target	-8%	-2%	-1%	5%	-2%
Year on Year Performance	-8%	-18%	36%	54%	-24%
	-7%	-17%	37%	55%	-24%
Performance against baseline	-20%	-44%	-42%	73%	-46%
	-9%	-37%	-34%	96%	-39%
Future Target	-2%	-5%	-1%	3%	-4%

Table 4a: Normalised performance vs baseline

Normalised targets for Carbon are normalised to student FTE. Decreasing year on year against baseline.

	Student FTE					
Factor 18/19	8795.9					
Factor 19/20	8666.7					
Factor 20/21	8824.6					
Factor 21/22	8172.2					
Resource	**Electricity**	**Gas**	**Water**	**Biomass**	**Waste recorded as general**	**Carbon footprint**
Baseline Factor 2018-19	11,202	11,358	143,170	1,994	252	5,610
Factor	1273.6	1291.3	16277.0	226.7	0.029	0.6
2019-20	10150	12072	83,460	2,458	172	5,142
Factor	1171.1	1392.9	9629.9	283.6	0.020	0.6
2020-2021	9,737	7,708	61,051	2,241	202.01	3950.3
Factor	1103.4	873.5	6918.3	253.9	0.023	0.4
2021-2022	8,990	6,357	83,275	3,453	231.09	3006.0
Factor	1100.1	777.9	10190.0	422.5	0.028	0.4
Target	-8%	-2%	-1%	3%	-5%	-4%
Year on Year Performance	-8%	-18%	36%	54%	14%	-24%
	0%	-11%	47%	66%	23.53%	-17.83%
Performance against baseline	-20%	-44%	-42%	73%	-8%	-46%
	-14%	-40%	-37%	86%	-1%	-42%
Future Target	-2%	-5%	-1%	3%	0%	-4%

Table 4b: Normalised carbon performance v's baseline

Energy Performance

The University consumed a total of 8,985MWh of electricity and 6,315MWh of gas across the estate. The overall electricity consumption has decreased by 8% and natural gas consumption has decreased by 18% when compared to academic year 2020/2021 (Figures 1a and 1b).

Figure 1a shows an increase in electricity use from April 2021 compared to the same period during 2019/2020. This is most likely due to the easing of lockdown measures as more staff and students returned to site.

Gas consumption across the estate was lower per month compared to 2019/2020, until April 2021 (Figure 1b). The biomass boiler was not operational during March and April, so this could account for the increase in gas during April. Other reasons for the increase compared to last academic year include lockdown measures easing, improved data

collection and cooler temperatures this year compared to the same period last year. June and July saw significant increases compared to the previous year which is mainly attributed to gas use at Boughton Green Road and St Johns Halls. Lockdown may be the reason for this but gas use at Boughton Green Road has been raised as a query for further investigation into current settings and efficiency.

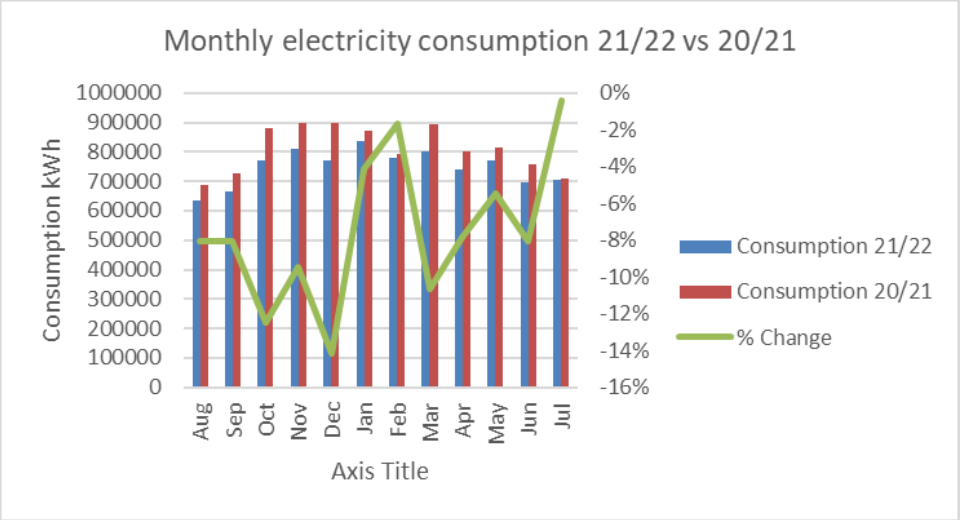

Figure 2a: Monthly electricity consumption kWh 2021/2022 compared to 2020/2021.

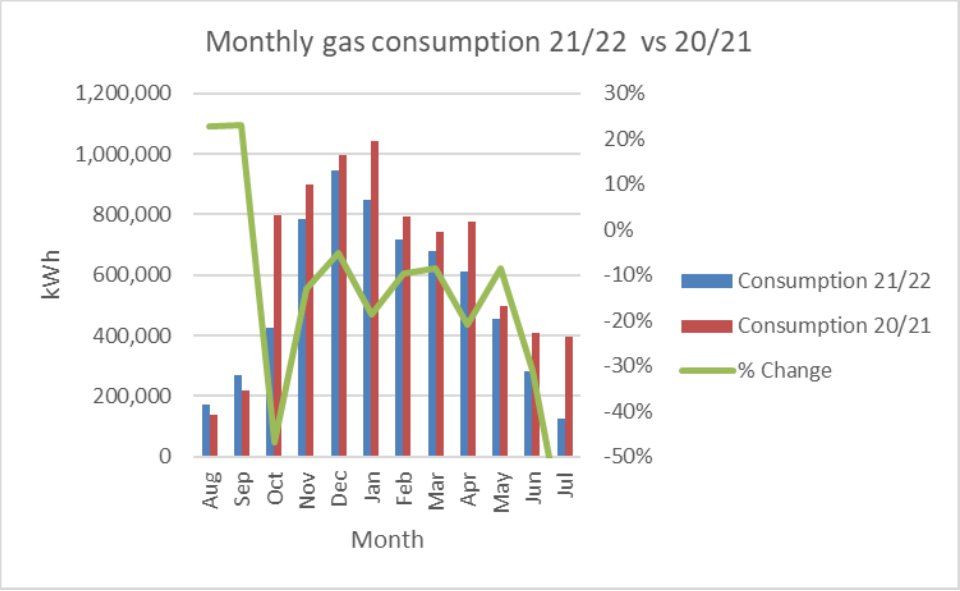

Figure 2b: Monthly gas consumption kWh 2021/2022 compared to 2020/2021.

**Includes a small portion of estimated data due to queries or unavailable at the time of writing.*

The biomass boiler has generated 3,453MWh during 2021/2022. This is a 54%% increase compared to 2020/2021. This is likely because the boiler was not operating during March and April 2021.It has produced 43 tonnes of CO_2e emissions, an increase of 9 tonnes from

last academic year. However. It has still saved a potential 589 tonnes of CO_2e emissions compared to using natural gas for this amount of energy.

The solar PV array at St Johns underwent a maintenance, repair and clean in 2021. Whilst we do not have the data to show the accurate kWh generated due to technical issues with submetering, Figure 2 demonstrates a continued improvement in performance since the maintenance of the array. The period shown is May – July 2021 against May – Jul 2022. An annual check was completed in 2022 including another clean. By implementing a regular annual check, the panels are generating more power than previous years.

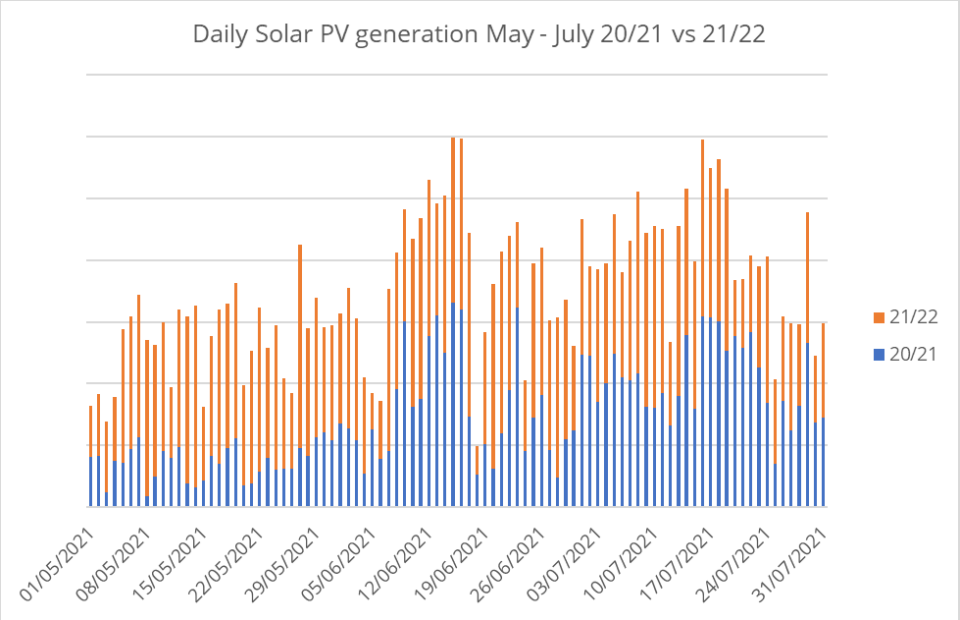

Figure 2c: Performance of solar panels April – July 2020 and 2021. Refer to legend for details.

Waste Performance Analysis

The total waste produced between August 2021 to July 2022 was 732.483 tonnes of which 501.398 (68.45%) was recycled with 221.677 tonnes of waste sent for energy recovery and 4.940 tonnes sent to landfill. This is an increase of 126.919 tonnes of total waste when compared to same time period of the last academic year. The cause of the increase has been due to a significant higher footfall across the estate from previous years as working from home reduced, face-to-face teaching resumed and students returned to halls of residence accommodation.

Recycling rates have increased by 1% to 68% from the previous year's 67%. The weight of recycled materials (including the Cup Fund) increased by 97,839 tonnes to 501.398 due to improved segregation.

In 2019 the University, in partnership with a number of large employers across the town started the Hubbub funded, Up For The Cup, cup recycling project. The initial target of 160k

cups recycled in 12 months was unfortunately impacted by lockdowns throughout 20/21 however, collections increased over the last 12 months with approx. 118,125 cups collected and recycled since the start of the project.

Other waste reduction initiatives have included projects on a global scale, in 2021 UON opted to twin 10 of our bins through the Bin Twinning initiative. The project helps to fund community projects focusing on preventing disease, protecting the environment and creating jobs.

Bin twinning certificates are on display across campus, showing a photo of the rubbish collection and recycling enterprise that we have twinned with overseas.

The total amount of ash used for landfill capping in AY 21/22 was 4.940 a proportion of 0.85 % total waste produced.

Figure 3a. Annual waste breakdown by Category

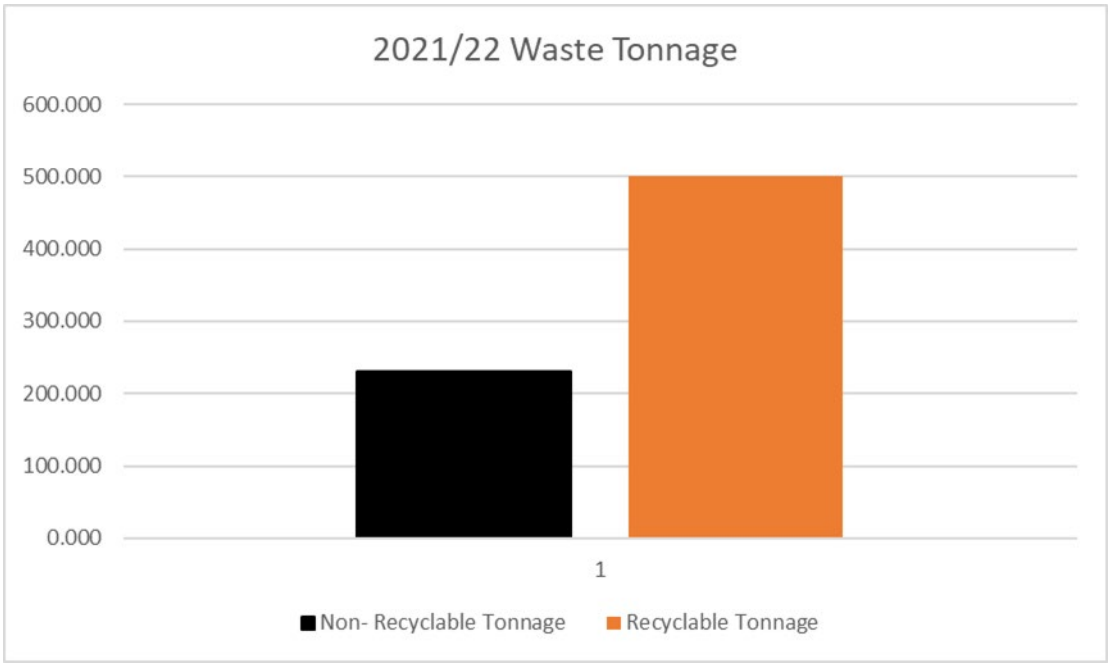

Figure 3b. Annual Breakdown of Recyclable Material Vs Non-Recyclable Material

Travel Plan Performance Analysis

The University of Northampton Travel and Car Park Management Plan was developed in 2018 and outlines how the University intends to implement and promote specific measures to help staff, students and visitors commute to the University's sites via sustainable measures and aims to reduce Single Occupancy Journeys (SOV) by 20% in 5 years.

In 2020, the university met this target, three-years early, with a reduction in staff SOV usage of 38%, this was largely due to the increase in working from home following the March 2020 pandemic. However, with lockdown restrictions easing, 2021/2022 has seen the SOV % increase. On the positive side of this, walking and cycling has also increased which, with the lockdown rules encouraging people to exercise for an hour a day, could be a result of people taking up walking and cycling during this period and now wishing to continue its health and wellbeing benefits as a means of commuting to work.

Table 5 below demonstrates how commuting by cycling and walking has continued to increase:

Mode	2016 – Park Campus	2019 – Waterside	2020 - Waterside	2021 – Waterside
SOV	75%	71%	37%	79%
Cycling & walking	9%	10%	11%	24%

Table 5: Modes of Staff Travel

Because of the extreme shift back to post Waterside Campus figures, the travel strategy has been amended to reflect a more sustainable and manageable measuring process and target setting. The travel plan ends in 2022 and therefore, our own targets will be implemented. In the new academic year 22/23, our target is to decrease the use of single occupancy vehicle journeys for both staff and students year on year by 1% using the current percentage 2021/2022 baseline of 79%.

In conjunction with this, we are introducing the target to increase all sustainable modes of travel by 1% each year, using 2021/2022 data of 61% as a baseline. This will include walking, cycling, buses, train, scooters, electric vehicles, car sharing and motorcycles. It will not include working from home, because although it is taking cars off the road, it is not a form of actual travel. We understand that by just measuring cycling and walking, we would be excluding those where this is simply not possible such as a disabled person or someone who lives too far away. Instead that person may choose to travel by an electric vehicle or by car sharing which are valid forms of sustainable travel and therefore should be included in our survey figures.

With the recent success of promotions of e-bikes in partnership with Smart Move Northants & Outspoken, we have seen an increase in Cycle To Work scheme purchases

and interest in the Active Travel campaigns. We have also introduced an EV users' group for staff and will be encouraging students to sign up a car club initiative where we will facilitate finding them someone to car share with who is on the same course, therefore breaking the barrier of timetable clashes as reason not to.

Action Plans 2022/23

Overall Responsibility	**Victoria Blake Environment & Sustainability Manager**			
Review Date	**July 22**			
Plan	**Overall Target**	**Annual Target(s)**	**Responsible Person**	**Target date**
1	To not exceed electricity consumption beyond 2018/19 levels by 2% year on year.	Reduce electricity consumption across the estate by 2% compared to 2021/22 levels.	Danielle Bird	Jul 23
2	To not exceed gas consumption beyond 2018/19 levels by 5% year on year	Reduce gas consumption in across the estate by 5%compared to 2021/22	Danielle Bird	Jul 23
3	To not exceed water consumption (supply) levels by 1% year on year	Reduce water supply by 1% year on year	Danielle Bird	Jul 23
4	Reduce the generation of non-recyclable / avoidable waste by 25% by weight of total waste arising by 2030 and increase recycling rates to a minimum 80% by weight of total waste arising.	Increase recycling rate by 12% from 68% of total waste in 21/22 to 80% in 2022/23. Reduce the generation of non-recyclable / avoidable waste by 5% by weight of total waste arising in 2022/23 compared to baseline 2018/19.	Emma Stone	Jul 23
5	5% reduction in food waste produced from non-residential areas by 2030	Reduce food waste collection by 2% from 2018/19 baseline.	Emma Stone	Jul 23
6	Reduce the proportion of staff and non- residential students commuting to the University by single-occupancy car and increase the sustainable travel modes by staff and students.	The target of reducing SOV journeys was met and exceeded in 2020, three years early, but it is acknowledged this was a direct result of the pandemic and work/study from home, and that this has now risen. However, it is important that the University puts the strategies in place to try and get back to the base line figure by reducing the shift year on year.	Hollie Darby	Jul 23

Overall Responsibility	**Victoria Blake Environment & Sustainability Manager**			
Review Date	**July 22**			
Plan	**Overall Target**	**Annual Target(s)**	**Responsible Person**	**Target date**
		The target is now two-fold. Target 1 - to continue to decrease the use of single occupancy vehicles year on year by 1% using the current figure – 79% - year on year. Target 2 – to increase sustainable travel modes by 1% using the current figure – 61% - year on year.		
7	Net Zero Carbon Scope 1&2 carbon emissions by 2030 and Net Zero Carbon Scope 3 emissions 2050	Net Zero Carbon Plan dates have been agreed, with final plan to be signed off by May 2023. Heat Decarbonisation Plan complete, follow up actions funding secured and to be completed Scop 3 emissions calculated for water, waste, and some business travel. Methods of collection underway. Full method to be agreed and signed off Purchase of a carbon calculator and reporting tool obtained.	Victoria Blake & Danielle Bird	May 2023
8	To conserve and enhance biodiversity and to realise the wider benefits.	To engage and educate students and staff in the importance of biodiversity on the University estate and implement action plans for bio-diversity gain.	Emma Stone & John Howes	Jul 23

Action Plan Reference 1: Electricity

Overall Target	Interim target whilst the Estate Plan is under development is to not exceed electricity consumption beyond 2018/19 levels by 2% year on year.	
Annual Target (s)	Reduce electricity consumption across the estate by 2%	
Measure/indicator of success	Overall consumption of electricity monitored through the University's sub-meteringsystem and monthly utility invoicing. DEFRA emissions factors applied to calculate carbon emissions.	
Synopsis	Utility spend is a major revenue expenditure for Infrastructure services, particularlywith the introduction of new legislation. The most significant influence on electricityconsumption is staff and student behavior. Through education and good practice (switching off of appliances etc.) a significant reduction in utility consumption is achievable. Key barriers to reducing consumption are awareness of good practice, motivation of staff and students and monitoring the practices within the local environment.	
Responsible Person	Danielle Bird	
Key Actions	**Target date**	**Status**
To streamline sub-metering and optimize use of the reporting software for increased monitoring	July 23	
Increase awareness and visibility of electricity use through digital displays and communications to staff and students to encourage behavior changes	July 23	
Coordinate with Planning and Space manager and AV on a project to best utilize spaces and AV software to increase efficiency of space and screen use.	July 23	
Conduct energy audit of Learning Hub (primary academic building) to understand buildings performance and identify energy savingmeasures.	July 23	
BMS health check to investigate current settings and operations	July 23	
To run switch off campaigns for Christmas and semester breaks.	July 23	

Action Plan Reference 2: Gas

Overall Target	Interim target whilst the Estate Plan is under development is to not exceed gas consumption beyond 2018/19 levels by 5% year on year	
Annual Target (s)	Reduce gas consumption in across the estate by 5% compared to previous year.	
Measure/indicator of success	Overall consumption of gas monitored through the University's sub-metering system and monthly utility invoicing.DEFRA emissions factors applied to calculate carbon emissions.	
Synopsis	Gas is consumed for the provision of spatial heating and hot water across The University. Therefore, consumption is dependent on occupancy and external temperature. The University has a BMS (Building Management System) which provides central control over heating, ventilation and air conditioning. Central control of these systems is influenced by localized (generally adjustable) settings, thermostats andradiator valves. The combination of the BMS and sub-metering system is an excellent tool that can be used to manage campus gas consumption.	
Responsible Person	Danielle Bird	
Key Actions	**Target date**	**Status**
To streamline sub-metering and optimize use of the reporting software for increased monitoring	July 23	
Review and update heating & cooling guidance document used by Building Services to ensure key information, settings and operations are up to date and reflect best practices for energy efficiency and student welfare	July 23	
BMS Health Check for Waterside Campus with the aim to provide energy saving recommendations and program of works.	July 23	
Investigate and review biomass boiler is running efficiently	July 23	
Increase awareness and visibility of electricity use through digital displays and communications to staff and students to encourage behavior changes	July 23	

Action Plan Reference 3: Water

Overall Target	Interim target whilst the Estate Plan is under development is to not exceed water consumption (supply and waste) levels by 1% year on year.	
Annual Target (s)	Reduce water consumption in existing buildings by at least 1% in 2022/23 compared to 2020/21	
Measure/indicator of success	Overall consumption of water monitored through the University's sub-meteringsystem and monthly utility invoicing. DEFRA emissions factors applied to calculate carbon emissions.	
Synopsys	Utility spend is a major capital expenditure for the Estates team. The most significantinfluence on water consumption is staff and student behavior. Through education and good practice (turning off taps etc.) a significant reduction in utility consumption is achievable. Key barriers to reducing consumption are awareness of good practice, motivation of staff and students and monitoring the practices within the local environment.	
Responsible Person	Danielle Bird	
Key Actions	**Target date**	**Status**
Monitor new utility invoicing since joining framework for 2021/22 and ensure smoother billing process and greater data collection	July 23	
Detailed analysis of water consumption across the University's estate	July 23	
Installation of either AMR or sub-meter on Waterside tariff meter	July 23	
Optimize the use of the Elcomponent MW2 software system	July 23	

Action Plan Reference 4: Waste Management

Overall Target	Reduce the generation of non-recyclable / avoidable waste by 25% by weight of total waste arising by 2030 and increase recycling rates to a minimum 80% by weight of total waste arising.	
Annual Target (s)	Increase recycling rate by 12% from 68% of total waste in 2021/22 to 80% in 2022/23. Reduce the generation of non-recyclable / avoidable waste by 5% by weight of total waste arising in 2022/23 compared to baseline 2018/19.	
Measure/indicator of success	Maintaining zero waste sent to landfill (The Carbon trust Definition used of Diverting all Non-Hazardous waste streams from landfill through a combination of reducing waste, finding ways to reuse materials, increasing recycling or sending waste to energy recovery - The Carbon Trust Standard for Zero Waste to Landfill standard. Reduction in the weight of residual waste sent for conversion to energyIncrease in weight and % of waste recycled Above will be monitored using the Suez monthly waste reports	
Synopsis	To increase the volume of materials recycled and ensure zero waste being sent to landfill through behaviour change and staff and student engagement activities as wellas providing adequate resources and signage to support the separation and collectionof the various waste streams.	
Responsible Person	Emma Stone	
Key Actions	**Target date**	**Status**
Include waste guidance in new Welcome communications for new starters in halls and across campus.	Sept 22	Complete, this is an annual task to be enhanced year on year
Refresh bin labels and waste guidance signage across all campus buildings	Sept 22	Complete, this is an annual task to be enhanced year on year
Create and implement a communication and engagement strategy using social media resources and university communication channelsto promote a change in behaviour and educate staff and students on correct disposal of waste. Student engagement teams (Residential Life) will be key partners in this initiative.	Jan 22	Complete Evidence – **EP3: UON_008**
Define and implement a Zero Avoidable Waste Policy	Mar 22	Awaiting Approval at the Sustainability Board Oct 22

WEEE amnesty for staff equipment	Jan 22	All WEE is disposed of via helpdesk requests to ensure it is disposed of correctly. Staff are aware of the processes for disposal where needed.
Source a long-term solution for Waterside cup recycling project	Dec 22	In progress, we are exploring the options of using part of the 25p cup charge to fund the collections as well as a potential cup re-use deposit scheme. A trial will take place using the re-useable cups at events initially to assess the feasibility of a potential deposit return re-useable scheme across campus.
Investigate the potential for operating a textile recycling facility across campus with a view to running a pilot project in 2021	July 23	In progress, the extent of the materials to be collected is to be assessed before progressing further.
Complete termly waste audits across all areas of campus and report on findings	July 23	Residential audits are evidenced through the Environmental Scorecard, 2022 evidence of results. we are working on documenting our waste audit data more effectively. This action will be carried forward.
Create "Waste Wall" in The Market – this will be where the bins are and include vinyl graphics demonstrating which bins to use for which items.	July 23	
Vegware disposal – assess the options for correct disposal of Vegware and implement a suitable solution if possible.	March 23	

Action Plan Reference 5: Food Waste Recovery Non-Residential

Overall Target	5% reduction in food waste produced from non-residential areas by 2030	
Annual Target (s)	Reduce food waste collection by 2% from 2018/19 baseline.	
Measure/indicator of success	Maintaining zero waste sent to landfill Reduction in the weight of residual waste sent for conversion to energyIncrease in % of glass recovered from halls of residence Increase the segregation of food waste to 30% of waste Reduce the level of food waste at both a student and catering staff level Above will be monitored using the Suez monthly waste reports	
Synopsis	The action plan for glass and food waste recovery will be split into two focus areas, these willinclude the student community in halls of residence and our catering providers. Both areas will be targeted to increase the levels of glass and food segregation whilst minimising the amount of food going to waste. This will be achieved through behavioural change and engagement activities as well as providing adequate resources and signage to support the separation and collection of the various waste streams.	
Responsible Person	Emma Stone	
Key Actions	**Target date**	**Status**
Create and implement a communication and engagement strategy using social media resources and university communication channels to promote a change in behaviour and educate staff and students on correct disposal of waste. Student engagement teams (Residential Life) will be key partners in this initiative.	Jan 22	Complete, this is an annual task to be enhanced year on year
Include waste guidance in new Welcome communications for new starters in halls and across campus.	Sept 21	Complete
Engagement of catering staff in the segregation of food waste	Oct 21	In progress, currently rolling out the Guardians of Grub initiative and have signed up to the Too Good To Go Service.
Trial the use of a catering supplier scorecard relating to the segregationof waste	Jan 23	In progress, action carried over
Provide regular news updates / food waste reduction initiatives /	July 22	Action carried over

ideas for students in halls. Residential Life will be key to supporting this initiative.		
Complete termly waste audits across all areas of campus and report on findings	July 22	Work in progress, this is an annual task to be enhanced year on year
Work with the catering team to embed the Guardians of Grub Scheme to measure and reduce food waste and promote the Too Good To Go service on offer.	July 23	

Action Plan Reference 6: Single Occupancy Travel

Overall Target	Reduce the proportion of staff and non-residential students commuting to the University by single occupancy by 1% year on year. Sustainable travel – increase sustainable modes of travel for staff and commuting students by 1% year on year.	
Annual Target (s)	1% reduction in single-occupancy car travel. 1% increase for sustainable travel.	
Measure/indicator of success	Comparison of student and staff travel modes against previous surveys.	
Synopsis	Provisions have been made to enable staff and students to park at both campuses of the University. The provision of car parking spaces for students and staff members encourages the use of private vehicles for commuting purposes and demand often exceeds capacity, this leads to increased carbon emissions and congestion in the local area. It is important that there are sustainable alternatives for staff and students to attempt to minimise our carbon impact. Additionally, many staff members use their own vehicles for business travel with consequential issues related to the use of this 'grey fleet'. Again, the University needs to provide alternative solutions.	
Responsible Person	Hollie Darby	
Key Actions	**Target date**	**Status / Progress**
Conduct Annual Travel Survey	Next due March 2023	Completed in May 2022 The next survey is to be merged with an Environmental survey, reduced questions to target specific data needed and a much higher value incentive for both staff and students.
Literature	2023	Historical - First provided in July 2018 and on-going annually thereafter. Next date – Sept 2021. New maps of cycle & walking routes provided by Cycle Northants for 2022. Future - Continue to update webpages for staff and students about the offers for sustainable travel modes. Ensure all information is displayed on the social media pages, website, newsletters/Unify and at Open / Discovery Days.

Engagement	22023	Historical - First delivered in 2016 and annually thereafter, Next date will be Spring 2022. Dr Bike at Travel Roadshow in 2021. Bike tagging and roadshows delivered bi-annually. First delivered in 2016 and next date booked for Sept 2021. Police/Bike Tagging at Go Green Week March 2022 Future - Cycle Solutions to hold a Dr Bike session in the new academic year 22/23 Awareness Days to be advertised throughout 22/23 such as Bike Week, Walk to Work week, EV Car Day. Challenges and Competitions based on the awareness days throughout the year. Police Bike Tagging to be present at any event on campus throughout 22/23.
Trial of cargo bikes on campus along with trailers for external services staff to supplement the electric vehicles available.	Completed	Two bikes arrived in March for a two-week trial. One bike was swapped for a smaller version and the other kept. The bikes are used by Building Services and Catering. 2021 – the cargo bikes were not successful as they were not fit for purpose with certain teams. This will be paused and may be picked up in the future, but no expected date as of yet.
Sustainable Initiatives	2023	Historical - The Council launched the E-Scooter scheme with Voi in August 2020 and the University has fully supported this including liaising with Voi for parking zones, speed restrictions and exclusion zones. Voi will be attending the September 2021 Welcome Weekend for Health & Safety demos. Voi scooter docking station added to the Park and Ride – 2022 Future - Continue to promote the service to students and staff throughout academic year 22/23. Expand the EV user car club currently available to staff to students. Promotion of car sharing for students and use of the Car Club spaces in car park 4 throughout 22/23 Renew the Oyster card application process – due 2023 Continue to promote the Cycle Hire Scheme for students and any bikes available throughout the semesters can be used as staff pool bikes. The Park and Ride continues to operate hourly during the week for staff and students. 22/23 will look at a new bus service that is more fit for purpose with wider routes and more frequent hours
Student Parking on Campus	Ongoing	160 commuting permits are awarded termly – this number is considered appropriate with the capacity however permits have strict eligibility criteria including a 10-miles exclusion

		zone and students must reside on the East of town (the opposite side to where our Park & Ride is located). In 2021 the numbers were reviewed and found they needed to be increased to 200. The Development Hub was used as a Park & Walk with 150 extra spaces and has proved successful. Monitoring of the student to staff space ratio continues to be monitored but will not rise above the current 200 limit.
Business and student travel (scope 3 carbon emissions) and Procurement Travel Policy	2030	Working with procurement on implanting a business travel hierarchy and agree student travel to campus boundaries. The procurement travel lays within a different team, who at the time were unable to comment due to the pandemic. However, we will look at the travel hierarchy over the next 2 years to see if we can link up with the other teams to ensure the correct modes of transport are being used for different areas.

Action Plan Reference 7: Carbon Management

Overall Target	Net Zero Carbon Scope 1&2 carbon emissions by 2030 and Net Zero Carbon Scope 3 emissions 2050	
Annual Target (s)	Net Zero Carbon Plan dates have been agreed, with final plan to be signed off by 31st March 2022.	
Measure/indicator of success	Sign off of the Net Zero Carbon Plan	
Synopsis	Net Zero is an ambitious and long-term project. Our Carbon Management Plan (2030) will identify key strategic choices for the University in terms of energy conservation, generation and supply. These will be a collection of activities including major infrastructure changes, refurbishment of buildings (where needed), changes to new build standards, renewable generation of electricity and heat, and numerous other activities.	
Responsible Person	Victoria Blake & Danielle Bird	
Key Actions	**Target date**	**Status**
Obtain agreement from University Management Team to commit to Net Zero Targets	Oct 20	UMT signed off on Net Zero Carbon Target & signed up to the One Planet Pledge.
Review Carbon Management Plan 2017-2020. Previous Carbon Management Plan based upon HEFCE targets. Intend to plan up to 2030, matching the overarching University strategy, and make first steps towards the governments net zero 2050 target. Revised Target for CMP2030 First draft of the Carbon Management Plan to be complete by 31st January Final version of the Carbon Management Plan to be complete by 31st March for Exec Board sign off.	Oct 20	CMP 2017 review completed and published on UON Sustainability Hub pages. Net Zero Carbon Plan dates have been agreed, with final plan to be singed off by 31st March 2022.

Switch to 100% UK based renewable electricity and 100% green gas or brown gas	Oct 20	All sites are now 100% renewables for business tariff. Financial review of green/brown gas options underway as per Gas Action Plan.
Work with UNO Bus on the potential to convert buses to biodiesel or electric options	Jan 21	Uno have plans in place regarding greening of their vehicles.
Calculate Scope 3 emissions for water and waste and agree reduction strategy	Jan 21	Emissions calculated based on current water data (there are some issues associated with this as highlighted in the Water Action Plan. Waste provided by Suez. Energy reduction strategy will be included within new CMP2030.
New: Completed follow up actions as identified in the Heat Decarbonisation Plan.	May 23	Funding has been secured to complete the actions identified in the HDP, includes quick wins as outlined in the electricity and gas action plans, full investment grade audits of UON own buildings, feasibility studies into technologies for Waterside Campus, refurbishment of existing halls of residence.
New: Mapping exercise to identify what is already being done to reduce carbon emissions, establish what could be done and agree priorities	Oct 22	
New: Calculate Scope 3 carbon emissions covering: Business travel, staff commuting and student travel. Procurement: identify high value and quantity of purchased product & services Set scope 3 reduction targets and add these to the CMP2030.	Sept 22	

Action Plan Reference 8: Biodiversity

Overall Target	To conserve, enhance and improve the biodiversity of species and increase their populations where possible across all the University landscapes over the next 5 years, with a view to achieving biodiversity net gain. Increase engagement through teaching and research	
Annual Target (s)	Annual targets are to be confirmed once the baseline has been established through surveys and monitoring.	
Measure/indicator of success	Methods of monitoring will include: • Professional /expert surveys • Staff and student engagement and observations thorough established projects and societies i.e. AWESOME, BioBlitz • Wildlife camera Footage • Student projects associated with course work / dissertations Data collected will be collated and stored in a central repository to be determined as part of the initial phase of the implementation of the MPB.	
Synopsis	Following on from the Betts Management Plan and now that the Waterside Campus has been open for 3 years, we need to not only maintain the biodiversity we have across our sites but conserve and enhance habitats for a variety of species to prevent biodiversity loss and promote gain. We have a range of habitats across the UON estate, from wetlands and wildflower meadows to our Ecology Zone and sympathetically maintained garden areas acting as vital resources for the biodiversity of species.	
Person Responsible	Emma Stone / John Howes / Victoria	
Key Actions	**Target date**	**Status**
Management Plan for Biodiversity –Sustainability Board Approval	October 2022	
Collate spreadsheet of baseline data using data captured in previous surveys. Data available to include Hedgehogs, Bird Data, Pollinator	November 22	In progress

Analysis of data captured to identify key species of focus	N/A	Complete
Geographical mapping of habitats	December 22	In progress
Creation of Action Plan #1a Flora focusing on Protection and Conservation of key species. To include: • Identify Native Species • Review & confirm planting schemes • Review training requirements of grounds team • Engage county recorder annually • Aim to increase the number of trees across campus – Tree canopies for urban heat mitigation, street trees and mental health, pleached, create height across the landscape. Enhance green spaces – meadows, orchard • Hedgerows • Green roofs – monitor species and management of drainage system, assess the biological value • Define the methods and metrics to be used for monitoring along with frequency and outputs.	December 22	
Creation of Action Plan #1b Wildlife Key Focus: Protection and Conservation of key species habitats and the creation of new To include: • Small mammals • Pollinators • Creation and maintenance of Wildlife Corridors / habitat piles • Team training requirements • Provision of food sources • Hedgehog Friendly Campus – Gold award • Roofs Crates • Live Cameras – engagement and monitoring	December 22	

Creation of Action Plan # 2: Data Storage Scoping and implementation of a data repository for storage of the data captured in surveys.	December 22	
Creation of Action Plan #3: Increasing engagement through teaching and research	March 2023	
Creation of Action Plan #4: Engagement for Health & Wellbeing	March 2023	
Produce a public annual report to demonstrate progress and evidence against targets.	July 23	

Carbon Footprint

Climate change is one of the biggest global challenges faced today. In 2019 the UK government passed legislation under the Climate Change Act for the UK to become Net Zero Carbon by 2050, following this public and private sector bodies have responded by setting themselves challenging targets, which in some instances aim to bring forward the target date of 2050 or split into smaller targets.

In response to the UK government target of achieving Net Zero emissions on all Greenhouse Gas (GHG) emissions by 2050 the Association of Colleges, EAUC, Guild HE and Universities UK partnered to establish a Climate Commission for UK Higher and Further Education. A key aspect of the Commission is the targets set for achieving Net Zero in Scope 1 & 2 GHG emissions by 2030 and Scope 3 Net Zero GHG emissions by 2050.

In response to this Environment & Sustainability Team prepared a paper for the University Management Team (UMT) requesting agreement and sign off on our own Net Zero by 2030 carbon target. In February 2021 the University of Northampton signed up to the One Planet Pledge, demonstrating our commitment to becoming a Net Zero institution in our Scope 1 & 2 Greenhouse Gas emissions (GHG) (carbon emissions) by 2030 with a baseline of 2019/2020 of 4716 tonnes CO2e.

Net Zero is an ambitious and long-term project. Our Carbon Management Plan (2030) will identify key strategic choices for the University in terms of energy conservation, generation and supply. These will be a collection of activities including major infrastructure changes, refurbishment of buildings (where needed), changes to new build standards, renewable generation of electricity and heat, and numerous other activities.

UMT have requested a first draft for comment of our Carbon Management Plan 2030 by 31st January 2022, with final Executive Board sign off by May 2023 following the implementation of the Heat Decarbonisation Plan tasks.

Carbon footprint 2021 calculation details:

The University's carbon footprint has been completed following a consistent methodology going back to 2005/06. This method makes use of an "Emissions Baseline & Targeting Tool for UK Higher Education Institutions (Release version 1.2)"issued by the Carbon Trust. All carbon conversion factors have been updated using the 'UK Government GHG Conversion Factors for Company Reporting' spreadsheets.
All relevant data used for calculating carbon footprint has been extracted from appropriate monitoring spreadsheets and the data includes:

- Grid electricity consumption
- Gas
- Biomass
- Transport emissions including estates vehicles, inter-campus bus travel (Uno Buses) and estimated grey mileage.

Environmental Projects:

Sustainable Catering

Over the last 12 months our focus on sustainable catering has increased across our catering outlets and hospitality events. Whenever possible, the catering team strive to use locally and ethically sourced meat, fruit and vegetables with seasonal and varied menus reflecting that commitment.

We are dedicated to providing sustainable catering for all dietary requirements including gluten free and vegan options which are on offer daily. Our commitment to providing daily vegan menu options across all outlets has been recognised through our recent **Vegan Society Accreditation**.

The team are constantly looking at ways to reduce food waste and promote sustainable consumption. We have signed up to the **Guardians of Grub** initiative which supports the monitoring and reporting of the food being wasted and enables us to find ways to reduce our overall food waste, this is done through sufficient portion sizes ensuring minimal waste from the plate and initiatives such as **Too Good To Go**.

Through measuring our food waste, we have been able to identify where the most wastage comes from which currently has been during preparation due to a reduction in the quality of fruit and vegetables. This is an on-going project and therefore will continue throughout 2022/23 and reporting provided accordingly.

In efforts to reduce waste from our catering outlets further we encourage students and staff to bring in their own reusable coffee cups and have a "latte levy" in place for times when a disposable cup is needed, this helps support the "**Up for the Cup**" coffee cup recycling project.

A recent audit of Single Use items in circulation has seen items removed from use, including sauce sachets. Our takeaway packaging is bio-degradable and only used for "on-the-go" options, crockery and cutlery is used when dining in.

To learn more about our catering and hospitality offering please visit our **catering pages.**

Heat De-carbonisation Plan

In Sept 2021 UON was awarded £100,000 via the Salix Low Skill Carbon Fund to develop a heat decarbonisation plan for the UON estate. The purpose of the project was to find an achievable route to our Net Zero Carbon by 2030 target and investigate low carbon heating solutions across Waterside and off-site locations including our Halls of Residences.

Following a selection process involving the assessment of several potential consultancies to work with us on the project, Siemens were selected and awarded the consultancy contract to support the creation of the Heat De-carbonisation plan. The deliverables of the plan included:

- Capital costs of low carbon (LC) solutions

- Operational and replacement costs associated with LC solutions
- Carbon emissions associated with each LC solution
- Provide funding opportunities for each proposed LC solution
- Ensure the project follow Salix's guidance on HDP

All of the above were achieved in the final report provided by Siemens in February 2022, the report provide us with several recommendations and next steps which funding has been secured:

- A list of Quick Wins covering Building Management System and Heating Review.
- A specialist Power Systems Study and Investment Grade Audits of UON owned buildings.
- Feasibility studies into heat pumps and electric boilers.
- Building fabric retrofitting costs, materials, pay back, carbon savings etc. of UON halls of residence.

Travel Initiatives

Throughout the academic year 2021/2022 our Sustainable Travel Officer has been implementing several sustainable travel initiatives. These initiatives are to support the achievement of our travel plan and SOV target as well as educating our students and staff on alternatives available to them.

Activities include:

- Allowing students and hotel guests to use the EV charging points across Campus;
- Monthly Travel Drop-in travel clinic for students to ask questions and provide feedback;
- Running competitions bi-monthly for staff and students to incentivise active travel;
- Relaunch student permit application system and extended permit dates (originally April – July, now up to 31st Aug);
- Uno competition for free bus passes for staff and students;
- Implemented the Park & Walk between Development Hub and Waterside Campus;
- Young & Registered Carer permits at a lower rate to help Cost-of-Living crisis;
- Revamped the student pages;
- More of a presence at event and open days, talking about parking and giving handouts;
- Introduced Appeal Meetings rather than via email;
- Worked with NWC & Outspoken to implement an e-bike trial scheme for staff.

COP26

In 2021 we signed up to and continue to be a part of the COP26 Universities Network, now named UK Universities Network Group.

We had a full programme of events over the 2-week period which included, guest speakers and local vendors to promote sustainability in the community. The event was designed to raise awareness of the causes and impacts of climate change at both the local and global level and to celebrate the positive environmental progress being made in Northamptonshire.

Staff and students were involved to showcase innovation at the University, both in the design of the campus and how we research, think, and learn about Climate Change. In partnership with the Circular Economy Club 3 Counties, a student design challenge was launched.

SME Environmental Assessments

The University of Northampton launched 'Knowledge Exchange for Better Business' a project funded by UK Community Renewal Fund (CRF) through North Northamptonshire Council and West Northamptonshire Council. The purpose of the project is to support organisations to improve competitiveness, skills and innovation ability.

The project is aimed at supporting SME businesses across the county to develop and grow by offering tailored support packages including:

- Access to expertise through consultancy, webinars and focused programmes
- Virtual assistants and fully funded internships
- Peer Networking & Business support organisation memberships
- Access to project management courses, mentoring and coaching
- Environmental assessments & actions plans

The Environment & Sustainability team has undertaken 6 environmental assessments across a range of businesses, from a shoe manufacture, social club, bakery and outdoor enterprise. These assessments provide an overview of existing practices and provides opportunities for the business to improve over the following areas:

- Waste recycling
- Energy savings
- Water reduction
- Travel and transport of staff and supply chain
- Opportunities to enhance biodiversity & ecology
- Funding options available to implement recommendations

Monitor and Report Progress, and Communication

To enable us to build on the achievements made to date and to demonstrate our commitment to embedding sustainability, UON requires a Sustainability Governance Structure (**Table 6**). This ensures effective oversight and decision-making on strategy, performance, responsibility and accountability. This framework supports the progress reporting, monitoring and communication of environmental performance and sustainability across the institution.

Progress reporting takes place twice yearly with an annual report presented to the UMT and sustainability board in the Autumn and a mid-year review provided towards the end of spring. The sustainability board meets 3 times per year with a full progress update presented by the Environment and Sustainability Manager and supported by the rest of the team.

In addition to the formal framework other methods of communication include an Estates and Campus Service newsletter and termly department briefing, updates are provided by the Environment and Sustainability Team on projects, campaigns and performance to ensure all departments are aware of the impact and progress of the projects underway. The Sustainability Team also produces regular articles for internal student and staff
Communications (UNIFY), as well as material on the University's website and in external publications.

The University is a member of the Environmental Association for Universities and Colleges and regularly participates in the Northamptonshire Climate Change and Social Impact Groups, for example Northamptonshire Sustainable Food Places, Circular Economy 3 Counties, the East Midlands Universities Association, Local Nature Partnership Group, UK Universities Climate Network & Net Zero Universities and the AUDE Sustainability Advisor Group

This list is by no means exhaustive but does provide an insight into the areas of communication covered within the organisation.

Training is considered key in ensuring effective communication of our environmental and sustainability performance, over the last 12 months the team have attended several training courses to include 3 members of the team completing the IEMA Certificate in Environmental Management, carbon literacy training is scheduled for the whole team to attend before the end of the year. This ensures the team can communicate accurate and relevant information across the University.

University Management Team (UMT) Board Level	**Purpose:** Responsible for agreeing sustainability strategy, accountabilities, responsibilities and governance structure with respect to sustainability.
Sustainability Board	**Who:** At least one member of the (UMT), senior academics from key Faculties, team leads or members from the wider university teams, representatives from the Action Groups and Environment & Sustainability Manager (or representative of the Environment & Sustainability Team). **Purpose:** To oversee our objectives, targets and work on sustainability. Responsible for ensuring that our sustainability targets are integrated into projects, initiatives and where appropriate approving projects. This group is responsible for reviewing our progress against targets and strategy. This Group is responsible for signing off policies and procedures. **Reporting Structure:** Chair updates the UMT once a year **Frequency:** Sustainability Board meets termly.
Environment & Sustainability Team	**Who:** Members of the Environment & Sustainability Team. **Purpose:** Oversee and coordinate the implementation of the sustainability strategy. Monitoring reporting and reviewing sustainability policies and practices. Provide specialist advice as required.
Action Groups	**Who:** Members of the Environment & Sustainability Team, staff and students. **Purpose:** Action Groups are voluntary groups responsible for generating ideas for innovation and support activities such as applying for support and funding for initiatives, implementing specific UON projects, engaging staff, students and the local community. **Reporting Structure:** Action Team members report to the Sustainability Board.

Table 6: UON Sustainability Governance Structure