



University of Bristol

Sustainability Report 2020/21

Key Performance Summary

- Environmental Management System – ISO14001, re-certification covering all activities including education delivery completed.
- Absolute carbon emissions from sites over which we have operational control are down by 39% from baseline year 2005/06 - this is a slight rise following reductions due to the COVID-19 lockdown.
- Sustainable Science and Green Labs activity saved almost £493,821 throughout the year.
- Water consumption is down by 38% from baseline year 2007/08, again a slight increase following the COVID-19 lockdown year of 2019/20.
- A new Clifton Campus Cycle Hub was delivered in the Merchant Venturers Building, nearly doubling the quantity of secure bike parking facilities on the Clifton Campus.
- Unibus U1 bus service carried 303,075 passengers between September 2020 and June 2021. The U2 carried 14,271 passengers between August 2020 and July 2021. Both services saw a significant reduction in patronage due to the COVID-19 pandemic – a combined reduction of 52% against 2019/20 data.
- Distances travelled by University staff for business and academic purposes fell as a result of the coronavirus pandemic, to just 1.5 million km in 2020/21, compared with over 57 million km in 2018/19.
- The University allocated around £235,000 towards the cost of new electric fleet vehicles and e-cargo bikes for campus transport operations, and electric pool bikes for staff business travel.
- Waste production dropped by 22.8% due to the pandemic. The vast reduction in domestic waste activities on campus resulted in decreased recycling overall, with energy from waste

and incineration increasing due to increased laboratory work and PPE waste, such as disposable masks.

- Less than 1% of waste goes to landfill, with 47% being reused, recycled, composted or put through anaerobic digestion in 2020-2021. This is a fall from 70% in 2019-2020 due to a dramatic shift in the overall waste profile due to pandemic-related waste activity.
- Furniture reuse via 'Re-store' amounted to 7.7tonnes, a decrease on previous years due to the pandemic.
- The Bristol Big Give scheme reused over 14tonnes of materials and generated up to £24,000 for local charities. In total since the beginning of the Big Give 10 years ago, over £1.4 m has been raised.
- 12.5tonnes of food were donated to local charities from across the University and Student Union.
- Five teams took part in Green Impact. With all Laboratories taking part of the Lab Efficiency Assessment Framework (LEAF).
- Our behaviour change scheme, Be the Change, saw 1,500 staff and students take part, completing over 4,000 actions to improve their sustainability and wellbeing.
- The University became a Fairtrade University in June 2021, recognising the University's work to embed ethical and sustainable practices in the curriculum, procurement, research and campaigns.

University of Bristol

Sustainability Report 2020/21

Emissions, Discharges and Environmental Management System (EMS)

The University successfully passed an audit for ISO 14001:2015 in October 2020. The University's system examines the University's output and not just its operation. The University has included Education for Sustainable Development within this management system since 2012/13. This made Bristol one of the first universities within the Russell Group and one of only a handful in the sector to do this.

Sustainability continues to maintain an annually reviewed environmental legislation register, [available on our website](#), which covers all emissions and discharges, providing assurance for pollution prevention and compliance with legislation.

The new ISO 14001:2015 standard provides the University with the opportunity to include additional sustainability criteria in the EMS over and above environmental considerations. This provides a framework for other strategic themes including Circular Economy, Sustainable Procurement, and Ethical and Sustainable Food.

Energy, Carbon and Water Management

The table below shows emissions from our buildings due to the use of electricity, gas, oil, and district heat/steam for the period since 2005/6. These are the figures against which our net zero target is based. As in previous years, here we have considered the estate for which we have full operational and financial control. These buildings are owned and leased by the University where we contract and pay for fuel. Estates Management Records and ISO 14064 now require us to also consider leased areas where we do not pay for fuel and or have maintenance control, including space within hospitals and leased accommodation. We have limited control over consumption in these areas.

From the table below we note that carbon dioxide emissions are 40% below the baseline, a slight rise compared to the 41% recorded for last year's figures.

	GridElec	Gas	Oil	Steam		Elec	Gas	Oil	Steam	CO2-1	CO2-2	Var 1	Var 2
	GWh	GWh	GWh	GWh	Total	tCO2	tCO2	tCO2	tCO2	tCO2	tCO2		
05/06	60.0	79.9	1.2	1.4	142.5	31,229	14,801	336	335	46,701			
06/07	55.2	77.4	0.6	0.9	134.1	28,630	14,329	167	207	43,333		-7%	
07/08	56.8	85.1	1.2	0.5	143.6	28,969	15,753	320	124	45,166		-3%	
08/09	57.8	86.4	0.9	0	145.1	30,146	16,000	259	0	46,405		-1%	
09/10	56.3	87.4	0.3	0	144.0	29,797	16,187	95	0	46,079		-1%	
10/11	56.5	84.0	0.4	0	140.9	28,520	15,552	108	0	44,180		-5%	
11/12	57.5	81.6	0.3	0	139.4	28,425	15,111	81	0	43,617		-7%	
12/13	57.8	94.5	0.3	0	152.6	28,246	17,434	70	0	45,750		-2%	
13/14	60.6	81.0	0.3	0	141.9	31,226	14,957	75	0	46,258		-1%	
14/15	62.1	83.6	0.3	0	146.0	31,020	15,413	55	0	46,488		0%	
15/16	63.1	76.4	0.2	0	139.7	28,421	14,057	63	0	42,541		-9%	
16/17	65.3	74.7	0.2	0	140.2	25,101	13,737	67	0	38,905		-17%	
17/18	63.7	78.0	0.7	0	142.4	19,567	14,344	198	0	34,109	17,803	-27%	-62%
18/19	63.2	75.1	0.3	0	138.6	17,525	13,809	55	0	31,389	13,864	-33%	-70%
19/20	56.2	73.8	0.2	0	130.2	13,902	13,561	51	0	27,514	13,612	-41%	-71%
20/21	54.5	77.2	0.5	0	132.2	13,810	14,225	140	0	28,174	14,365	-40%	-69%

Both 2019/20 and 2020/21 were, of course, dominated by lower activity on Campus due to the COVID-19 pandemic. However, as Winter 2020/21 was the coldest year in ten, and increased ventilation has been required for safety reasons, gas consumption rose.

This year for the first time, in accordance with ISO 14064, we record two carbon figures.

- CO2-1 shows the total of our emissions from electricity, gas oil, and district heat from our buildings, using the “location-based” figure for UK grid emissions for the electricity we have consumed.
- CO2-2: shows the total of our emissions using a zero value for electricity, reflecting the fact that since Oct 2019, we have been using electricity that has been audited under ISO14064 as being REGO-retired, and therefore counts as zero carbon under the Greenhouse Gas Protocol. Our Renewable Energy Guarantee of Origin Certificates are retired from the market when the electricity is used, and are not available for further trading - a practice that has been associated with “greenwashing” in the domestic market.

In addition, from Oct 2019, we began to buy 20% of our electricity via a “Power Purchase Agreement” (PPA). This means we buy the output from wind farms in Scotland and Wales, through our Contracting Authority for energy, The Energy Consortium. We also have a contract that will allow us to buy biogas at a premium, though we haven’t yet used this facility. We are currently considering options for new wind and solar PPA’s and electricity generation on our own estate, potentially from solar.

We continue to reduce our electricity consumption as far as possible to control costs, to free up renewable electricity for other users, and consume no more than our fair share of what will always be a limited resource. We are also working hard to reduce gas consumption by replacing heat from gas with lower carbon heat, for example from recovered heat, or heat from heat pumps run on zero-carbon electricity.

Newly upgraded Building Energy Management System

During 2020/21, energy efficiency activity has been based around the newly upgraded Building Energy Management System. Over the next twelve months we are targeting a great deal of activity to make sure that control in buildings is as good as it possibly can be, and to address overconsumption, particularly, in laboratories and our larger halls of residence.

This work has started at the Life Science Building where the controls have been optimised resulting in savings of around £80k per year. The upgrades to the Building Energy Management System have allowed us to pay continued close attention to consumption and environmental conditions. The new system is better suited to the application of analytics to scrutinise the automatic operations of the building and alert the University of excess energy use and other parameters. Sustainability have conducted a successful trial of analytics at The Richmond building and aim to extend this to other key buildings.

Intelligent buildings are key to meeting low carbon targets and to make workplaces more welcoming. These first steps in the upgrade to the Building Energy Management System put the University in a good position to take advantage of these recent innovations in the way buildings are operated.

The Carbon Management Plan

The Carbon Management Plan aims to address emissions in all of the University's space, including leased space, and to put us on a path to net zero emissions from Scope 1 and 2 emissions, measured by ISO 14064, by 2030. It also aims to monitor and control our Scope 3 emissions more effectively.

The plan includes:

- Action to reduce costs.
- Action to use energy sensors to optimise the use of space.
- Action to save energy by avoiding and reducing its use, as well as employing efficient equipment.
- Action to reduce reputational risk and to satisfy funders and potential funders.
- Linking carbon management measures with educational opportunities for students and research opportunities for the academic community.
- A focus on highly serviced areas.
- Actions to increase our purchases of power and heat from lower carbon sources.

Under our ISO standard, progress against our Scope 1 and 2 emissions is counted from 2007/8, not the sectoral standard of 2005/6. Below are figures up to 2019/20 – our most recent audited year. Besides emissions from buildings on our owned and operated estate, they also comprise emissions from owned transport and fugitive emissions from chillers, as well as leased halls and hospital space: our financial boundary rather than our operational boundary.

ISO 14064 figures	2007/2008	2018/2019	2019/2020
Scope 1	17,375.68	16,083.26	15,923.93
Scope 2	29,552.47	19,574.57	15,999.03
Scope 3			
Mandatory	9,962.76	12,809.60	6,974.15
Scope 3 Additional	0.00	0.00	0.00
Scope 3 One time	0.00	0.00	0.00

Total gross emissions **56,890.91 48,467.43 38,897.11**

The Scope 2 emissions shown here do not include the reduction from our use of renewable electricity, but that is included in the table from the Verification report below:

Emissions summary by scope	Location based	Market based	Market based 2018/19 restated	Units
Scope 1	15,923.93	15,923.93	16,083.26	tCO2e
Scope 2	15,999.03	2,823.91	3,263.17	tCO2e
Scope 3	6,974.15	5,847.49	11,422.29	tCO2e
Scope 3 mandatory	6,974.15	5,847.49	11,422.29	tCO2e
Scope 3 additional	0.00	0.00	0.00	tCO2e
Scope 3 one-off	0.00	0.00	0.00	tCO2e
Total inventory	38,897.11	24,595.32	30,769	tCO2e
Emissions intensity:	55.06	34.81	43.52	

¹ Not adjusted for inflation. See reduction calculator for adjusted values.

Water

The University's water consumption rose slightly from 2019/20. Pandemic-related low occupancy reduced consumption, though this was tempered by additional washing and flushing of systems.

	07/08	15/16	16/17	17/18	18/19	19/20	20/21
M ³	491,473	354,425	352,159	369,804	373,225	291,574	306,261
		-28%	-28%	-25%	-24%	-40%	-38%

In the last decade, many reductions have been due to the wholesale replacement of the ring mains at the Clifton Campus, Langford, and Stoke Bishop.

The avoidance of tap water for cooling electrical equipment is now a key strand of our water conservation and cost saving activity.

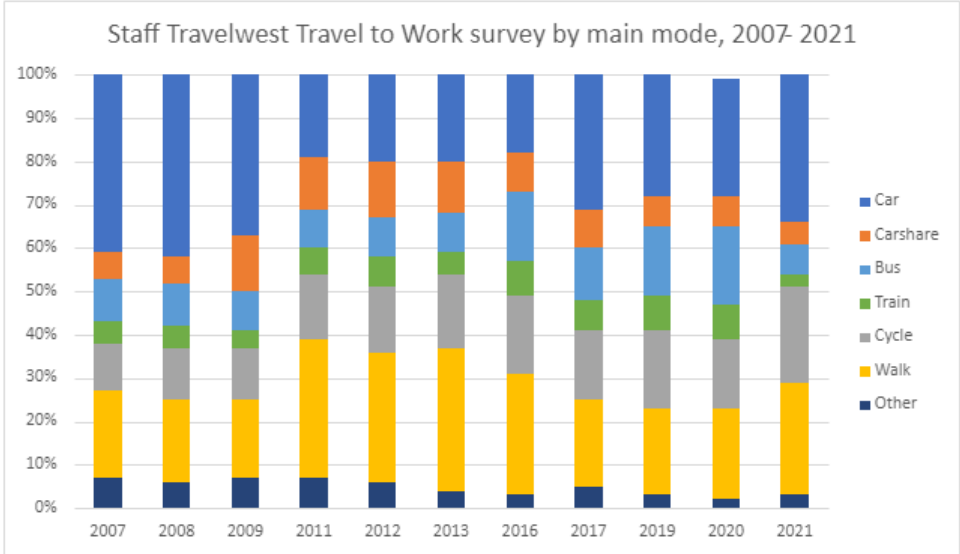
Sustainable Travel

Transport target

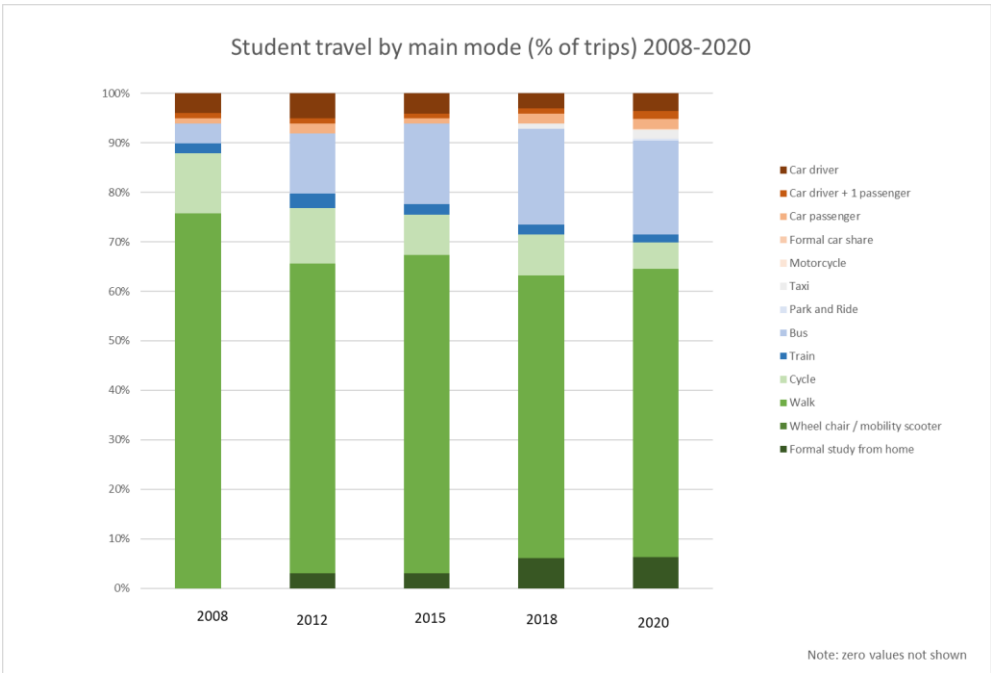
We maintain a framework to support sustainable modes of transport to work and study at the University by staff and students, for example: walking, cycling, public transport and car sharing. The target is achieving 85% staff sustainable travel (baseline 79% in 2007) and retaining 96% student sustainable travel (baseline 96% in 2008) by 2022.

- **Staff: Not on track for target achievement, 65% (March 2021)**
- **Student: Target achieved, 96% (February 2020)**

The bi-annual staff travel survey that was due to take place in December 2020 was postponed due to the pandemic, however data from the March 2021 Staff Travelwest Travel to Work survey was captured. This showed an increase in walking and cycling, an increase in car usage and a decrease in public transport usage as a result of COVID-19.



The University’s Student travel survey was undertaken in February 2020, just before the COVID-19 pandemic started.



Transport Delivery Plan

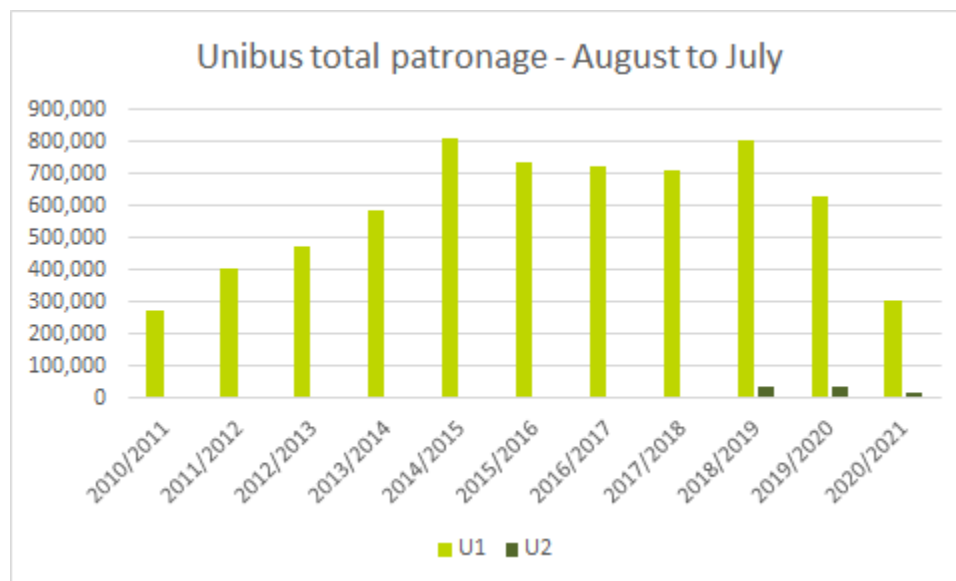
The University adopted its first transport plan in 1999, which had undergone many iterations over the years. A revised University Transport Delivery Plan is currently in development to assist the delivery of the University's Sustainability Strategy. This new Transport Delivery Plan will set out the University's travel and transport vision for 2025 and our strategy for achieving this over the next five years. The plan will outline the University's aims for travel and transport in the context of local, national and global challenges, our priorities and indicative actions required to achieve these aims and the key performance indicators (KPIs) that will be used to measure progress. With a supporting framework of delivery plans, policies and standards, this plan will ensure the transport aims of the Sustainability Strategy are achieved while providing flexibility for the University to transition to post-covid ways of working and travelling as these emerge over the next five years.

Emergency COVID-19 Travel Plan

The University continues to deliver the emergency COVID-19 Travel Plan that was developed in May 2020. It sets out how the University aims to ensure all aspects of travel and transport at the University are Covid-secure while also contributing to longer term sustainability objectives.

Public Transport

Total patronage on the Unibus U1 and U2 bus service was significantly lower than previous years due to the Covid pandemic - a combined patronage reduction of 52%, based on 2019/2020 data. The Unibus U1 bus service carried 303,075 passengers between September 2020 and June 2021. The U2 carried 14,271 passengers between August 2020 and July 2021. U1 bus service supported five significant timetable changes during the year to accommodate the changes in Covid travel restrictions and the demand for travel. Additional vehicles funded by the Department for Transport operated on the U1 throughout the year to assist with the reduction of passenger capacity resulting from the social distancing requirements.



Active travel

The University launched a new Cycle to Work Scheme, partnering with Halfords, in April 2021. This provides a range of benefits, including an increased scheme limit of £2,500 and a network of more than 1,000 independent bike shops. Seventy-two staff had a Cycle to Work scheme application approved between April and July 2021 - an 80% increase on 2018 (a comparable year pre Covid pandemic and with the previous supplier). A new Clifton Campus Cycle Hub was also delivered in the Merchant Venturers Building with capacity for 290 bikes, alongside dedicated spaces for adapted bikes and bikes with trailers, and a DIY bike repair station. This new facility was previously occupied by 14 car parking bays and has nearly doubled the quantity of secure bike parking facility on the Clifton Campus. Fortnightly cycle clinics between August 2020 and July 2021 attracted around 390 staff and students, which is lower than previous years due to the pandemic and the reduced presence on the University estate. The successful Bicycle User Group maintained the same membership figure of 1,400.

Car parking

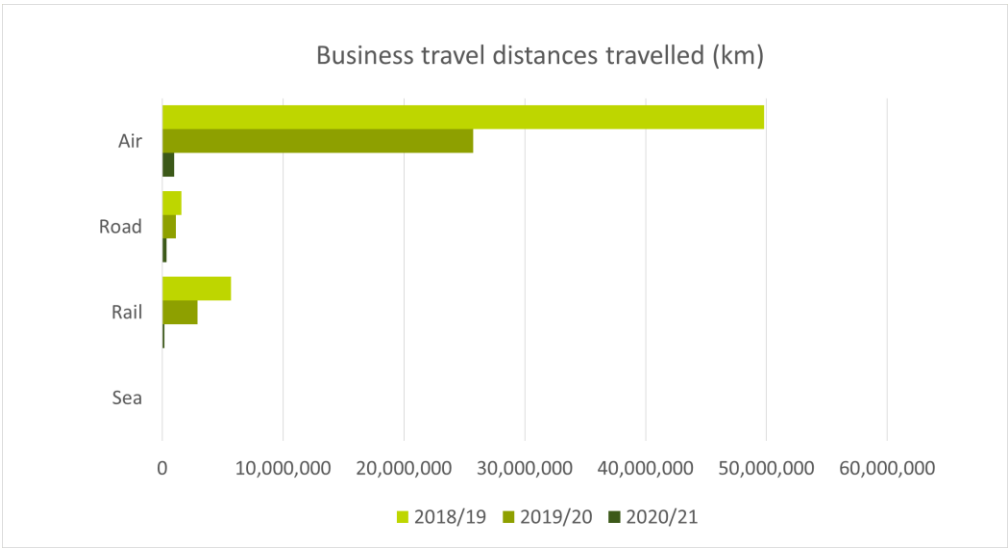
The temporary Clifton Campus Covid parking policy was extended in to the 2021/2022 academic year to support the Blended Working trial. In July 2021, a total of 1,414 Cat 1 staff Covid permits were awarded to staff. A review of parking policy across the whole University was also initiated, for which the conclusion date is to be confirmed.

Business travel

The coronavirus pandemic continued to restrict business travel resulting in significant cuts in the associated carbon emissions, especially from air travel.

In 2020/21, the total distance travelled by staff for business and academic purposes fell to just 1.7 million km, compared with around 30 million km in 2019/20 (which saw the start of coronavirus travel restrictions) and over 57 million km in the pre-pandemic academic year of 2018/19.

As illustrated in the chart below, the biggest reductions were seen in air travel, with international flights falling from nearly 50 million km in 2018/19 to less than 1 million in 2020/21.



Carbon emissions from business travel, which were cut by more than half from 10,600tCO₂e in 2018/19 to 5,200tCO₂e in 2019/20, are expected to fall below 500tCO₂e for 2020/21, once complete audited data are available.

Fleet Management

In May 2021, the University allocated £235,000 in capital funding to kickstart a transition towards zero carbon fleet transport operations. This investment will contribute towards the purchase of new electric vehicles and e-cargo bikes for campus transport operations and electric pool bikes for staff business travel. Subsequent phases of the Cleaner Fleet Programme (CFP) during 2021/22 and beyond will see the introduction of a fleet management system together with further investment in electric fleet vehicles and other alternatives to grey fleet. The purpose of the CFP is to improve efficiency, compliance and environmental performance in fleet transport operations, including their alignment with Bristol's planned Clean Air Zone and the University's own net zero target.

Circular Economy

The University of Bristol has adopted a Circular Economy approach to managing its resources. This offers potential cost savings as well as sustainability improvements and redefines how our institution manages its resources, away from a linear model of 'make, purchase, consume and dispose'. This builds on work already done in the University around sustainable waste management, moving processes to align with the Waste Hierarchy.

Sustainable consumption, waste prevention and reduction

Sustainable consumption best practice is key to our circular economy targets, as well as waste prevention and reduction. 'Whole Life Costing' models were developed in 2018-2019 and *our* key focus is working with teams across the University to embed sustainability into the tendering process to ensure waste costs are considered in the process, along with other broader sustainability criteria.

Reuse, Recycle, Compost and Anaerobic Digestion

The University continued to manage waste in line with the waste hierarchy with a strong focus on waste prevention. Overall, reuse, recycling and anaerobic digestion accounts for 47% of waste disposal destinations in 2020/21- a significant reduction on previous years (2019/20 – 70%). With COVID-19 the University's waste profile changed significantly; with far fewer staff onsite in office environments and students learning remotely, the 'domestic' waste profile (recyclables and general non-hazardous wastes) was significantly reduced. Laboratory and specialist activities continued to operate onsite and increased several waste streams during the pandemic, resulting in a much larger percentage waste profile representing energy from waste and incineration.

Reuse fell significantly again in 2020/21 due to COVID-19. The Bristol Big Give initiative was pared back, and the University was closed or operating at a much-reduced capacity for a long period of time. Total reuse recorded in 2020/21 was 34.4 tonnes compared to 2019/20 (42.6 tonnes) and 2018/19 (222.5 tonnes). In 2018/19 reuse was 6% of total waste produced, 2019/20 (2%), 2020/21 (1.8%).

The University supported six local charities with reusable donations in 2020-2021 including Digilocal, The Children's Scrapstore, Sofa Project and Better World Books.

Despite the challenges, our end of term reuse scheme in student accommodation, The Bristol Big Give, reused 14tonnes of materials and generated up to £24,000 for local charities. In total, since the beginning of the Bristol Big Give 10 years ago, over £1.4 m has been raised. In addition, 12.5tonnes of food were donated to local charities from across the University and its students.

In 2020/21, new agreements with furniture suppliers mean that the University has a new circular model for this commodity. Options for leasing, remanufactured furniture and reupholstered items are now available as alternatives to purchasing new items.

Recycling rates for office type waste streams fell during the pandemic, with general waste increasing significantly due to cleaning activities with disposable, single-use items. It is hoped that in 2021/22 this will start to return to pre-COVID levels.

In Summer 2021 we partnered with Reworked UK to install over 100 internal recycling facilities for even more single use plastic items including crisp packets, confectionary wrappers, single use non-hazardous PPE and Lateral Flow test kits. While we aim to provide recycling facilities where this is a sustainable option, our focus will be on promoting reusable options, where these are available, again in 2021/22.

Incineration, Energy from Waste and landfill

Energy from waste (EFW) has been increasing annually at the University, despite COVID-19 activity, due to an increase in laboratory activity and an increased reliance in the UK, and globally, on EFW as a waste management solution.

We continue to send less than 1% of waste to landfill. Landfill diversion rates remained low in 2020/21 with less than 0.05% of waste going to landfill. Incineration rates dropped in 2020/21 compared to previous years, with access to EFW over incineration for chemical waste. Current incineration rates are 5.3% compared to 11% in 2019/20.



Sustainable Procurement & Responsible Investment

The University's Responsible Procurement Plan 2019-23 sets strategic objectives for sustainable procurement, social value and ethical sourcing.

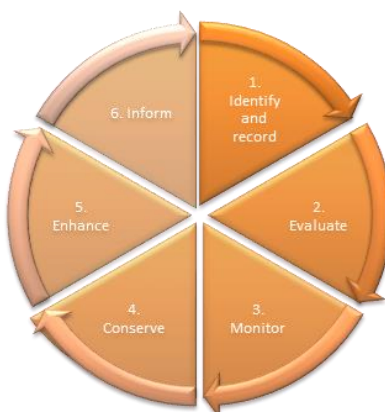
The policy and subsequent processes that followed work towards embedding into all tenders a balanced consideration of social, ethical, environmental and economic impacts as well as value for money.

Key achievements in 2020/21 include:

- The University has worked with other public sector bodies to promote the social enterprise sector in the sub-region. This includes being a named partner (along with UWE, WECA, Bristol City Council, and Bath and North East Somerset Council) of a successful bid to attract national funding to promote social enterprises in Bristol and the surrounding area. The host organisation, Black Southwest, presented this initiative to the sub-regional small business community in the 2021 Supplying the Public Sector event.
- The University's Procurement team have successfully achieved re-accreditation to the national CIPS ethical procurement standard. This shows a commitment from the University, in the last 12 months, to safeguard the highest standards for environmental sustainability, human rights & modern slavery prevention, and fraud prevention.
- The University updates its Modern Slavery Statement (MSS) each year immediately following the approval of the statutory accounts by the Board of Trustees. The MSS is signed by the Vice Chancellor.
- The University maintains accredited as a Living Wage Employer and a University of Sanctuary. Suppliers are expected to support these aims.
- The University achieved accreditation as a Fairtrade organisation in June 2021.

The Living Estate, Biodiversity and the Natural Environment

The University of Bristol's Biodiversity strategy comprises of six steps which are reported below. From 2021, External Estates will also report on regional Green Infrastructure which sustains the biodiversity within sites.



Identify and record

Wessex Ecological Consultants once again carried out key species monitoring during 2021.

In addition, the University is acquiring land behind Temple Meads (Avon Street, Silverthorn Lane and Cattle Market Road). External Estates have been requesting and monitoring reports regarding species in those areas.

Evaluate

There have been no major developments which would impact on the established and mapped habitats since the last report and acquired land is being monitored (as mentioned).

A General Project Requirement has been written to establish Building with Nature (BwN) as a standard assessment framework to be achieved for all future University developments. BwN will be used to protect the University's Green Infrastructure strategy.

Monitor

Surveys of key indicator species of birds on three University sites were completed for the seventh year running in 2021, following BTO Breeding Bird Survey techniques.

The surveys conclude:

Birds

"There has been some re-definition of the species lists in the light of the most recent population trends: since the monitoring began mistle thrush has been moved from the amber to the red list; conversely dunnock has been moved from the red to the amber list.

The two species recorded for the first time in 2017 were seen again in 2021. House sparrow was again seen around Clifton Hill House and stock dove was again present at Stoke Bishop. Nuthatch, which is scarce in Bristol, bred in the same oak tree used in 2018. A first record of mistle thrush at Clifton Wood was noteworthy: a pair appeared to be breeding in the garden of Clifton Hill House.

For the fourth year running there was no record of starling: this is consistent with steep declines recorded both nationally, although there have recently been some signs of a very partial recovery in the Bristol area. High standards of building maintenance on University properties probably mean that there are few breeding opportunities for this species.

The summary is generally encouraging in that the species whose trend is more positive on the survey sites than throughout the south-west outnumber by those with a more negative trend on the survey sites. In part this may be due to an ongoing trend for species that are traditionally restricted to rural areas colonising urban habitats, which is only weakly reflected in the regional figures. Examples of such species include wood pigeon and blackcap. A further factor may be that urban bird populations are not exposed to the adverse changes in agricultural practices that have affected the wider populations of many species. However, several traditionally urban species, including blue tit, wren and dunnock, have also fared well on the university sites. This may be due to changed management of the sites, which have produced greater areas of scrub and increased the density of nectar-rich and berry-bearing species."

Butterflies and other insects

"As ever, wider trends in insect abundance caused by factors such as variations in weather and in parasitoid populations are likely to have a far greater influence than site-specific factors on short term

fluctuations in insect populations. Numbers and diversity were both generally poor in 2021, almost certainly as a consequence of a wet and mild winter being followed by a cold spring. Early results from national monitoring schemes such as the Big Butterfly Count (which covers a short window only but publicises its findings more quickly than other schemes) show a reduction in numbers between 2020 and 2021 of more than 10%. The Big Butterfly Count takes place in the late summer when the effects of the late spring would be less pronounced than they were earlier in the year and delayed emergences of some species disguised the declines; these factors might explain the larger drop seen at Stoke Bishop.

It is interesting to compare species diversity between the two meadows. The southern meadow is of greater botanical interest, supporting a much greater diversity of indicator plant species of unimproved grassland. The northern meadow is of less botanical interest, but it is of greater structural diversity, with areas of mown meadow (the habitat that constitutes most of the southern meadow); unmown grassland; sparse grassland with bare soil and abundant herb species; and stands of nectar-rich flowers. The northern meadow has also changed more than has the southern meadow, with the sparse grassland in particular having largely been created since 2016. It might therefore be expected that differences between the two meadows might be as follows:

Species dependent on high botanical diversity more diverse in the southern meadow, and species dependent on structural diversity more diverse in the northern meadow.

Species diversity to have risen in the northern meadow, but to have remained constant in the southern meadow.

Many of the habitat enhancement works in the northern meadow were carried out between 2016 and 2017. The hay cut was taken early in both meadows in 2018, but whereas the whole southern meadow was cut the northern meadow retained significant areas of unmown grass.

It is immediately obvious that the northern meadow was, in 2016, approximately half as diverse as the southern meadow. Immediately after the habitat enhancement works were carried out it was around three quarters as diverse. It then became markedly more diverse in 2018, the year that the hay cut was taken early, but the difference has since declined, or even disappeared. This suggests that habitat enhancement works raised insect diversity but that this effect has since weakened. This may be because the sparse grassland created in 2016 has become more vegetated in the last two years, reducing exposure to sunshine and warmth, as well as the availability of niches such as bare earth for basking and burrowing.”

Conserve

The University is dedicated to conserving habitats for which it is responsible. Habitats are generally only at risk where they are impacted by development, and when this occurs Estates use BREEAM to identify the ecological value of the site and mitigate against losses and seek to increase species diversity through, for example, intensified landscape species or green roofs. With the government promoting biodiversity net gain (BNG) attaining accreditation with Building with Nature is also a key objective for future developments.

Where there is no development risk, the habitats are maintained to a high standard. For example, having been awarded a Green Flag in 2016, External Estates have retained it again in 2021 (and all interceding years) The Green Flag “recognises and rewards well managed parks and green spaces, setting the

benchmark standard for the management of recreational outdoor spaces across the United Kingdom and around the world”.

Enhance

In 2021 The University achieved a Silver Hedgehog Conservation reward.

Wessex Ecological Consultancy note: Actions to reverse declines in most threatened species are very difficult to take, because declines locally are part of much wider trends that have multiple and complex causes, or because large scale changes to land management would be required. One species that can be encouraged with relative ease is swift. The absence of this species from the survey areas compared to other parts of Bristol is striking and is almost certainly due to the lack of nesting sites in the well-maintained buildings. The population of this species in the former county of Avon has declined by 87% since 1994, making it a clear priority for conservation effort. Provision of swift boxes at a house elsewhere in north Bristol has resulted in 15 breeding pairs within five years, demonstrating that lack of nesting sites is a major limiting factor for this species.

There are now many designs of swift boxes, bricks and tiles that can be fitted to existing buildings or to new-builds and this is an area in which a major property owner such as the University can make a real contribution to biodiversity conservation.

Inform

As a result of COVID-19, the number of opportunities to run community and student events has been greatly reduced. However, Gardens and Ground and the Botanic Garden continued to engage students and staff in environmental projects (vegetable growing activities, houseplant production etc.), and wellbeing events. We hope to increase such engagements in 2021/22 – especially for the Queen's Green Canopy initiative.

Staff and Student Engagement and Behaviour Change

The impact of COVID-19 has been to reduce the face to face engage with staff and students, but many events and activities happened during 2020/21 both virtually as well as in person. Below are some of the key activities.

Sustainability Council

The Council continued to meet during 2020/21. The Council has representatives from Education, Research, Civic Engagement, Communications, the Student Body and Operations. It is chaired by a Pro-Vice Chancellor.

Its role is to:

- Provide sustainability governance,
- Leadership regionally, nationally and within the sector,
- Monitor progress around sustainability,
- Enable sustainability communications,
- Identify resources for sustainability,
- Lead institutional change,
- Scan horizons for developments around sustainability.

The Council meets every quarter, and they wrote a revised Sustainability Strategy during 2020/21.

Climate Action Plans (CAPs)

Each School and Division has been asked to write a plan and to nominate a contact for the University Sustainability team to work with in writing the plans. During 2020, a planning tool was developed to assist departments in writing the plans and several introductory webinars were run to introduce CAPs.

To date, about 70% of departments have nominated a coordinator, with 50% starting a plan and 25% moving onto implementing actions.

Be the Change

The points-based behaviour change programme continued to run for both staff and students in two three-month segments in 2020/21 - Autumn 2021 and Spring 2022. The programme encourages participants to complete actions related to their own sustainability and wellbeing on a weekly basis, awarding them points for each action. Prizes were given out to those who took part and achieved the highest scores.

The staff scheme involved over one thousand members of staff who implemented over 3,000 actions. With the student scheme involving over five hundred students and resulting in over 1,000 actions being undertaken.

Green Impact

Green Impact has run for over ten years and was originally developed at the University in partnership with NUS/SOS. This year, five teams took part in the scheme from academic, professional services and student areas.

Carbon Literacy Training

In February 2021, 30 students undertook Carbon Literacy Training to help departments run their Climate Action Plan activities.

The Bristol Big Give Campaign

Due to COVID-19, engagement for the Bristol Big Give was virtual this year, and it was not possible for Community Liaison Officers to continue their regular door-knocking work. Information about the Christmas Big Give was published in staff and student email newsletters, alongside digital screen and student portal advertisements across the campus, as well as physical posters. It was also promoted across Facebook, Twitter and Instagram. For one day in December the Students' Union allowed a 'take over' of their Instagram page which enabled the promotion of the BBG to thousands more people.

A pop-up stall was arranged at Hiatt Baker Hall to promote the BBG and the British Heart Foundation (BHF) and to advise people on where to donate goods and food. Donation bags were handed out and students were informed of their nearest donation points. Due to COVID-19, we couldn't run in-person events that would have involved CPR training from the British Heart Foundation as well as information stalls about the Big Give and the benefits it has for the environment and the charity. It is hoped we can run these events again in 2021/22.



Fair Trade



As part of our effort to gain Fairtrade accreditation for the University and ensure maintained commitment to Fair Trade, a new Fair Trade policy was written by Sustainability staff and interns and supported by Procurement and the Fair Trade steering group. This policy includes long-term commitments to increase Fair Trade products used throughout University. The University gained Fairtrade University Status in June 2021.

In 2021, Fairtrade fortnight was held from Monday 22 February to Sunday 7 March. It focused on communicating with staff and students through Fairtrade competitions with the Source Café and bake your own cake with Fairtrade produce. Fairtrade Fortnight was mainly run through Instagram, Facebook and Twitter. There were also digital screens and posters across campus.

Welcome Fair 2020

The virtual welcome fair occurred on 7 October 2020. On the day, 606 students visited the booth and we had over 140 link clicks and over 80 video views. It is difficult to know the impact of this, but it was felt that it was good to have a presence at this key event.

IEMA Corporate partnership

In the Summer of 2021, the University became an IEMA (Institute of Environmental Management and Assessment) Corporate Partner. This partnership programme aims to develop staff and student skills in

IEMA Transforming the world
to sustainability

environment and sustainability, by offering training and networking opportunities, ultimately helping the University address the significant sustainability challenges it faces. This partnership will be developed in 2021/22 for staff and student benefit.

Sustainable Science & Green Labs

STEM Laboratories at the University of Bristol account for 40% of our energy and waste budget as well as 32% of our annual water bill, but only occupy 6% of our space, equating to just over £3 million annually.

The Sustainable Science & Green Labs initiative in 2020/21 helped realise an estimated savings of £493,821 coming from energy, water, waste, behaviour change and procurement projects, although there are further financial savings from value added, staff time saving and space efficiencies. These cost and consumption savings can be seen in the table below:

	Energy		Water		Waste		Other*
	kWh	£	m ³	£	tonnes	£	£
15/16	755,927	73,325	0	0	0	0	39,699
16/17	479,845	46,545	14,150	28,300	1.5	750	0
17/18	794,845	77,100	24,990	49,980	25.4	12,000	10,191
18/19	550,433	53,392	7,502	15,040	7	9,316	87,000
19/20	1,501,617	139,066	0	0	14.9	12,057	21,495
20/21	1,876,715	243,973	0	0	16.5	12,220	237,628
Cumulative yearly savings	5,959,382	633,401	46,642	93,320	65.3	46,343	396,013

*procurement, space, staff time etc.

Green Labs: Energy and Water Management

Due to the COVID-19 pandemic, funding for hard efficiency measures was suspended so no energy efficiency building upgrades were undertaken for the Smart and Efficient Buildings Programme. However, we focused on upgrading our Building Energy Management System (BEMS).

- £80k annual energy savings from BEMS, heating and cooling optimisation and in the Life Sciences Building.
- Green Lab Certification via LEAF saved a minimum of £150k.
- £13,973 savings from efficient laboratory cold storage.

Green Labs: Circular Economy

The Lab Circular Economy Steering Group, comprised of technicians, the Sustainability team, Safety and Health Services and Procurement. The following actions have been taken:

- A cold storage 5-Lot tender was awarded alongside the world's most comprehensive cold storage performance study, with annual savings of £237,628 (procurement: £ 223655.60, energy: £13,973)
- Pipette repair and reuse in Biomedical Sciences saved £2,500.

- An equipment and lab furniture reuse service has saved a total of £9,720 for the University of Bristol and a further £12,064 of savings for the sector. This is equivalent of 16.5 tonnes carbon dioxide. 5.37 tonnes of lab equipment were diverted from waste for reuse.
- All STEMed procurement tenders through Green Labs contained weighted sustainability specifications and inclusion of the international eco-lab for laboratory products, the ACT label.

Green Labs: Engagement and Behaviour Change

- Green Labs has increased its staff engagement within our online networks: LEAF (70), Sustainable Science & Green Labs (116), Green Labs Network (63) including eight steering groups. The Green Labs Network enables two-way communication between Sustainability and the science community, empowering staff to make real change in the University by identifying and implementing new initiatives.
- The University of Bristol became the first university in the world to gain 100%, institutional Green Lab Certification via the Laboratory Efficiency Assessment Framework (LEAF). 2020/21 saw ~220 submissions across 990 laboratories, saving a conservatively estimated 258 tonnes of carbon (£150k). This scheme increases collaboration across the campus and enables behaviour change in labs, as well as improved water, energy and waste management. Student interns and volunteers took part in the scheme, working directly with academic and technical staff to audit and support their accomplishments.
- 135 student volunteers signed up to Green Labs and 45 students undertook LEAF auditor training.
- Social media engagement: Twitter (201.8k impressions. +30% followers). Facebook (+14% followers)
- Green Labs employed three students. Their responsibilities included managing LEAF, the student volunteers and Green Labs communications.
- Consistent communications to staff and students via monthly Green Labs newsletters and weekly LEAF updates.
- Seven members of staff completed the My Green Lab Accredited Professional Ambassador Programme.

Green Labs: Research and Knowledge Transfer

- University Green Labs initiatives were featured on Sky news, the Bristol Green Capital Partnership, HEaTED, Lab Conscious, the Sustainability Exchange and The Alliance for Sustainability Leadership in Education (EAUC).
- Workshops were delivered to the GW4 alliance and multiple UK universities.
- The Sustainable Science Manager coordinates the Laboratory Efficiency Action Network (LEAN), a group of UK Higher Education and research STEMed professionals (47 institutions, 125 members). In the past year the group has achieved:
 - A successful year increasing uptake of the national sustainable science certification, Laboratory Efficiency Assessment Framework (LEAF).
 - UK development of the international eco-label ACT for lab equipment, consumables and chemicals.
 - The LEAN website and resources were developed and published.
 - Development of a European Green Labs network, Sustainable European Labs (SELs).
 - Hosted a European forum for Green Labs.

Education for Sustainable Development (ESD)

During the period 2020/21, delivery of ESD activity was via the Bristol Futures initiative. This promotes interdisciplinary learning aiming to embed education relating to three core themes into the curriculum: Innovation and Enterprise, Global Citizenship and Sustainable Futures.

The initiative introduces each theme via an online course, followed by integration of the themes into open units, leading ultimately to integration into all taught courses. On top of this is the development of graduate attributes and skills (via a skills framework), personal development planning (PDP) and 'learning by doing', mainly through volunteering.

During 2020/21 key activity included:

- Adoption of Strategic Objectives: The university has adopted three strategic objectives related to Sustainability Education: embedding learning in all programs, offering additional options and pathways, and providing distance learning to reduce student travel.
- Sustainability Education delivery plans: A wide consultation of stakeholders as to how to deliver on these has been conducted, and a plan is currently being developed by PVC Education and the Academic Head of Sustainability for agreement by UEC.
- The Bristol Futures curriculum framework includes sustainability as one of the aspects of its 'Global and Civic Engagement' strand.
- An informal community of academics has formed, which shares ideas and best practice with regard to Sustainability Education. This comes together in regular gatherings.
- A SharePoint resource which documents emerging best practice, including case studies from across the University, has been created.
- An interactive workshop has been developed which helps staff systematically think through how discipline-appropriate Sustainability Education content can be integrated into their programs. This has been delivered in several ways;
 - As a training module within the CREATE/PGCAP program.
 - A cut-down version has been delivered as part of the Curriculum Cafes held pre-Covid, though there is not currently enough time in the newer online versions for this content.
 - To Student Sustainability Reps, in partnership with the Students Union.
- Sustainable Futures Online Course: Taken by approximately 12,000 people and is well received, particularly by our students. We have many testimonials of its value to them – for example: "This has been such a brilliant course! It has changed my mindset so much and made me really proud to be a University of Bristol student, thank you!" Awarded the UK&I Green Gown Award for Next Generation Learning, 2019.
- Influence beyond the University: Prof Preist is part of the team developing the new UK QAA guidelines for Education for Sustainable Development, and the University's Sustainable Development unit has been selected as a case study for use by the UN Sustainable Development Solutions Network.

Ethical and Sustainable Food

Catering is an integral part of life on campus, and the products and services offered play a critical role in student wellbeing, social interaction and the learning experience. Our in-house 'Source' catering brand has been developed to actively promote the use of ethical and sustainably sourced food.

In 2020, an innovative Catering strategy proposed a new direction for the Catering department, supporting the University's Strategic Vision and Campus Division goals by enhancing the student and staff experience; offering greater choice and variety; adapting to the changing trends in food consumption and incorporating a global offer; operating as a 'cost neutral' operation; and adopting sustainable values.

Some of the changes we have seen over the last year have brought the catering strategy to life and the department have seen a marked improvement to the student experience and our sustainability credentials through the publication of a new [Sustainable Food Action Plan in 2021](#). This plan aims to deliver key objectives under six areas for a holistic approach to sustainable food.

We incorporate sustainability into all aspects of our food systems. Our priority is to provide a service that is environmentally, economically and socially sustainable. The promotion of healthy eating is also important to us. This is reflected in our food and drink procurement and all service delivery. Healthier, more sustainable food can have a positive impact on health and wellbeing, as well as the environment.

Our 2021 Sustainable Food Action Plan details the steps we are taking to ensure that our services and food and drink offerings enhance positive social, ethical and environmental benefits.

Some of our key targets for 2021 and our progress against these are detailed below:

1. Remove the sale of all drinks in plastic bottles

We have a [Plastic Action Plan](#) which acts as a framework to help us reduce unnecessary single use plastics in consumer food and drink offerings.

- Bottled water is no longer sold at the University, and we have removed plastic straws. Due to COVID-19, in 2020/21 some actions of our plan have been put on hold or extended but we will continue to work towards this target.
- We recently launched a convenience shop with a difference. A range of products in this shop are zero waste to avoid unnecessary single use plastic when purchasing dry groceries such as noodles, porridge oats, pasta and couscous.
- We have also removed single use plastic pints of milk and replaced with a milk dispenser system using a deposit system for glass bottles.
- We support City to Sea and SAS Plastic Free Communities and continue to sell at cost sustainably sourced reusable hot drink cups and stainless-steel BPA free reusable water bottles that can be filled at the 300 refill stations at the University.

2. Run Fairtrade activities to promote the importance of these schemes (Fairtrade.org, Fairforlife, Fairlife etc).

In recognition of our sustainable food practices, this year, we have been awarded Fair Trade One Star Status in 2021 by the fairtrade.org. We created a Fair Trade working group which subsequently has been developed into a steering group engaging with the Fair Trade Network. We continue to promote Fair Trade in catering with promotions and events in Fairtrade fortnight annually.

3. Introduce deposit return schemes in all Source Café outlets

DRS has been delayed by the government in England and is anticipated to go live in 2023. We continue to monitor the effectiveness of DRS in Scotland where it went live in 2021. Once DRS is established it will be delivered through University retail operations at Source cafes.

4. Promote the environmental and health benefits of plant-based foods supported by staff & student campaigns

As a Catering department, we have recognised the emerging 'meat-free' student trend including a huge uptake in vegetarian, vegan and flexitarian lifestyles. Menus have been adapted to reflect this which has decreased our food costs and helped increase our sustainability credentials. In 2020/21 we changed the standard menu by increasing the number of vegetarian or vegan dishes from one, to two options per day. This has increased our plant-based offering to 66% of our menu. We also increased the vegetable component of traditional meat-based dishes e.g. lentils in lasagne. We will continue to explore plant-based options in 2021/22.

5. Run education campaigns encouraging staff and students to carry out carbon footprint monitoring/reducing

Sustainability is imbedded within the infrastructure at the University of Bristol with the aim to becoming carbon neutral by 2030. One of the most tangible areas for improvement in the Catering department was decreasing food waste. We now weigh and record all the kitchen waste into the three main areas of food waste;

- Kitchen preparation
- Counter and plate waste
- Kitchen spoilage

After introducing the 'Too Good to Go' app in January, the University of Bristol has been given an opportunity to not only reduce the food waste from our cafes, bars and halls of residences, but a way to reach to the local community beyond the student population. As a University, we have saved over £3,000 in 2021, 600 meals from being discarded to food waste and with that, 1.5 tonnes of CO₂ emissions. We have also seen the social impact of this offering a lifeline to families hit hard by the pandemic and have been able to help those in need.

Our methods to control of food waste include:

- Menu planning
- Production planning
- Purchasing planning
- Purchasing of wonky fruit and vegetables
- Stock control, rotation, holding
- Posters, emails etc promoting food waste advice to students
- Use of Purchasing Portal used for procurement and stock control

Outcome

- Counter waste in our Catered Halls is packed into takeaway meals for students to take free of charge
- Stop the peeling of certain vegetables like carrots and butternut squash

- Increased our buying of lesser used foods, like chicken thighs in place of breasts and wonky vegetables, which reduces waste outside of our direct business
- Disposal of in the food waste bins provided by our contracted waste management company, who collect it and recycle at the anaerobic plant GEN.e.co.
- The introduction of our new procurement and stock control software, Procure Wizard, has enabled far greater control over our ordering and stock control, inevitably leading to a reduction in waste

In June 2021 the University won a three-star Zero Waste award representing several years of hard work from the University's catering and sustainability teams to reduce its waste. This activity will continue and will feed into Scope 3 carbon calculations for our food offerings.

6. Streamline offerings and pricing for non-dairy based milks to ensure they are accessible to all, re-imagining traditional dairy as a supporting role

Work has started in this area, but full results are due in 2021/22.

7. We will be transparent about our food sourcing and preparation

In May 2021 the city achieved Gold Sustainable Food City status with the support of our sustainability practices within Source Catering. We carried out a review of our targets and achievements to date and offered this transparent report to Sustainable Food Cities to support their application to become a gold sustainable food city.

In response to emerging trends within the food industry, we have created a peer-to-peer food development group with chef and management teams at the helm, to keep abreast of latest food trends. It has never been more important to get the offering to our staff and students right, to encourage spend with inhouse brand, Source, on campus.

Outcome

With the collective input from the Food Development group, Catering have been able to:

- Place the customers at the heart of the operation through the Food Charter
- Be bold and 'cutting edge' by identifying and implementing future food trends
- Consider our social value in food procurement
- Consider our departmental effect on the UoB sustainability strategy
- Obtain food and drink accreditations and accolades
- Devise a healthy eating strategy

8. We will proactively engage our supply chain in our sustainability criteria and report on KPI's

Ethical approach

With Source Marketplace and the Beckford Bar in Senate House, the team has strived to make sure products are either sustainable and/or ethical and contain as little plastic as possible, while supporting local producers, where feasible. The Market Place Food Concept operated by our in-house Source Catering team provides locally sourced homemade food place is split into four different areas the whole of which is 72% plant based.

The Market Students care about these aspects and expect Catering to deliver on promises contained in the Sustainable Action Plan (see supporting documents). Sustainability is at the core of Senate House Marketplace and throughout Source, incorporate it into all aspects of the food system. It has a big impact on the retail products stocked for the grab-and-go range and runs through the menus on offer. The priority is to provide a service which is environmentally, economically and socially sustainable. The promotion of healthy eating is also important to Source, and this is reflected in the food and drink procurement and service delivery. Healthier, more sustainable food can have a positive impact on health and wellbeing, as well as the environment.

The University of Bristol's 2021 Sustainable Food Action Plan details the steps it is taking to ensure that its services and food and drink offerings enhance positive social, ethical and environmental benefits. Its key objectives can be found in the supporting documents to this submission which follows:

9. We will review accreditation schemes, such as the sustainable restaurant association and soil association accreditation, to pursue the most applicable scheme for the University's activities

In addition to the published targets in our plan we continue to support the City to Sea Campaign and the RAW Foundation through free water refill points and sales at cost of reusable BPA-free stainless-steel water bottles.

Onsite bottling of water continues to reduce transport-related carbon emissions. New water fountains have been introduced to promote use of tap water over disposable bottled water. A post-consumer single use Plastic Action Plan was developed implemented and updated in 2020/21,

Retail outlets continue to sell reusable KeepCups at cost to staff and students to encourage reuse and to reduce disposable packaging. They have expanded the range to also use plastic free Husk Up cups.

Space Utilisation, Research & Knowledge Transfer, Engaging with Communities and Sustainable Buildings

There is no progress update on these areas for the year 2020/21, partly due to the impact of COVID-19 but also due to the review of University Sustainability Strategy. An update will be given in 2021/22.