Environmental Sustainability Performance Report 2018-2020

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	University of Portsmouth – Environmental Management System					
UNIVERSITY OF PORTSMOUTH						
	Version	First issued	Updated	Updated by	Reviewed by	Approved by
	1.6	18.11.2013	5.1.2021	Ian McCormack, Bethanie Helas, Marian Michalsky	Marian Michalsky and Ian McCormack	

1. Executive Summary

This is the last time this format will be used to report on environmental sustainability performance. The new University Vision 2030 and Strategy 2025 has firmly established an ambition to lead in environmental sustainability and become climate positive by 2030. As a result, the new Climate Positive working group will develop a climate positive plan and other environmental sustainability objectives and targets will be presented in a separate plan produced by the Energy and Environment Team.

ISO 14001

The University incorporates all environmental sustainability policy, objectives and targets within its environmental management system certified to the ISO 14001: 2015 standard. This is a practical way to manage and report on progress against identified significant environmental impacts. Over the last two years certification has been retained following annual surveillance audits in April 2019 and June 2020. The system is also an effective tool in checking compliance with environmental legislation. It is worthwhile noting that continued certification provides additional value as it satisfies environmental management criteria within funding applications and contract bids. The system is also independently checked by colleagues from Bournemouth University who provide two days of audit checks in a reciprocal arrangement.

Legislation

The key legislation change during this period has been the closure of the Carbon Reduction Commitment scheme (CRC) in March 2019. In the last submission 8,458 tCO_2 (from electricity and gas consumption) were reported to the Environment Agency at scheme cost of £154,78. With the scrapping of CRC, the existing climate change levy (CCL) tax already included in electricity and gas invoices has consequently been increased but the equivalent cost is less.

Performance graphs

The series of performance graphs provide an update of the last 2 years up to 31st July 2020. Please note that due to the Coronavirus pandemic the University was largely closed during April to July 2020 and so consumption of utilities does not follow normal usage. A more representative indication of performance will be the previous year 2018-19. In this period performance continued to meet expectations or better. The Coronavirus closure period in 2019-20 caused a downward step change in utility use even with extra ventilation of buildings and water system flushing regimes.

Electricity and gas use and carbon emissions

Compared to 2017-18 electricity consumption reduced by 6% and then 20% during 2019-20 the start of the Coronvirus pandemic. Gas reduced by 19% and then 29% over the same period. As a result, measured carbon emissions continue to fall. Since accurate measurement began in 2009-10, emissions have dropped by 50% in 2018-19 and then by 60% in 2019-20 (calculated from electricity, gas, water and waste). The Climate Positive working group will for the first time take full account of Scope 3 emissions to include travel and procurement activity emissions. This will increase our carbon footprint. However, for the time being the continued emissions downward trend is due to a continued focus on installing energy efficient LED lighting, tighter control of heating and ventilation systems and aligning these systems with timetable space bookings via the building management system (BMS). Warmer winters have also reduced gas consumption and associated electricity use. The decarbonisation of the UK national grid with renewable supplies has also played a significant role in emission reduction. Although the university's supply of electricity is from certified 100% renewable energy supplies (wind, solar, hydro or wave) this does not yet factor in reducing recorded emissions further.

Recycling
The recycling rate remains close to the 70% target level. It is anticipated that work to reuse/recycling unwanted furniture will increase the rate towards the 75% mark. Volumes of waste have reduced over recent years primarily due to better quality data from contractors and a proportion of halls of residence being outsourced or closing and hence reducing waste volume.

Water use
The original water consumption target was proving challenging to achieve but improvements in data quality, monitoring and the closure of Langstone Student Village have finally resulted in use falling to 149,000m^3 (10% below the 2017 target) and 104,975m^3 in 2019-20 (37% below target).

Sustainable travel
The majority of the scheduled actions in the Travel Plan 2017-20 were completed with support from Hampshire Services and the appointment of a sustainable travel coordinator. Targets in the plan were achieved, notably due to the introduction of a direct Park & Ride service (PR2) into the centre of the university, a new circular university bus route (U1) serving the Southsea area and the launch of new Travel to Work webpages promoting a new cycle to work scheme and travel discounts on trains, buses and ferries.

Sustainable construction
From a sustainable design and construction perspective the ambition for new buildings has been raised to BREEAM 'Outstanding' for new buildings and the new Sports Building achieved this at the design stage. The last new building completed in 2018 'Future Technology Centre' achieved BREEAM 'Excellent'. The sports centre design won the Public Sector Project: Design Stage Award at the BREEAM Awards 2020. This is a prestigious award, which recognises projects demonstrating the highest level of innovation in terms of sustainability.

Sustainable catering
Catering Service efforts to increase their sustainability performance has been recognised by the Sustainable Restaurant Association awarding the maximum 3 star rating. The team have also signed up to a WRAP campaign to monitor and reduce food waste and continue to reduce the use of single use plastics throughout their service.

Single use plastics
Finally, there has be considerable effort University wide to eliminate the use of single use plastics. Catering outlets have removed many single use plastic items like straws, cutlery, sachets and have moved to milk deliveries in reusable glass bottles. Print Services is now recycling PVC banners and reusing the frames of pop up banners. Ultimately, the University's Revolution Plastics campaign will reduce the use of plastics internally and seek to develop internationally recognised environmentally sustainable waste management solutions for treating plastic waste worldwide.

2. ISO 14001

The University retained certification to the internationally recognised environmental management system standard ISO 14001:2015 during the annual surveillance audits in April 2019 and June 2020. Continued certification requires collaboration with many departments and services during annual surveillance audits and scheduled internal checks.

The latest version of the standard requires environmental objectives, targets and performance to be monitored and achieved, alongside continued commitment from senior management to integrate environmental ambition and objectives in strategic thinking.

3. CRC Energy Efficiency Scheme

The final compliance year was completed for the Carbon Reduction Commitment Scheme (April 2018 to March 2019). Carbon allowances were purchased and surrendered to cover electricity and gas consumption equivalent to 8,458 tCO_2 at a cost of £154,781. The CRC scheme ended in March 2019, however, government revenues will be maintained by increasing the climate change levy which has been part of energy billing for some time. The overall outcome is that carbon tax related costs will be less.

4. Carbon emissions

Headline objective	Progress summary
To reduce carbon emissions from electricity and gas consumption, fleet vehicle fuel use, water consumption and recycling and waste volumes.	✔ Completed
What's our target	**Progress summary**
The University of Portsmouth will reduce the carbon emissions from its activities by 30% from a 2009-2010 baseline by August 2016.	✔ Completed (achieved by 2017)

Carbon emissions are measured from the sources detailed in Table 1 and are categorised as Scope 1, 2 and 3 emissions (travel and procurement activity Scope 3 emissions have not been measured to date).

Emissions are now at their lowest levels since 2009-10 mainly due to energy efficiencies, UK grid decarbonisation, the closure of Langstone Student Village and the Coronavirus pandemic reducing on site demand. It is worth noting that the electricity carbon emission conversion factor (kg CO_2e/ kWh) is currently at its lowest since 2009-10, whilst the conversion factor for gas is set to increase.

Table 1 – University's carbon emissions for Scope 1, 2 and measured Scope 3 emissions, in tonnes CO_2 equivalents.

|	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-19	2019-20
Scope 1 - Direct emissions (e.g. Onsite gas consumption) (Tonnes CO2e)							
Natural Gas	3,265	3,491	3,406	3,387	3,505	2,836	2,487
Vehicle Fuel	142	107	48	43	39	35	25
Total Scope 1	3,406	3,598	3,453	3,429	3,545	2,870	2,511
Scope 2 - Indirect energy emissions (e.g. Electricity production) (Tonnes CO2e)							
Electricity Production	11,042	10,363	9,353	7,188	5,777	4,892	3,812
Total Scope 2	11,042	10,363	9,353	7,188	5,777	4,892	3,812
Scope 3 - Other Indirect emissions (e.g. Disposal of waste) (Tonnes CO2e)							
Electricity Distribution	966	856	846	672	492	415	328
Waste	25	23	23	17	17	15	0
Water	66	65	71	55	61	51	35
Total Scope 3	1,057	944	939	744	571	481	363
Total Emissions (Tonnes CO2e)							
Gross Emissions	15,504	14,905	13,745	11,361	9,892	8,243	6,686
Target	14,369	13,867	13,520	No target	No target	No target	No target
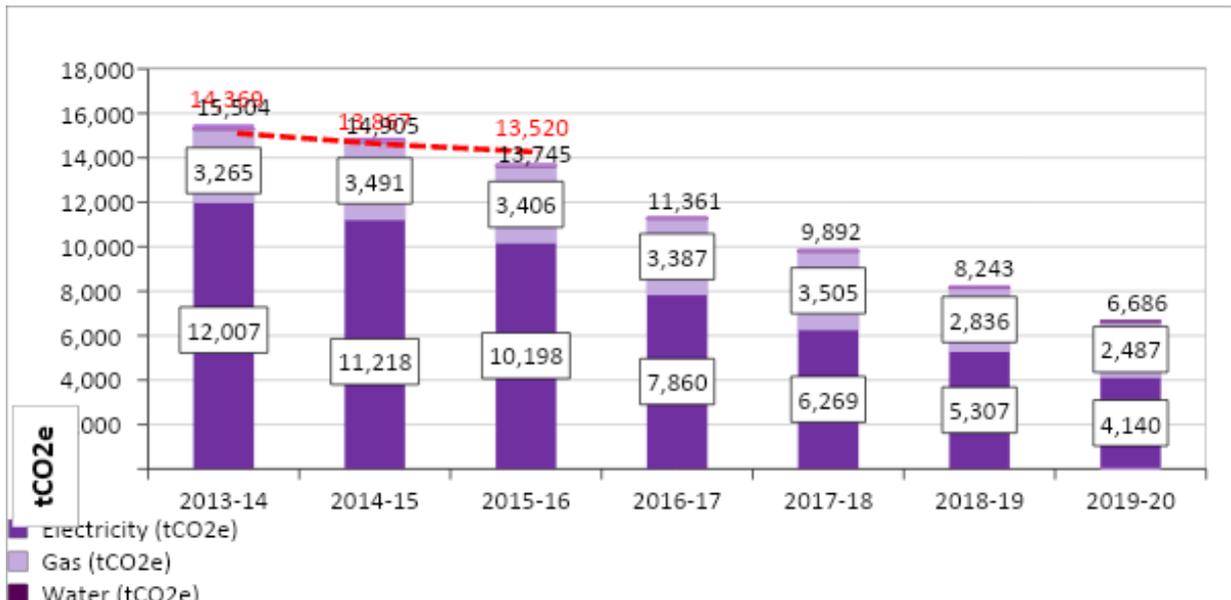
Figure 1 – Annual carbon emissions (Scope 1, 2 and Scope 3 emissions excluding travel and procurement activity) with red line indicating original carbon management plan target.

5. Energy management

Headline objectives	Progress summary
● To generate building energy certificates (DEC) on an annual basis in line with legislation.	✔ Completed
● To improve the analysis of energy consumption and target high users.	✔ Completed
● Support the process of energy tenders with accurate consumption data and metering service.	✔ Completed
● Improve the accuracy and frequency of the energy billing process by providing automatic meter readings to our gas supplier and electricity supplier (non-half hourly meter readings).	✔ Completed
What's our target	**Progress summary**
● Generate 32 building energy certificates annually (this could increase subject to legislation enforcement in January 2013 and July 2015).	✔ Completed
● To reduce energy consumption in line with the 30% carbon emission reduction target.	✔ Completed

Electricity consumption continues to reduce (Figure 2) and gas consumption (Figure 4) in line with warmer weather, which is indicative of the reduction in degree days (days when heating is required). Overall, less energy use is due to much closer control of heating and ventilation provision, energy efficiency projects and some halls being out of operation or closing, namely Burrell House and Langstone Student Village.

The Carbon Trust continues to state that organisations that adopt a 'business as usual' approach (i.e. without concern for energy management) experience a continual upward trend in energy

consumption. The University can demonstrate a downward trend in absolute electricity and gas consumption.

Table 2 – Degree days per year.

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Number of degree days	1,373	1,530	1,416	1,385	1,517	1,377	1,334

In the UK a degree day will only occur when external mean temperatures drop below 15.5 ^{0}C (the temperature at which heating is generally considered necessary). Degree days are calculated by subtracting the daily mean temperature from 15.5 ^{0}C and totalling these for the year.
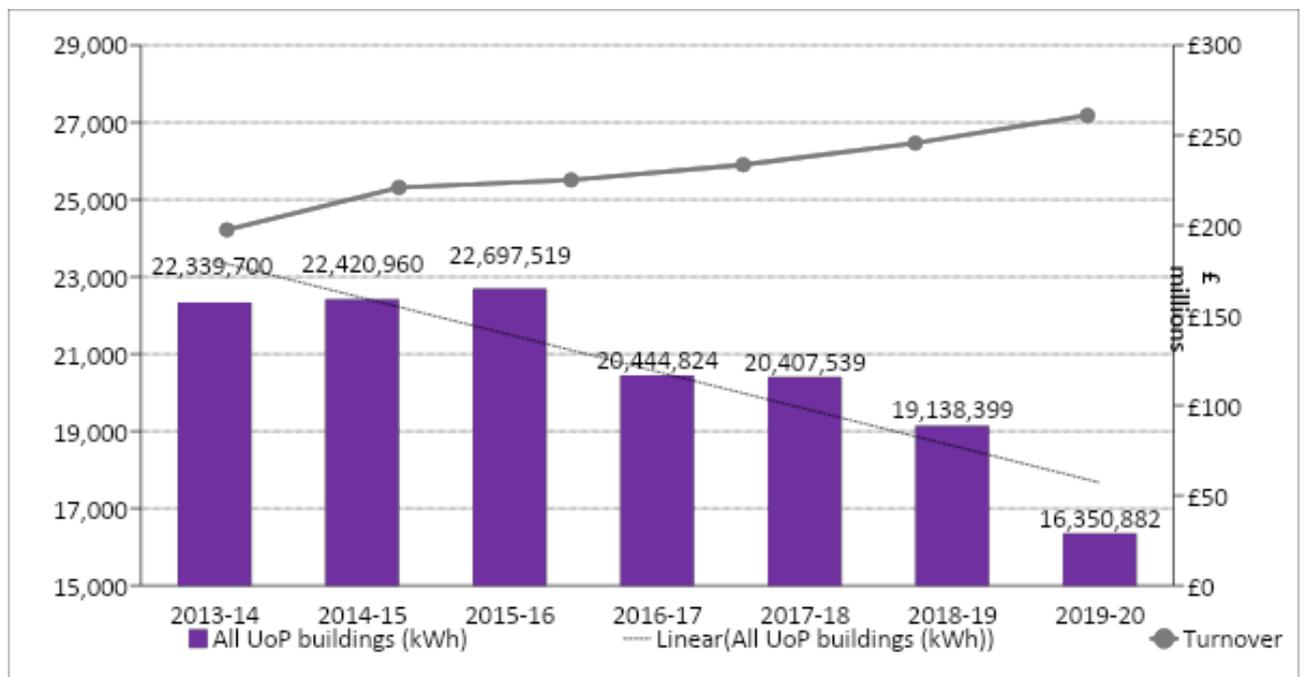
Figure 2 – Absolute electricity consumption (thousands kWh) per year against annual turnover.
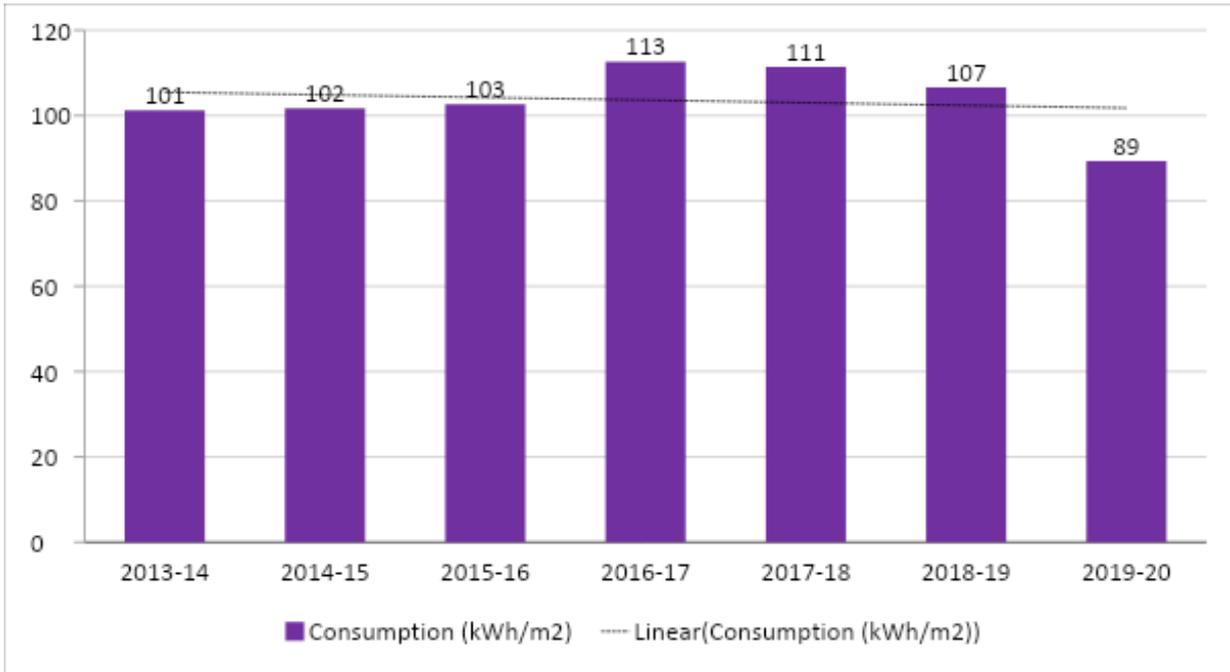
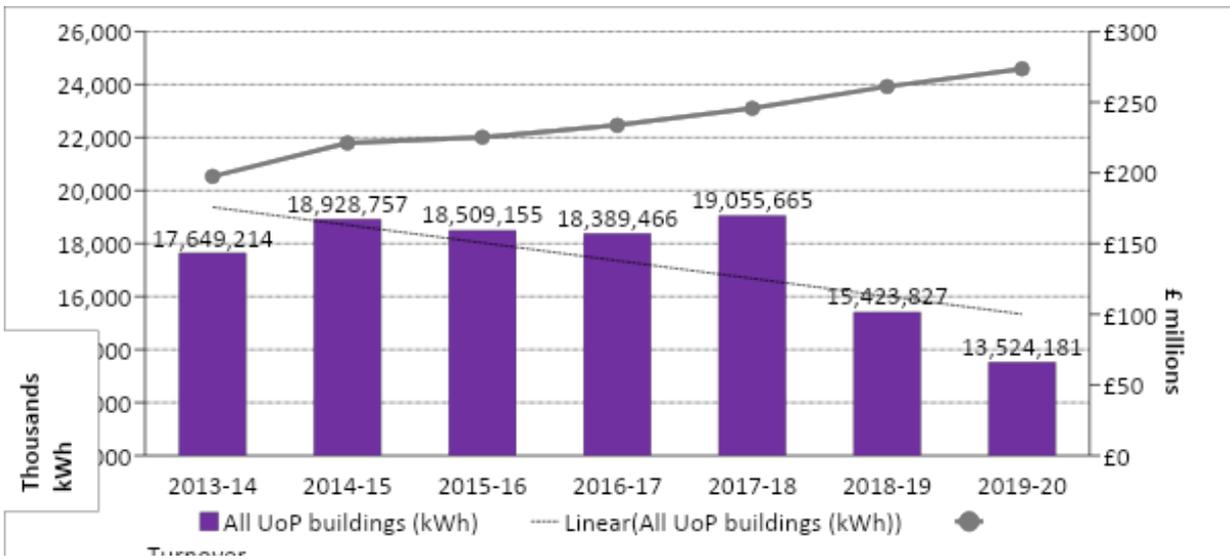Figure 3 – Electricity consumption per m2 (kWh/m^2) per year.

Figure 4 – Absolute gas consumption (thousands kWh) per year against annual turnover.
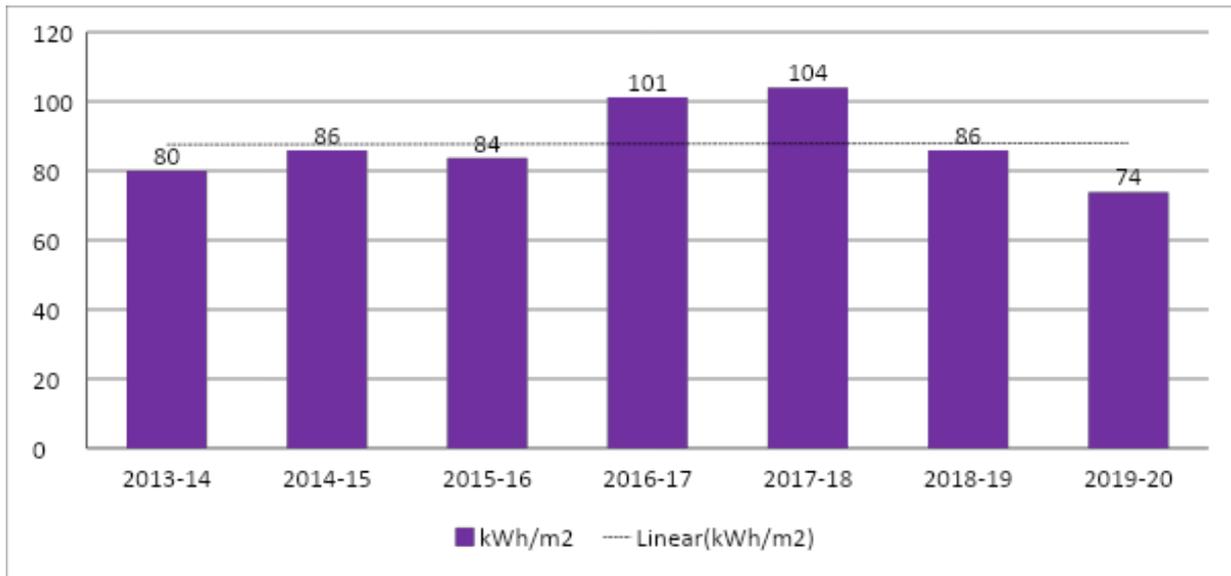
Figure 5 – Gas consumption per m^2 (kWh/m^2) per year

6. Recycling and waste management

Headline objectives	Progress summary
● Zero waste to landfill.	✔ Completed
● Introduction of food recycling in offices, recycling bin provision in all teaching spaces and the removal of desk side general waste bins in offices.	✔ Completed
● Establishing contracts and service level agreements for all waste streams.	✔ Completed
● The collection of accurate waste data for all waste streams (that are practical).	✔ Completed
What's our target	**Progress summary**
● To recycle 50% of our waste by 2013-14, 60% by 2014-15, and 70% by 2015-16 (excludes construction waste due to the high volumes generated during construction projects).	✔ Completed

Over the last two years the recycling rate has stayed close to 70% even though in the last year coronavirus restrictions consigned all recycling to general waste for 5 months. However, there is scope to increase recycling rates futher by procuring a dedicated furniture reuse/ recycling contract and reducing contamination. This can be achieved by updating the office/ building recycling scheme colour coding and improving signage. The market for recyclable materials is now less tolerant of contamination by food and other non-recyclables and so it is recommended the University converts some office recycling bins to general waste bins and introduce a few more food recycling bins. This is a positive move and should result in an increase in recycling rates. Overall, waste volume have fallen due to large facilities closing i.e. Langstone Student Village and over the last year the coronavirus restrictions lead to fewer staff/students on site generating less waste.
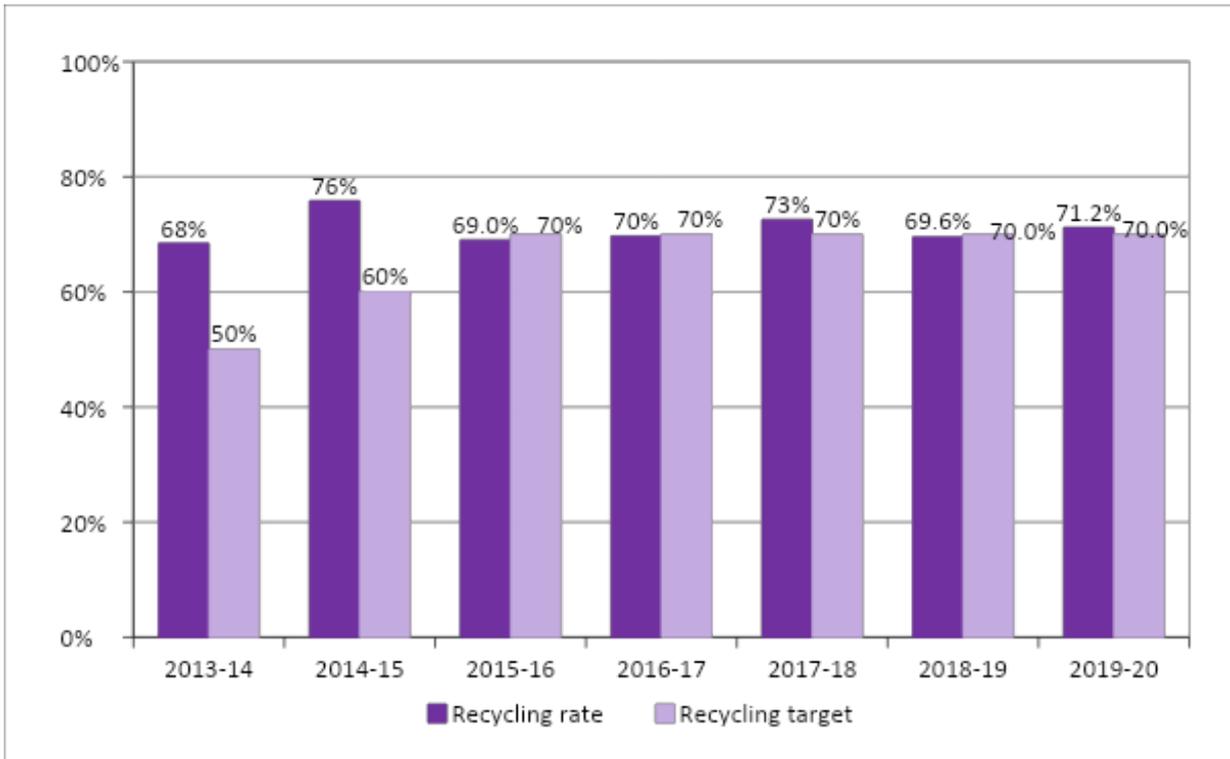
Figure 6 – Annual percentage of waste recycled (excluding construction waste).
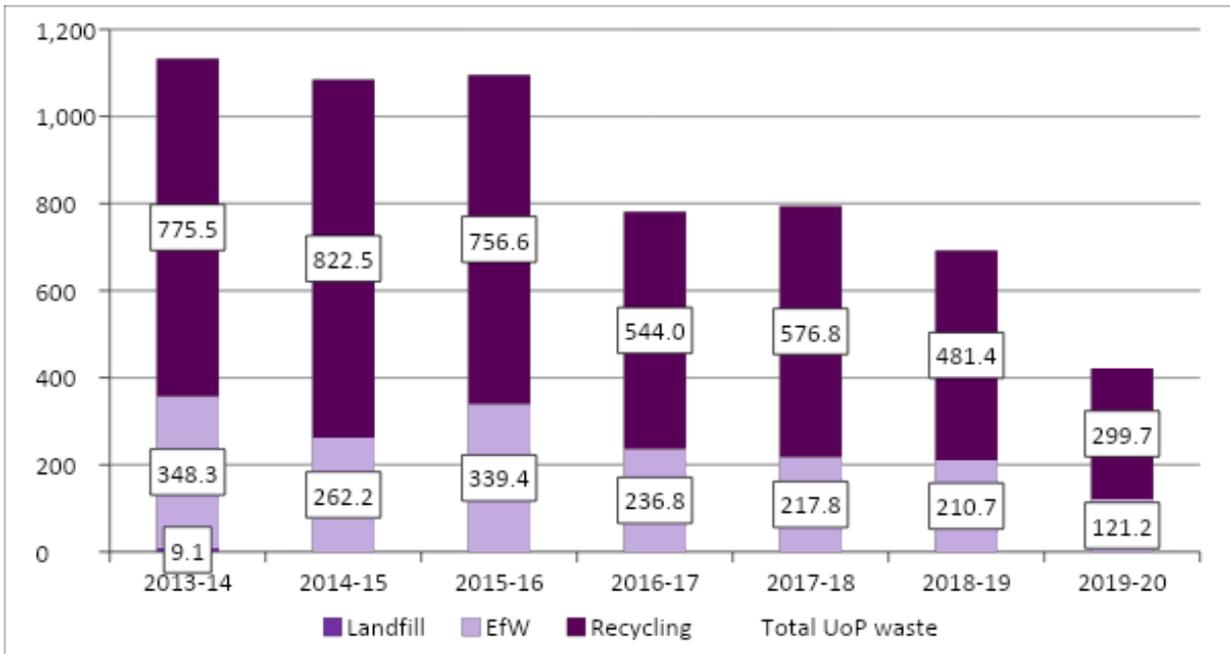

Figure 7 – Annual tonnages of waste sent for recycling and energy from waste treatment (excluding construction waste) with zero waste was sent to landfill in recent years.

7. Water management

Headline objectives	Progress summary
● To introduce monthly billing (subject to Portsmouth Water agreement and cost).	✔ Completed
● To increase the frequency of water meter readings from quarterly to monthly to support the detection of water leaks.	✔ Completed
● To reduce water consumption to the lowest point 166,190m^3 (measured in 2008-09), subject to health and safety risk assessment.	✔ Completed
What's our target	**Progress summary**
● To reduce water consumption to 166,000m^3 by 2017 i.e. to 0.80 m^3 per m^2 (subject to health and safety risk assessment).	✔ Completed

Water consumption has dropped to 10% below the 2017 target in 2018-19 and is now 37% below the original 2017 target even with extra water system flushing introduced during the Coronavirus closure months. Monitoring of online consumption will continue in order to respond to high use situations and keep consumption within normal patterns of use. Increases in consumption automatically results in higher sewerage bills and so monitoring for potential leaks is an important part of managing costs.
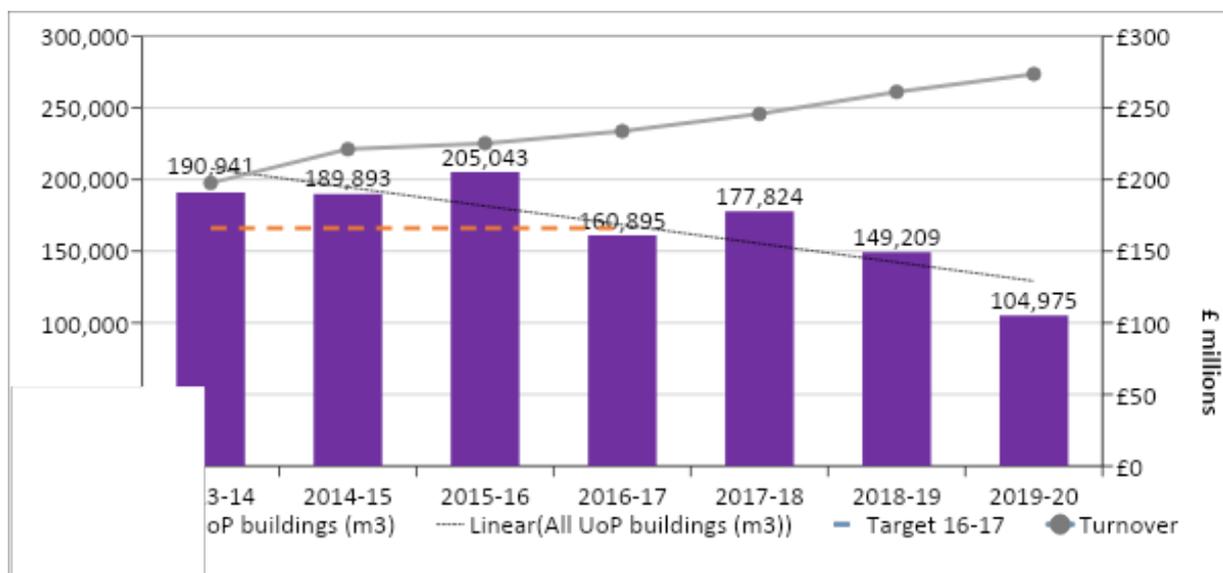

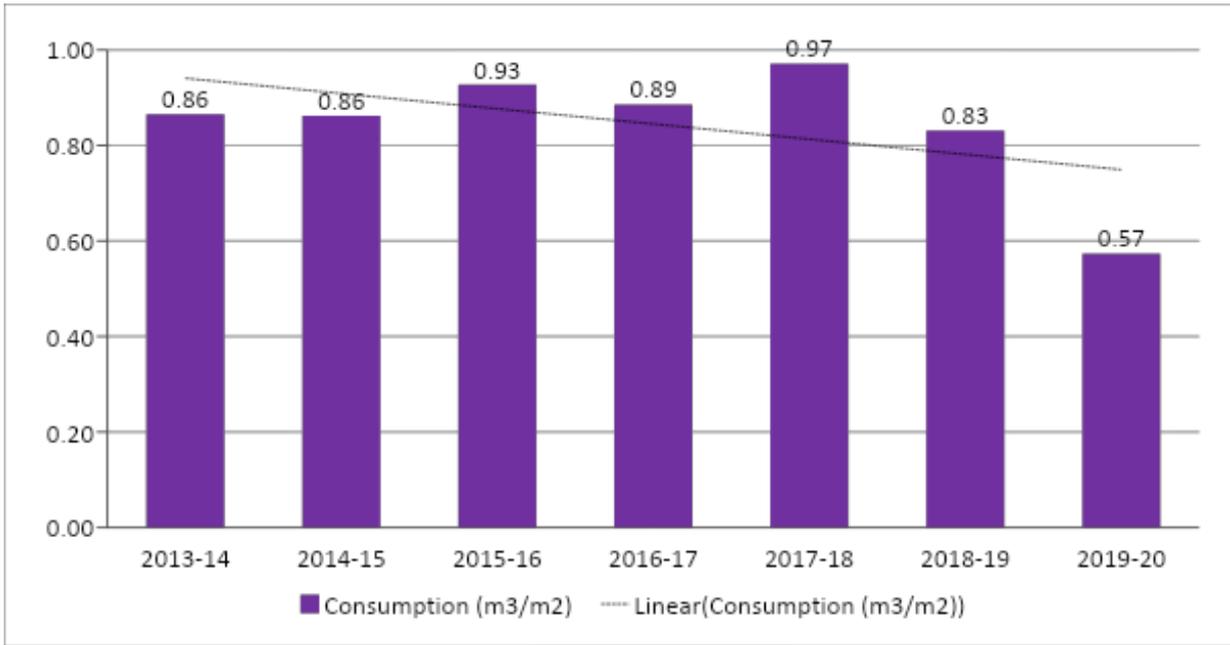Figure 8 – Annual water consumption (m^3) against annual turnover.

Figure 9 – Water consumption per m^2 (m^3/m^2) per year

8. Sustainable construction

Headline objective	Progress summary
• To extend BREEAM assessments to major refurbishment projects where practical.	No projects completed this reporting period
• To develop specifications for energy efficiency, water and waste management.	✔ Completed
What's our target	**Progress summary**
• New construction to achieve a 'Very Good' rating.	✔ Completed (Portland Building 'Future Technology Centre' achieved an 'Excellent' rating. The design of the new Sports Building is currently achieving a pre finalisation 'Outstanding' rating).

Designed to be one of the UK's greenest sports facilities, the new sports building with swimming pool aims to create new standards for sustainability and energy efficiency. The design stage received an 'Outstanding' rating from BREEAM UK, the world's leading sustainability assessment for buildings and won the Public Sector Project: Design Stage Award at the BREEAM Awards 2020. This is a prestigious award which recognises projects demonstrating the highest level of innovation in terms of sustainable construction. The design includes features to produce renewable energy from roof mounted solar panels and internal heat recovery systems. Pool water will be reused for toilet flushing and biodiversity will be enhanced by creating an urban orchard and biodiverse grassed roof with beehives.

9. Emissions, discharges and abstraction

Headline objective	Progress summary
● To investigate monitoring of emissions to air from science based teaching.	No progress.
● To stay within water abstraction permission limits granted by the Environment Agency.	✔ Completed
What's our target	**Progress summary**
● To control levels of discharges to drains and emissions to air to remain within consent requirements.	✔ Completed for discharge to drains. No report for emissions to air.

The University has a sea water abstraction licence issued by the Environment Agency for the Institute of Marine Sciences. The quantity of water abstracted is recorded monthly and reported annually. The University also holds a trade effluent acknowledgment from Southern Water to discharge to drain from its laboratories, subject to concentrations.

10. Sustainable travel

Headline objectives	Progress summary
● Reduce travel carbon emissions (not currently measured).	No data available to date but the new Travel & Expenses contractor will start to provide data
● Support air quality improvements.	✔ Completed
● Support local travel partnerships.	✔ Completed
● Raise the profile of travel information.	✔ Completed
● Incentivise walking, cycling and public transport.	✔ Completed
● Reduce car parking pressure and infrastructure costs.	✔ Completed
What's our target	**Progress summary**
● To reduce commuter solo car use by 5% by 2017.	✔ Completed

Half of the scheduled actions in the Travel Plan (2017-20) were actioned by Hampshire Services in a six month contract ending in March 2019 and the remainder completed by the new sustainable travel coordinator post. The focus was on redrafting travel information and incentivising the use of public transport, walking and cycling with discounts and a new cycle to work scheme. The most significant change is the new car parking policy in September 2019 which introduced an increase in permit prices and a 2 mile permit exclusion zone. Staff affected by the changes to the car parking policy were supported by the launch of a new travel to work website promoting train, bus, ferry and bicycle discounts and a series of travel clinics. Free cycle training (via the city council) and maintenance training classes were offered to staff and students at the start of 2019.

11. Biodiversity

Headline objective	Progress summary
● To maintain and improve the biodiversity value of the University estate.	In progress – actions in the Biodiversity Action Plan are being implemented through the grounds maintenance contract.
What's our target	**Progress summary**
● To conduct a biodiversity survey on an annual basis.	✔ Completed.
● To implement the actions in the Biodiversity Action Plan.	✔ Completed.

The biodiversity of the estate continues to be managed through the grounds maintenance contract.

12. Sustainable procurement

Headline objectives	Progress summary
● To use the assessment methodology developed in-house to grade supplier environmental performance and use this to guide and track improvement.	Methodology developed and tested but a lack of staff resource in the procurement and environment teams has meant that systematic checks to encourage main supplier improvement has not been possible.
● To generate reliable carbon emission data associated within procurement activity should this be required to be reported in the future.	This is likely to be developed by the Climate Positive working group
● To produce a sustainable procurement code of practice to support implementation of the Flexible Framework.	✔ Completed.
What's our target	**Progress summary**
● To complete all Flexible Framework stages 1-5.	Progress remains at stage 4.

The University completed Stage 4 of the Government's Guidance *'Sustainable Procurement-Flexible Framework'*, which is largely concerned with organisational change to improve sustainable procurement activity. Checks at tender stage are routinely undertaken for environmental standards employed and in future, the carbon emissions of procurement activity will have to be assessed.

13. Sustainable food

Headline objectives	Progress summary
● To reduce our food miles.	No data available to record any progress.
● To provide food that comes from environmental and social responsible sources.	✔ Completed – 3 Star Rating from the Sustainable Restaurant Association
What's our target	**Progress summary**
● To achieve the Food for Life standard certification by the Soil Association by 2014.	'Food for Life' Silver standard achieve (St Andrew's Court café).

The foundation of our Sustainable Food Policy
Environmental and social considerations are incorporated into product and service selection processes which is encouraging suppliers to minimise negative environmental and social impacts associated with their products. Every effort is made to ensure that local and small suppliers are not discriminated against at the procurement stage. This list of campaign and awards indicates the sustainable ambitions of Catering Services.

Single use plastic - Catering banned the use of plastic straws in December 2017 and continue to reduce and eliminate the use of plastic in catering through a move to using only bamboo/ metal cutlery. Were possible glass bottles rather than plastic are made available and staff and students are encouraged to reuse cups through the "bring your own mug" campaign. Daily milk deliveries are now delivered in reusable glass milk bottles.

Food waste reduction - Catering Services have partnered with WRAP to monitor and reduce food waste.

Good Pig Award – Catering Services hold three Compassion in World Farming awards for the sole use of Free Range Chickens, Free Range Eggs and egg products and Diary, sole use of Organic dairy products. A fourth, The Good Pig Award has been added which recognises companies that use only higher welfare systems for sows and meat pigs.

3 Star Rating from the Sustainable Restaurant Association – This is an independently verified sustainability rating system that allows diners to choose a restaurant that matches their sustainability priorities. It recognises restaurants against a wide range of criteria covering 14 areas of sustainability with 3 stars being the maximum rating.

Silver Soil Association Food for Life Catering Mark (St Andrew's Court café) - The awards provides an independent endorsement that the University is taking steps to use fresh ingredients which are free from trans-fats, harmful additives and GM, and better for animal welfare. Caterers are audited to ensure they meet high standards of provenance and traceability.

Hampshire Fare - The service is part of Hampshire Fare in recognition of its work with local food suppliers and growers and support the development of sustainable food, drink and craft businesses that contribute to the rural economy in Hampshire.

Sustainable Fish City – Catering only uses MSC fish and has signed the sustainable fish city pledge. This is an ambitious campaign for towns and cities to buy, serve, eat and promote only sustainable fish.