




# **Environmental Sustainability Performance Report 2017-2018**

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| <br><b>UNIVERSITY OF PORTSMOUTH</b> | University of Portsmouth – Environmental Management System       |            |                                    |                                    |               |              |
|  | <b>Environmental Sustainability Performance Report 2017-2018</b> |            |                                    |                                    |               |              |
|  | Version:   | Issued :   | Revised:                           | Drafted by:                        | Reviewed by:  | Approved by: |
| 1.0  | 05.06.2018   | 19.11.2018 | Marian Michalsky and Ian McCormack | Marian Michalsky and Ian McCormack | Ian McCormack |              |

## 1. Executive Summary

This annual environmental performance report continues to report against the 5 year Environmental Sustainability Statement and Performance Plan 2013- 17 based on academic years. Commentary on certification to the new ISO 14001:2015 standard for environmental management systems and the CRC Energy Efficiency Scheme is provided as well as monitoring of performance against the 2013-17 plan objectives and targets.

The University was certified to the new version of ISO 14001:2015 in July 2018 following four days of audit by SGS. Bournemouth University lent their support with two days of independent pre certification audit checks. The new version of ISO 14001:2015 introduces requirements that senior management are fully engaged in environmental management and that objectives and targets are monitored and achieved. Environmental impacts are now recorded as 'risks and opportunities' and 'targets and objectives' are documented. Certification to the standard facilitates compliance with environmental legislation and best practices ranging from waste storage and duty of care to water abstraction and discharge to drain acknowledgement. Certification adds value as it satisfies any institutional environmental management criteria for staff completing any funding applications.

The fourth year of Phase 2 of the CRC Energy Efficiency Scheme was completed successfully, with 10,585 tCO<sub>2</sub> reported to the Environment Agency as a result of electricity and gas consumption and £187,354 of associated carbon allowances purchased (a £30,000 reduction on the previous year). The CRC scheme ends in March 2019 but the tax will continue to be levied through increases in the climate change levy (CCL) already on energy bills.

The current Carbon Management Plan has reached completion and future objectives and targets are likely to be included with general environmental targets. This year maintained the downward trend in carbon emissions due to a continued focus on installing energy efficient LED lighting and decarbonisation of the national grid supplies from renewable energy reducing electricity use conversion factors.

The highest recorded recycling rate 73% has been achieved this year. Rates for future years could be challenging to maintain as global markets for recyclable materials become less buoyant driving demands for contamination free recycling even higher.

The original water consumption target is proving challenging to consistently achieve but improvements in data quality should reduce future large variations. Monitoring of consumption will continue to avoid unnecessary consumption charges and associated sewerage charges.

Half of the scheduled actions in the Travel Plan 2017-20 are being completed by Hampshire Services by March 2019. Notable progress has been made with the introduction of a new dedicated Park & Ride route serving the University and a new circular University bus route serving the Southsea area.

Progress continues to be made in many other areas of environmental sustainability. The sustainable design and construction ambition for new university buildings has been raised to BREEAM 'Outstanding' for the Sports Building. The 'Future Technology Centre' is expected to achieve BREEAM 'Excellent'. Efforts to increase the availability of sustainable food have been recognised by the Soil Association's 'Food for Life' standard award of silver level and the Sustainable Restaurant Association awarding the University the maximum 3 star rating. There is also a drive to reduce the use of plastics in catering.

Please note that all graphs referencing turnover will be updated when the published Financial Statement for 2017-18 becomes available.

## 2. ISO 14001

The University was successfully certified to the internationally recognised environmental management system standard ISO 14001:2015. Four days of recertification audit included site visits to Eldon and Dentistry buildings and interviews with senior management. Continued certification requires collaboration with many departments and services during annual surveillance audits and periodic internal checks.

The revised standard will require a closer scrutiny of environmental objectives, targets and performance tracking and procurement activity, plus a clear commitment from senior management to include environmental objectives in strategic thinking.

## 3. CRC Energy Efficiency Scheme

Compliance was completed for the Carbon Reduction Commitment (CRC) April 2017 to March 2018 period. Carbon allowances were purchased and surrendered to cover electricity and gas consumption equivalent to 10,585 tCO<sub>2</sub> at a cost of £187,354. The CRC scheme ends in March 2019, however, government revenues will be maintained by increasing the climate change levy already on energy bills.

## 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) |

Emissions are measure from sources detailed in Table 1 and categorised as Scope 1 and 2 and Scope 3 emissions (not all Scope 3 emissions are measured).

### *Carbon Emission Scopes*

*When measuring and calculating carbon emissions they are categorised into 3 scopes:*

*Scope 1 – Direct emissions. These are emissions which occur on a site owned or controlled by an organisation*

*Scope 2 – Indirect energy emissions. These are emissions which occur due to an activity of an organisation, but occur at a source owned or controlled by another organisation (e.g. electricity production).*

*Scope 3 – Other indirect activities. Other emissions not covered by scope 2 which occur due to the activities of an organisation, but not on a site owned or controlled by that organisation (e.g. waste disposal, procurement, business and commuter travel).*

Emissions are now at their lowest since 2009-10 due to reduced consumption and more power in the UK coming from grid sources of low carbon renewable energy. Although the original aspirational 30% reduction target was not achieved, emissions have now reduced by 40% against the 2009-2010 baseline. The step reduction in the last two years is due to a proportion of halls of residence being outsourced, a programme of installing energy efficient lighting and grid decarbonisation reducing the carbon conversion factor for electricity.

Table 1 – University’s carbon emissions for Scope 1, 2 and measured Scope 3 emissions, in tonnes CO<sub>2</sub> equivalents.

|   | 2011-2012     | 2012-2013     | 2013-2014     | 2014-2015     | 2015-2016    | 2016-2017    | 2017-2018    |
|---|---------------|---------------|---------------|---------------|--------------|--------------|--------------|
| <b>Scope 1 - Direct emissions (e.g. Onsite gas consumption) (Tonnes CO<sub>2</sub>e)</b>          |               |               |               |               |              |              |              |
| Natural Gas   | 3,389         | 3,913         | 3,265         | 3,491         | 3,406        | 3,387        | 3,505        |
| Vehicle Fuel  | 113           | 118           | 142           | 107           | 48           | 43           | 39           |
| <b>Total Scope 1</b>  | <b>3,502</b>  | <b>4,032</b>  | <b>3,406</b>  | <b>3,598</b>  | <b>3,453</b> | <b>3,429</b> | <b>3,545</b> |
| <b>Scope 2 - Indirect energy emissions (e.g. Electricity production) (Tonnes CO<sub>2</sub>e)</b> |               |               |               |               |              |              |              |
| Electricity Production  | 10,266        | 10,407        | 11,042        | 10,363        | 9,353        | 7,188        | 5,777        |
| <b>Total Scope 2</b>  | <b>10,266</b> | <b>10,407</b> | <b>11,042</b> | <b>10,363</b> | <b>9,353</b> | <b>7,188</b> | <b>5,777</b> |
| <b>Scope 3 - Other Indirect emissions (e.g. Disposal of waste) (Tonnes CO<sub>2</sub>e)</b>       |               |               |               |               |              |              |              |
| Electricity Distribution  | 811           | 890           | 966           | 856           | 846          | 672          | 492          |
| Waste   | 140           | 89            | 25            | 23            | 23           | 17           | 19           |
| Water   | 74            | 80            | 66            | 65            | 71           | 55           | 61           |
| <b>Total Scope 3</b>  | <b>1,024</b>  | <b>1,059</b>  | <b>1,057</b>  | <b>944</b>    | <b>939</b>   | <b>744</b>   | <b>573</b>   |
| <b>Total Emissions (Tonnes CO<sub>2</sub>e)</b>   |               |               |               |               |              |              |              |
| Gross Emissions   | 14,792        | 15,498        | 15,504        | 14,905        | 13,745       | 11,361       | 9,894        |
| Target  | 16,749        | 14,236        | 14,369        | 13,867        | 13,520       | No target    | No target    |

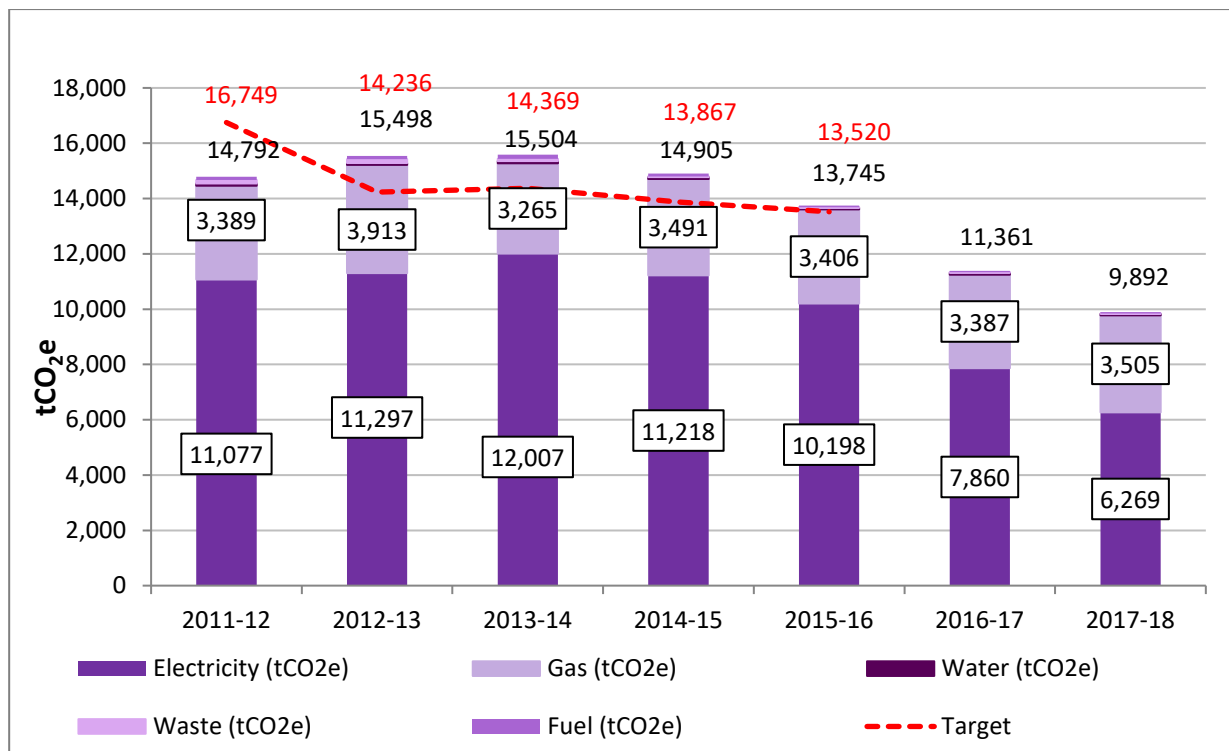


Figure 1 – University carbon emissions (scope 1, 2 and measured scope 3 emissions) compared to the target line (combination of reduction projects and forecast changes to the estate).

## 5. Energy management

| Headline objectives   | Progress summary |
|---|------------------|
| <ul style="list-style-type: none"> <li>To generate building energy certificates (DEC) on an annual basis in line with legislation.</li> </ul>   | ✓ Completed      |
| <ul style="list-style-type: none"> <li>To improve the analysis of energy consumption and target high users.</li> </ul>  | ✓ Completed      |
| <ul style="list-style-type: none"> <li>Support the process of energy tenders with accurate consumption data and metering service.</li> </ul>  | ✓ Completed      |
| <ul style="list-style-type: none"> <li>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).</li> </ul> | ✓ Completed      |
| What's our target   | Progress summary |
| <ul style="list-style-type: none"> <li>Generate 32 building energy certificates annually (this could increase subject to legislation enforcement in January 2013 and July 2015).</li> </ul>   | ✓ Completed      |
| <ul style="list-style-type: none"> <li>To reduce energy consumption in line with the 30% carbon emission reduction target.</li> </ul>   | ✓ Completed      |

Electricity consumption stayed the same as the previous year (Figure 2) but gas consumption increased in line with an increase in the number of degree days (days when heating is required) due to the very cold weather conditions early in 2018.

*Degree days*

*In the UK a degree day will only occur when external mean temperatures drop below 15.5 °C (the temperature at which heating is generally considered necessary). Degree days are calculated by subtracting the daily mean temperature from 15.5 °C and totalling these for the year.*

Table 2 – Degree days per year.

| Year                  | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|-----------------------|---------|---------|---------|---------|---------|---------|---------|
| Number of degree days | 1,567   | 1,980   | 1,373   | 1,530   | 1,416   | 1,385   | 1,517   |

The Carbon Trust states that organisations which 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. (Figures 2 and 4).

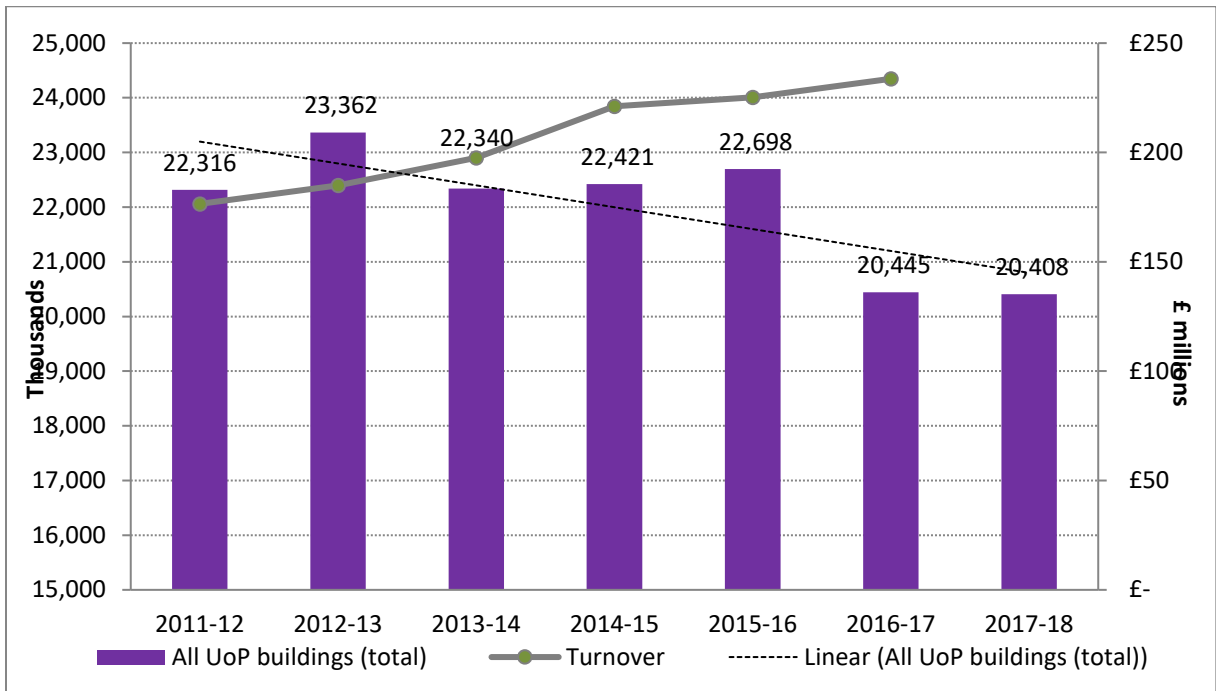


Figure 2 – Absolute electricity consumption per year in kWh against University annual turnover.

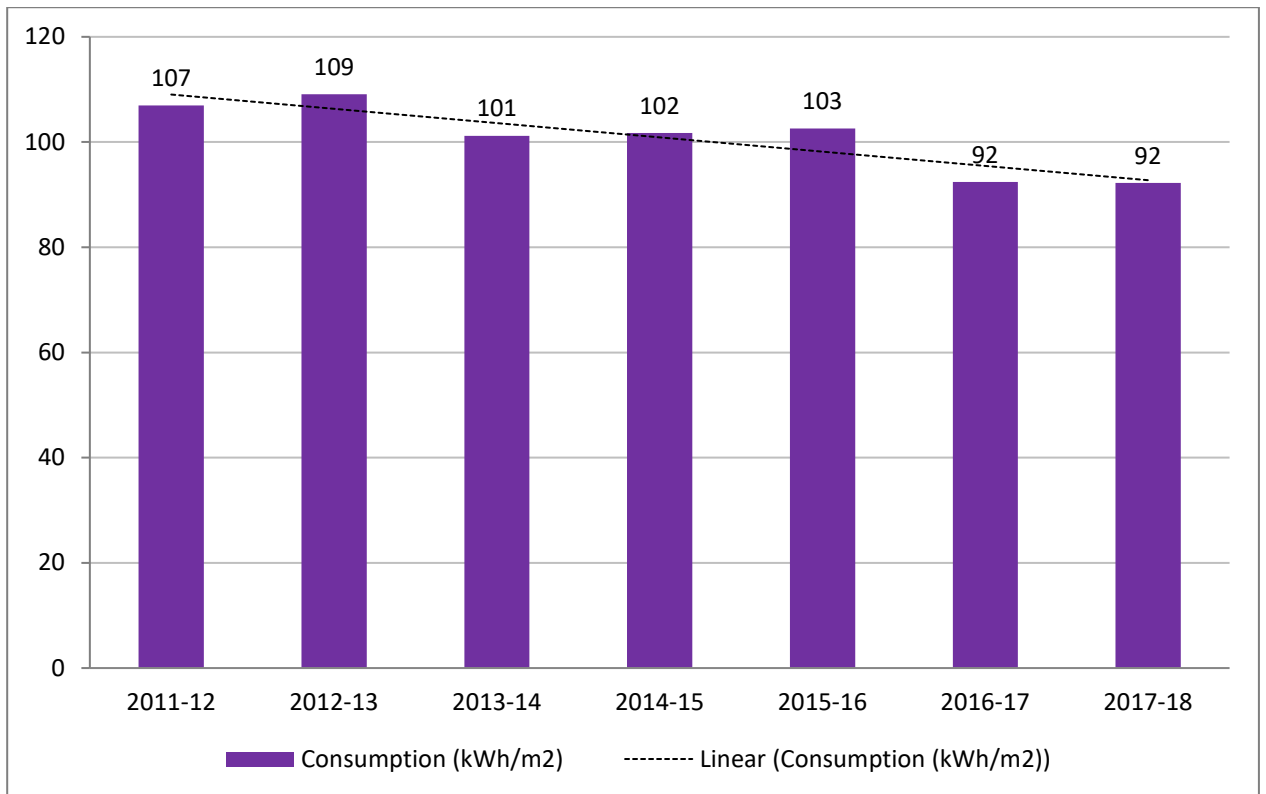


Figure 3 – Electricity consumption in kWh per m<sup>2</sup> of gross internal area.

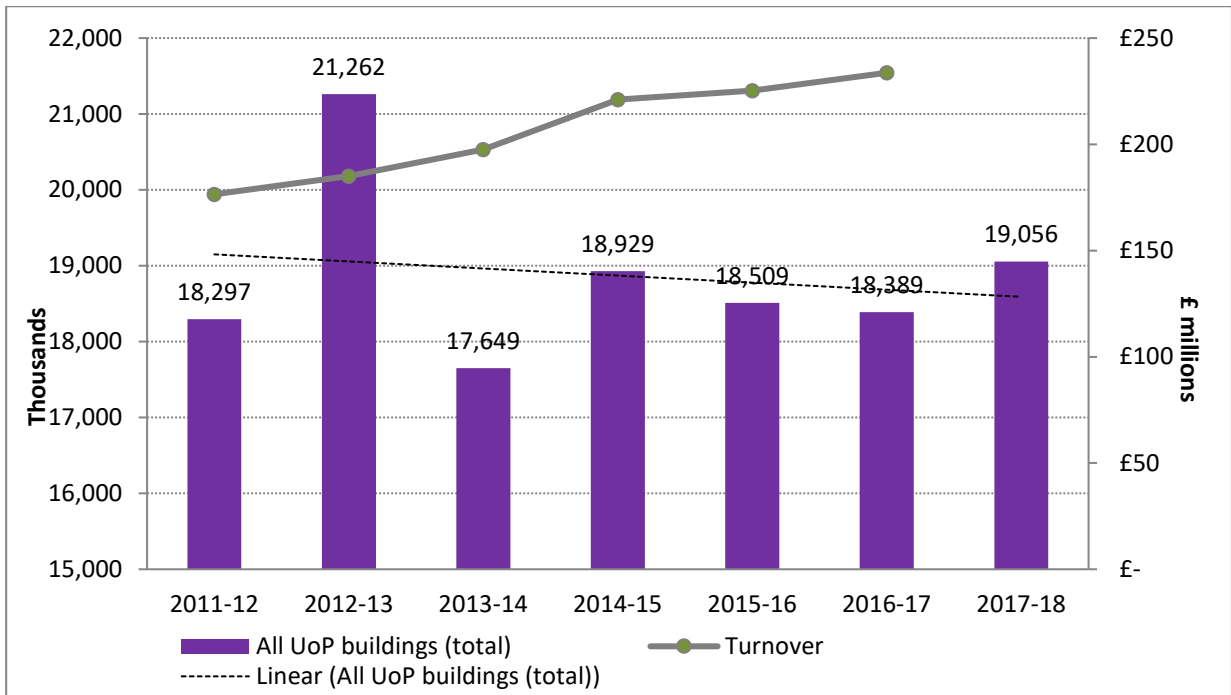


Figure 4 – Absolute gas consumption per year in kWh against University annual turnover.

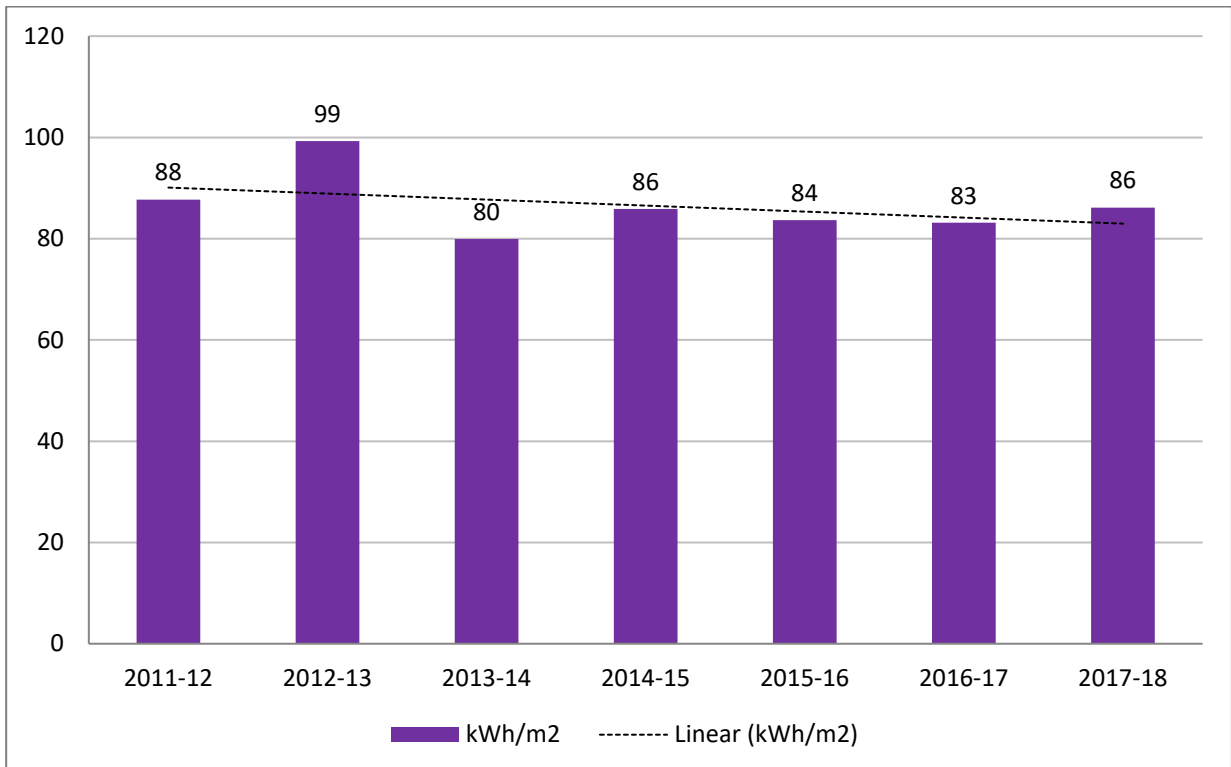


Figure 5 – Gas consumption in kWh per m² of gross internal area.



## 6. Recycling and waste management

| Headline objectives  | Progress summary |
|--|------------------|
| <ul style="list-style-type: none"> <li>Zero waste to landfill.</li> </ul>  | ✓ Completed      |
| <ul style="list-style-type: none"> <li>Introduction of food recycling in offices, recycling bin provision in all teaching spaces and the removal of desk side general waste bins in offices.</li> </ul>                    | ✓ Completed      |
| <ul style="list-style-type: none"> <li>Establishing contracts and service level agreements for all waste streams.</li> </ul>   | ✓ Completed      |
| <ul style="list-style-type: none"> <li>The collection of accurate waste data for all waste streams (that are practical).</li> </ul>  | ✓ Completed      |
| What's our target  | Progress summary |
| <ul style="list-style-type: none"> <li>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).</li> </ul> | ✓ Completed      |

The recycling rate increased to 73% this year. There is the potential to maintain the recycling rate above 70% through procuring a dedicated furniture reuse/ recycling contract. The step reduction in volume in Figure 7 is due to outsourcing some halls of residence. It is possible that future markets/ contracts will require the University to have an office recycling bin purely for paper, cardboard, plastics and cans plus a small general waste bin. This is due to the markets for recycling demanding zero contamination.

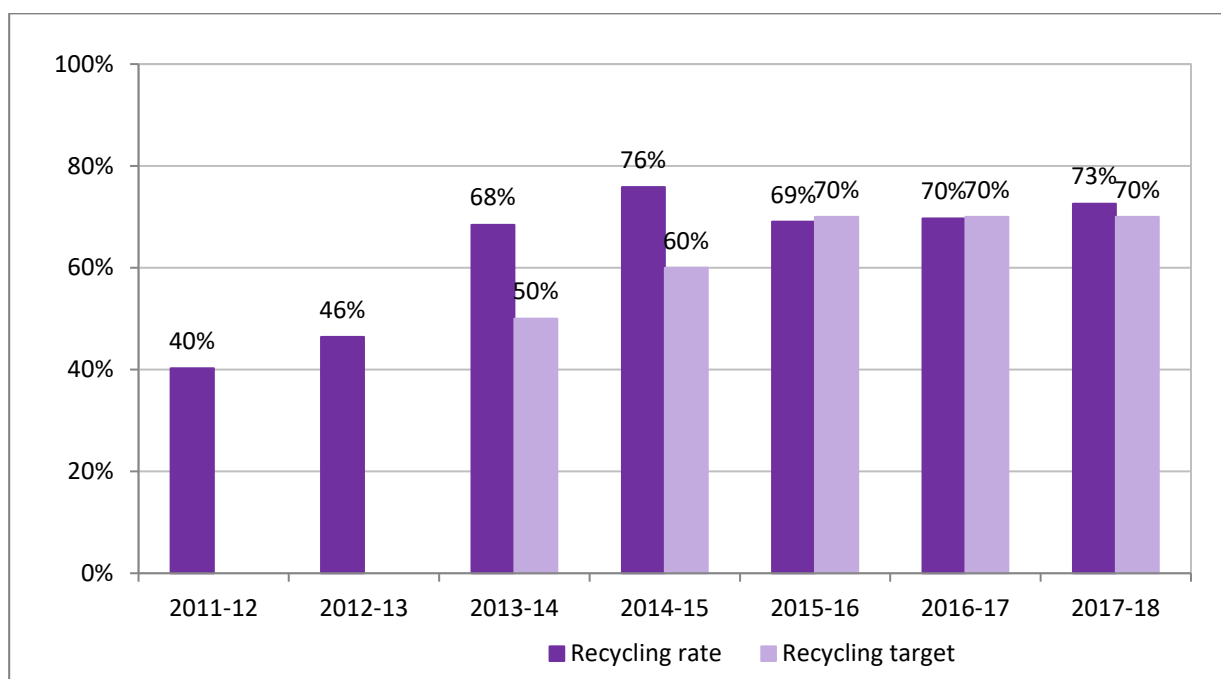


Figure 6 – Recycling rate for all waste produced by the University (excluding construction waste).

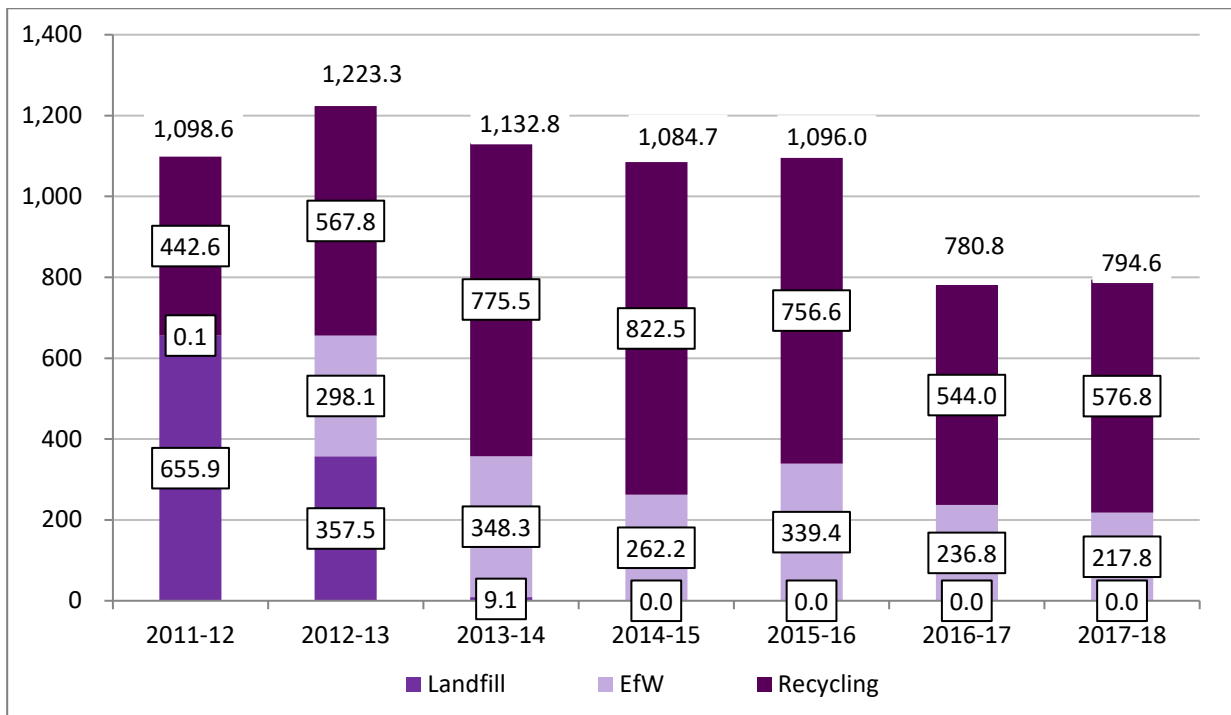


Figure 7 – Tonnes of waste produced by the University in each academic year (excluding construction waste).

## 7. Water management

| Headline objectives  | Progress summary |
|--|------------------|
| <ul style="list-style-type: none"> <li>To introduce monthly billing (subject to Portsmouth Water agreement and cost).</li> </ul>   | ✓ Complete       |
| <ul style="list-style-type: none"> <li>To increase the frequency of water meter readings from quarterly to monthly to support the detection of water leaks.</li> </ul>                                     | ✓ Complete       |
| <ul style="list-style-type: none"> <li>To reduce water consumption to the lowest point 166,190m<sup>3</sup> (measured in 2008-09), subject to health and safety risk assessment.</li> </ul>                | ✓ Complete       |
| What's our target  | Progress summary |
| <ul style="list-style-type: none"> <li>To reduce water consumption to 166,000m<sup>3</sup> by 2017 i.e. to 0.80 m<sup>3</sup> per m<sup>2</sup> (subject to health and safety risk assessment).</li> </ul> | ✓ Complete       |

Although the downward trend in water consumption continues there was an increase this year due to an improvement in data quality from monthly consumption being generated from data logger readings and higher consumption at the Institute of Marine Science. 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 results in higher sewerage costs.

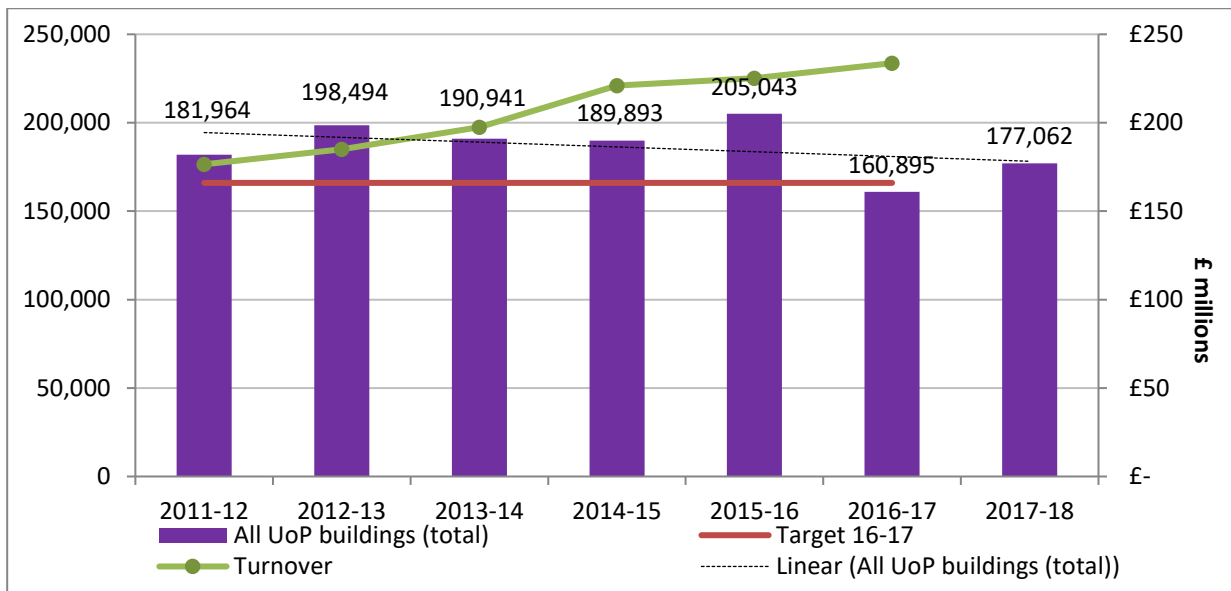


Figure 8 – Total water consumption for the University over the last 5 academic years against University turnover.

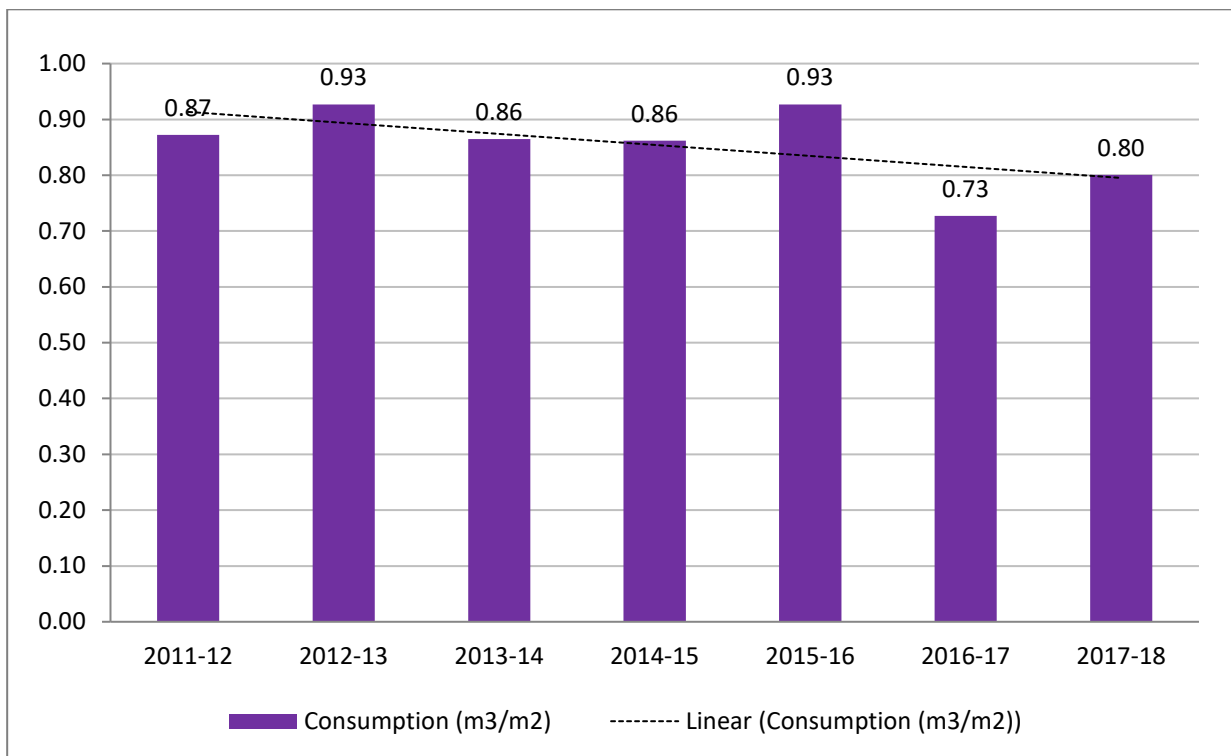


Figure 9 – Water consumption per m<sup>2</sup> of gross internal area over the last 5 academic years

## 8. Sustainable construction

| Headline objective  | Progress summary   |
|---|--|
| <ul style="list-style-type: none"> <li>To extend BREEAM assessments to major refurbishment projects where practical.</li> </ul> | No projects identified   |
| <ul style="list-style-type: none"> <li>To develop specifications for energy efficiency, water and waste management.</li> </ul>  | ✓ Completed  |
| What's our target   | Progress summary   |
| <ul style="list-style-type: none"> <li>New construction to achieve a 'Very Good' rating.</li> </ul>                             | Portland Building 'Future Technology Centre' BREEAM report has been submitted with the aim to achieve an 'Excellent' rating. The new Sports Building is being designed to achieve 'Outstanding'. |

## 9. Emissions, discharges and abstraction

| Headline objective  | Progress summary  |
|---|---|
| <ul style="list-style-type: none"> <li>To investigate monitoring of emissions to air from science based teaching.</li> </ul>                            | No progress.  |
| <ul style="list-style-type: none"> <li>To stay within water abstraction permission limits granted by the Environment Agency.</li> </ul>                 | ✓ Completed   |
| What's our target   | Progress summary  |
| <ul style="list-style-type: none"> <li>To control levels of discharges to drains and emissions to air to remain within consent requirements.</li> </ul> | ✓ Completed for discharge to drains.<br>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   |
|--|--|
| <ul style="list-style-type: none"> <li>Reduce travel carbon emissions (not currently measured).</li> </ul> | No data available to record progress.                                      |
| <ul style="list-style-type: none"> <li>Support air quality improvements.</li> </ul>                        | ✓ Completed  |
| <ul style="list-style-type: none"> <li>Support local travel partnerships.</li> </ul>                       | ✓ Completed  |
| <ul style="list-style-type: none"> <li>Raise the profile of travel information.</li> </ul>                 | ✓ Completed  |
| <ul style="list-style-type: none"> <li>Incentivise walking, cycling and public transport.</li> </ul>       | ✓ Completed  |
| <ul style="list-style-type: none"> <li>Reduce car parking pressure and infrastructure costs.</li> </ul>    | ✓ In progress - Report and review of car parking policy options completed. |
| What's our target  | Progress summary   |
| <ul style="list-style-type: none"> <li>To reduce commuter solo car use by 5% by 2017.</li> </ul>           | ✓ Completed  |

Half of the scheduled actions in the new Travel Plan (2017-20) are being actioned by Hampshire Services in a six month contract ending in March 2019. The objectives are similar but targets are updated in the new plan. The focus of the actions are on redrafting travel information and incentivising the use of public

transport, walking and cycling. Notable progress has been made with the introduction of a new dedicated Park & Ride route serving the University and a new circular University bus route serving the Southsea area.

## 11. Biodiversity

|  |   |
|--|---|
| <b>Headline objective</b>  | <b>Progress summary</b>   |
| <ul style="list-style-type: none"> <li>To maintain and improve the biodiversity value of the University estate.</li> </ul> | In progress – actions in the Biodiversity Action Plan are being implemented through the grounds maintenance contract. |
| <b>What's our target</b>   | <b>Progress summary</b>   |
| <ul style="list-style-type: none"> <li>To conduct a biodiversity survey on an annual basis.</li> </ul>                     | ✓ Completed.  |
| <ul style="list-style-type: none"> <li>To implement the actions in the Biodiversity Action Plan.</li> </ul>                | ✓ Completed.  |

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

## 12. Sustainable procurement

|   |   |
|---|---|
| <b>Headline objectives</b>  | <b>Progress summary</b>   |
| <ul style="list-style-type: none"> <li>To use the assessment methodology developed in-house to grade supplier environmental performance and use this to guide and track improvement.</li> </ul> | 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. |
| <ul style="list-style-type: none"> <li>To generate reliable carbon emission data associated within procurement activity should this be required to be reported in the future.</li> </ul>        | No requirement at present.  |
| <ul style="list-style-type: none"> <li>To produce a sustainable procurement code of practice to support implementation of the Flexible Framework.</li> </ul>                                    | ✓ Completed.  |
| <b>What's our target</b>  | <b>Progress summary</b>   |
| <ul style="list-style-type: none"> <li>To complete all Flexible Framework stages 1-5.</li> </ul>  | Progress remains at stage 4.  |

The University has 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 made on environmental standards and life cycle assessment of services.

## 13. Sustainable food

|   |   |
|---|---|
| <b>Headline objectives</b>  | <b>Progress summary</b>                   |
| <ul style="list-style-type: none"> <li>To reduce our food miles.</li> </ul> | No data available to record any progress. |

|  |   |
|--|---|
| <b>Headline objectives</b>   | <b>Progress summary</b>   |
| <ul style="list-style-type: none"> <li>To provide food that comes from environmental and social responsible sources.</li> </ul>        | ✓ Completed – Fairtrade status retained.  |
| <b>What's our target</b>   | <b>Progress summary</b>   |
| <ul style="list-style-type: none"> <li>To achieve the Food for Life standard certification by the Soil Association by 2014.</li> </ul> | In progress - '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. The list of awards indicates the University's ambitions.

**Fair Trade** – The University has been a Fairtrade University since 2005 and in 2015 successfully renewed Fairtrade Statues until 2017.

**Good Pig Award** – The University already holds three Compassion in World Farming awards for the sole use of Free Range Chickens, Free Range Eggs and egg products and Dairy, 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** – 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. 3 stars is 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 University has been invited to join 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 and war on plastic** – The University 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. Catering banned the use of plastic straws in December 2017 and continue to reduce and eliminate the use of plastic in catering across campus and have moved to using only bamboo or metal cutlery. Where 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.