

## The University of Liverpool Facilities and Services

### Tackling water scarcity with a tidal wave of efficiencies

#### About the project

##### Summary

Through implementing a comprehensive water management plan the University has reduced its water consumption by 20%; enough water to fully hydrate (8 glasses a day) our 30,000 students, every day, for over 15 years!

Reducing water consumption has also resulted in corresponding cost savings of over £1 million, improved the environmental efficiency of buildings and directly contributed to the provision of safe water and sanitation to over 600,000 people in the world's most impoverished countries, via charity WaterAid.

##### Project partners

The AquaFund project is delivered in partnership with ADSM, water efficiency experts and consultants to the government.

#### The results

##### The problem

Water is becoming an increasingly scarce commodity in the UK, with climate change, rapid population growth and economic development increasing the strain on our most vital resource. However water plays a vital role in the safety and welfare of our students and staff; from hydrating students, to showers, and the provision of water to our labs and farm.

The direct carbon emissions from our water use account for 160 tonnes per year, but the wider environmental impacts are far greater. As part of our collective vision for a responsible future, 'Sustainability University of Liverpool', we identified that action needed to be taken in order to reduce our water consumption, improve the efficiency of our buildings and reduce our environmental impact.

##### The approach

The project takes a truly comprehensive and collaborative approach to water management and captures all the data related to our sites, water billing information, costs and consumption; it then reduces the physical volume of water we use by the installation of high-tech water saving equipment including AMR, and maintains these reductions on an ongoing basis.



##### Profile

Example:

- HE
- 30,000 students
- 5,600 staff
- Urban/Rural
- Area covering 40 hectares

Category supported by



## Our goals

- To reduce our environmental impact, by reducing our water consumption and saving CO<sub>2</sub>e
- To reduce our water costs
- To improve the water efficiency of our buildings
- To improve the visibility of our operational, financial and billing data for water
- Improve skills of our workforce and encourage staff and student engagement with water

## Obstacles and solutions

Dealing with leaks and reading	The University did not have the resource to read our 180 water meters each month, so in order to solve this issue Automatic Meter Reading (AMR) and sub-metering were installed across the estate. This allowed complete visibility of our water usage and the ability to quickly investigate any anomalies in consumption, i.e. dealing with leaks quickly and effectively. This resulted in a number of high consuming and complicated leaks being identified and remedied at various sites, including a number of major leaks at our veterinary and city centre campuses, where water supply is critical. If not rectified the leaks could have potentially wasted nearly 50,000m <sup>3</sup> of water per annum – equivalent to 47 showers for each of our 30,000 students, and costing over £125,000. AMR units installed now cover 85% of the University's total water consumption.
Changing estate	Our estate is a mixture of old and new builds and has drastically changed over the last 5 years, which has presented challenges to our relatively small estates and maintenance team. Having the visibility which the AMR and sub-metering provide, has been indispensable throughout this period, as it has ensured that we can accurately track our consumption during all the changes to our estate. It has also given us the ability to focus resources where they are really needed, as the AMR along with site information and benchmarking can tell us definitively where we have a consumption issue.

## Performance and results

- A 20% year-on-year reduction in water consumption, equating to 340,815 m<sup>3</sup>
- A 21% reduction in water costs equating to over £1 million
- Saved 163 tonnes of CO<sub>2</sub>e
- Helped assist over 600,000 people out of water poverty in Mali, India, Tanzania and Nepal
- Improved skills to our workforce
- AMR units installed now cover 85% of the University's water consumption – which means, the rate of leakage identification has increased from a few months to within 24hours

- Improved the environmental impact of the University's buildings, through the installation of water saving equipment, benchmarks and continual monitoring
- Increased visibility and transparency in all of the University's operational, financial and billing data
- The University is prepared for deregulation of the water market in 2017

The partnership is continuing to deliver positive changes and conserving a scarce resource for the future. By the time of the partnership's conclusion, the University will have saved millions of litres of water, reduced costs and CO<sub>2</sub>e, prepared for the threat of water scarcity and have a robust water management plan to take into the future.

## The future

### Lessons learned

- Successful water management requires a comprehensive approach
- That effective collaboration can produce economically beneficial and sustainable results
- Being able to quantify and easily relay information about our water consumption and the work we are doing to reduce it has really improved staff and student engagement.

### Sharing your project

Our project has been widely disseminated through news articles, press releases and case studies along with the methods outlined below:

- We are active on social media, with 33.9 thousand Twitter followers, to whom we promote our water and carbon saving success.
- Take a leading role in advancing the sustainability agenda in the North West region and actively continue to develop local, national and global partnerships and networks in order to share knowledge and best practice projects amongst our peers.
- Communicate current environmental sustainability activities and achievements to staff, students and alumni through our intranet and via email.
- Produce an annual WaterAid sustainability update report that shows how many people, and in which countries, we have provided fresh water and sanitation to through the AquaFund Project.
- The video case study we have prepared for this award submission will also be used to further disseminate our project through all available channels.

As a direct result of our performance on this project other organisations have started their own AquaFund projects.

## What has it meant to your institution to be a Green Gown Award finalist?

Being a finalist has provided independent recognition of our collaborative approach to managing our water, to our University and to all the staff involved with the project. It has also helped us further disseminate our project and we hope showcase to other organisations how effective collaboration and a comprehensive approach to water management can produce fantastic results.

## Further information

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