

Water Management Plan

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Introduction

The University is committed to tackle climate change and reduce resource use as outlined in the University's Climate Change and Social Responsibility Policy.¹ This includes reducing its use of water for research and sanitation purposes. It also includes managing the impact the university has on Scotland's drains and sewers through run-off and drainage from its grounds and buildings.

This plan will focus on water conservation across the Strathclyde Estate for the period 2020-2025. Its aim is to establish clear procedures and recommended actions that will allow the University to positively manage our impacts in this key areas, whilst inspiring collaboration through visible initiatives which enhance understanding in these areas.

Through partnerships with our licensed provider and Climate Ready Clyde we aim to harness expertise and facilitate researchers, under-graduate and post-graduate students and operational staff to collaborate on solutions. Where possible these will be used to provide tangible examples of different types of water management for students, staff and the region.

¹
https://www.strath.ac.uk/media/ps/estatesmanagement/sustainability/sustainabilitytemp/SD_and_Climate_Change_Policy.pdf

Policy and Legislative Context

The following policies are encouraging the university to positively respond to climate change adaptation.

Climate Change (Scotland) Act 2009²

The Climate Change (Scotland) Act 2009 established the Public Bodies Climate Change Duties which came into force on 1 January 2011. It requires that Public Bodies exercise their functions:

- in a way best calculated to contribute to deliver the Act's emissions reduction targets;
- in a way best calculated **to deliver any statutory adaptation programme**;
- in a way that it considers most sustainable.

Building (Scotland) Regulations 2004³

These regulations prescribe functional standards for buildings. They apply to construction, conversion and demolition of buildings and also to the provision of services, fittings and equipment in or in connection with buildings.

Climate Change and Social Responsibility Policy⁴

The University of Strathclyde is committed to reducing its environmental impact by mitigating carbon emissions and adapting to climate change.

Sustainable Construction and Refurbishment⁵

All new and refurbished University buildings must demonstrate exemplary sustainable design. 'Business as Usual' is not an option.

Background

Historic Water Use

The University's water use in its baseline year for carbon reporting, 2009/10, was 307 million litres. The five years following this saw a consistent reduction to a minimum of 156 million litres in 2014/15. This was primarily due to the University's single campus strategy leading to divestment from, and ultimately disposal of, Jordanhill campus.

In recent years water use has risen with the construction of new buildings such as the Technology and Innovation Centre in 2015 and Strathclyde Sport in 2018. The University spent £775,000 on water and sewerage services in the academic year 2017/18,

Since 2012 the University has utilised its licensed provider to install automatic meter readers (AMR) on all of its eligible supplies. This enables leak detection and identification of changes to consumption levels in University properties.

Following the install of AMR the University invested in a meter downsize project in 2016 that delivered savings of circa £20,000 per annum.

² <https://www.legislation.gov.uk/asp/2009/12/contents>

³ <http://www.legislation.gov.uk/ssi/2004/406/contents/made>

⁴ <https://www.strath.ac.uk/sustainablestrathclyde/climatechange/>

⁵ <https://www.strath.ac.uk/sustainablestrathclyde/policyguidelines/construction/>

Surface Water run-off

The University's John Anderson campus position on top of a hill increases potential impact on downstream flooding, linked to surface water run-off from impermeable paving surfaces and buildings.

Existing biodiversity initiatives such as increased tree planting and the Community Garden have a secondary benefit of reducing run-off. The University is investing in soft landscaping as part of its heart of the campus project an Sustainable Urban Drainage Systems such as the one at PNDC to slow the surface water run-off and reduce the risk of flooding.



Figure 1 - PNDC SuDS system

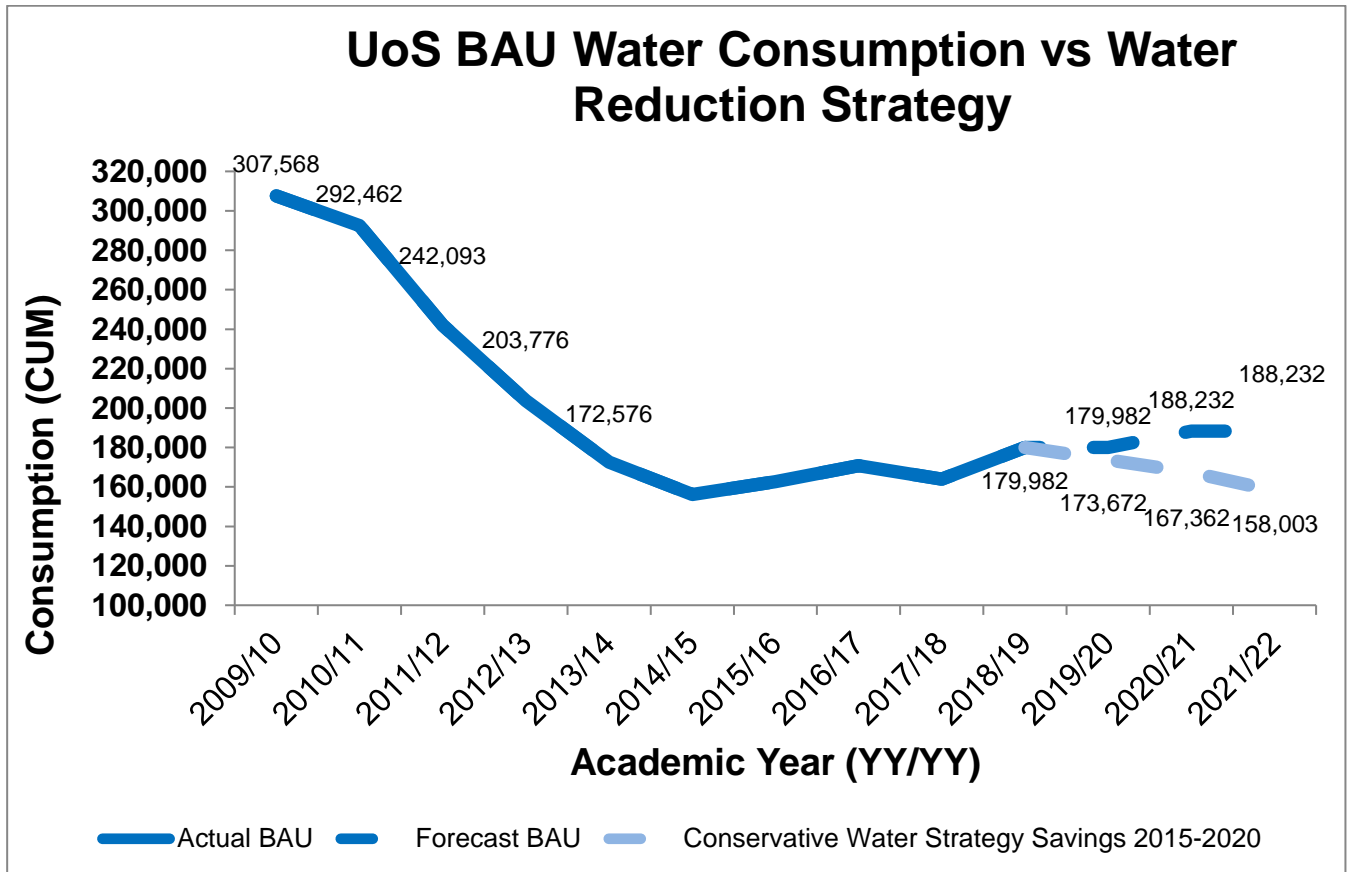
Sustainable Labs (S-Labs)

Over 40% of the University's water consumption occurs in lab buildings. This is primarily from research activities such as condensing solvents and use of chilled water. The University's S-labs programme therefore focuses on engaging lab users to reduce their environmental impact, including their use of water.

Water reduction in lab buildings to date has primarily been through the use of waterless condensers in the place of their water thirsty equivalent and Unichillers. Water unichillers (Figure 2) are unique equipment that can substantially reduce water wastage. Compared to conventional tap water cooling chillers offer higher rates of efficiency, stable pressure and flow rates. They reduce water consumption, making them an environmentally friendly refrigeration solution with low running cost.

Objectives and Targets

1. To reduce water consumption to 2014/15 levels by 2022.
2. To better understand and reduce our downstream impact from surface water run-off.
3. To integrate sustainable urban drainage solutions into University grounds and existing and new developments.
4. To identify opportunities to link actions within the strategy to research and teaching at the University.
5. To reduce water consumption from laboratory research and teaching through the innovative S-labs programme.



Actions

Action	Priority	Responsibility
All new builds and refurbishments will be fitted with AMR to better monitor water efficiency	High	University Sustainability Team
Identify areas for retro-fit of water efficiency technologies.	High	Sustainability Team
The University will consider a water shut-down policy for periods when the university is officially closed.	High	Estates
Catering operations will be assessed to ensure that an appropriate water use strategy is in place.	Medium	Sustainability Team/Nourish
Invest in green infrastructure to reduce the impact of surface water run-off	Medium	Estates
Labs engaged with the S-labs programme to identify water saving measures in research	Medium	Lab teams
Analyse potential sources of diffuse pollution on estate and investigate ways to minimise.	Medium	Sustainability Team
The University will investigate the potential for pressure reduction across the university estate to reduce leaks and bursts.	Low	Estates