

Water Management Plan

June 2022

*Recognising our achievements,
tracking our performance and
outlining the way forwards.*



Introduction

Nottingham Trent University (NTU) has already made progress on reducing water.

Since 2010 we have grown and developed as a university and now have 37,186 students and 4,468 staff. NTU was named Times Higher Education University of the Year in 2017, Modern University of the Year 2018 in the Times/Sunday Times Good University Guide and Guardian University of the Year 2019. Over these years we have increased both the size and quality of our estate.

During a period of growth, we have also reduced water usage.

Since 2018/19, we have reduced our absolute water usage by 8.4%. When viewed considering our growth as a university, we have achieved a 23.4% reduction per full time equivalent (FTE) staff and student. NTU's Water Policy commits NTU to reducing water usage per FTE staff and student year on year.

Our work around water reduction forms just one part of our sector leading sustainability performance. In 2012, we became the first UK university to achieve the EcoCampus Platinum mark and the first to achieve ISO14001, the international gold standard for environmental management. We have consistently been ranked in the top five global universities for sustainability in the UI Green Metric and ranked in the top three for the UK's the People and Planet University League.

We will move forward to carry out more world-leading teaching and research.

As our university continues to grow, we will increase our focus on conducting world-leading research that will change people's lives for the better.

Researchers representing NTU's Sustainable Futures research theme are helping to answer big societal questions, including those about water management and sustainable development.

The task facing NTU is to continue to increase the amount of cutting-edge research we produce, whilst also ensuring that the impacts associated with this vital work from a sustainability perspective continue to reduce.

ISTeC - an Exemplar Building



The Inter-Disciplinary Science and Technology (ISTeC) Building, Clifton Campus, an NTU flagship building. ISTeC incorporates water efficient outlets throughout and laboratory specific water saving features such as aluminium bead baths in place of water baths.

NTU, Water Scorecard - 2022

Key Performance Indicator

Water usage in the managed estate relative to full time equivalent (FTE) student and staff numbers: **23.4% reduction from academic year 2018/19 to 2020/21, to 3.29 m³ per FTE.**

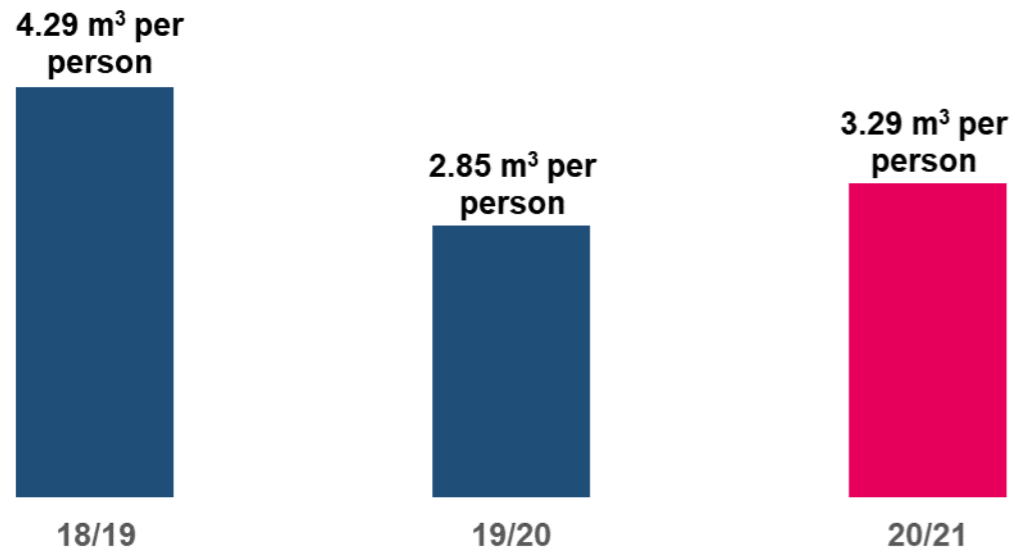


Figure 1: Water usage per FTE (m³ / Full time equivalent staff/student)

Sector Comparison

The below graph shows the ranking of all UK Higher Education Institutions, measured by water usage per person. NTU ranks 5th of 128 providers on this measure.

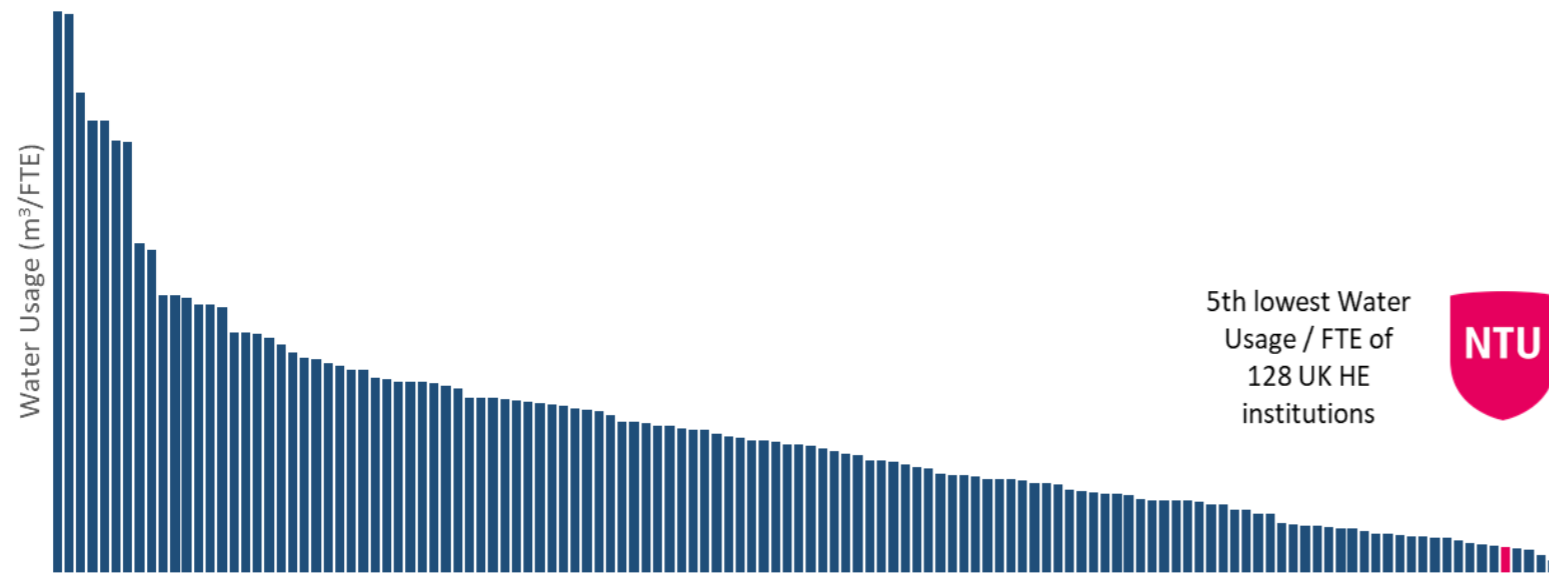


Figure 2: Water Usage per FTE (m³ / Full time equivalent staff/student)

Source: HESA statistics, 2019/20.

Recent Water Project Highlights

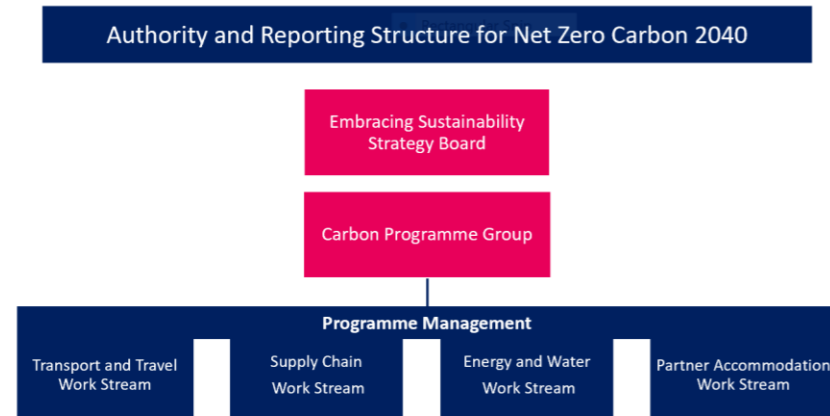
<p>All buildings refurbished in past 5 years</p> <p>Fitted with water efficient fixtures</p>	<p>8.4%</p> <p>Reduction in absolute water usage from 2018/19 to 2020/21 in the managed estate</p>	<p>14</p> <p>NTU buildings have achieved or are on track to receive a BREEAM 'Excellent' rating</p>
<p>732</p> <p>Sustainability in Practice certificates awarded in 2020/21</p>	<p>1</p> <p>Major leak detection and repair project currently underway</p>	<p>3,600</p> <p>Staff and Students registered on 'Green Rewards' since 2018</p>

What next? Water Strategic Themes

<p>Culture and Communication</p> <p>University wide 'Embracing Sustainability' Strategy strand.</p> <p>Research relevant to water.</p> <p>Raising awareness through ESD in the curriculum.</p> <p>Rewarding sustainable behaviours.</p>	<p>Construction and Refurbishment</p> <p>New buildings will achieve BREEAM Excellent.</p> <p>Major refurbishments will achieve BREEAM Very Good.</p>	<p>Efficient Estate</p> <p>BMS Optimisation.</p> <p>Preventative maintenance.</p> <p>Procuring water efficient equipment.</p> <p>Effective monitoring and reporting of consumption to identify opportunities</p>
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Policy & Governance

Effective Environmental Management Systems require the support of the whole University. Our University Executive Team has committed to 'Embracing Sustainability' across NTU, establishing a governance structure, strategic vision, and supporting carbon reduction aspirations through a framework of relevant policy. The Embracing Sustainability Strategy Board sets strategy, as shown in the model below:



Vision

The University's 2020-25 Strategy, *University Reimagined*, includes the clear vision that by 2025 we will have "curated an intergenerational conversation with our students, colleagues, and stakeholders and are recognised as the most environmentally responsible University in the UK." This commitment to organisational sustainability is the foundation upon which water efficiency and sustainability is developed and delivered at NTU.

Policy Context

Water management at NTU is framed through a series of core University policies, including:

- NTU Environmental Policy
- NTU Water Policy
- NTU Sustainable Construction Policy
- NTU Sustainable Procurement Policy

Current versions of all relevant policies are available online, at <https://www.ntu.ac.uk/about-us/sustainability/our-policies>

Drivers

Reputational. NTU's commitments and actions towards becoming a sustainable institution continue to drive external accolades and league table performance.

Recruitment and Retention. By showing strong performance around key sustainability issues NTU will benefit from attracting and retaining top level staff and students across the university.

Legislative. NTU must continue to comply with all environmental legislation and meet the requirements of our ISO14001 Environmental Management System.

Financial. Reducing wasteful practices has financial as well as environmental benefits. We have a duty as a university to ensure best value in delivering the facilities needed for our students and staff.

Finance

Increasing utility costs

In 2020/21, each cubic metre of water cost NTU an average of £3.16 in utility bills and NTU's usage was 120,098 m³. Over the past decade utility costs have increased and these increases are likely to continue.

Budgets

In order to deliver our water reduction target and mitigate utility costs, any actions taken in line with the Water Management Plan will be carried out by existing staff.

Some projects will require upfront investment, either from external funding sources or internal bids, as appropriate for the project in question. Projects resulting in a 5-year payback period or less will be considered for funding.

We will continue to resource water reduction related projects.

Reporting

The Estates Department will monitor and review progress against the Water Management Plan and report this in the annual Utilities Review Document. Progress against our identified opportunities will also be reported annually to the Environmental Management Review Committee which oversees the performance of objectives set within NTU's ISO 14001 Environmental Management System.

Strategic Themes

We will reduce water use through three strategic themes that mirror our wider sustainability efforts.

Culture & Communication

We will create a culture of sustainable behaviours across NTU, empowering our staff and students to save water in their daily roles. We will initiate this culture of water efficiency by:

Engaging with users of high-consumption facilities

Where building surveys and metering data identify opportunities for more efficient behaviours, we will work with relevant staff to understand the reasons behind specific practices and then develop bespoke solutions that will support colleagues to change behaviours.

Laboratories are acknowledged as intensive water users. Engagement will be targeted in line with NTU's wider 'Embracing Sustainability' Strategy strand to encourage water efficient behaviours. NTU's School of Science and Technology has enrolled in the Laboratory Efficiency Assessment Framework (LEAF) which helps lab users increase the sustainability of their labs. This new initiative will assist in sustainability efforts including water efficiency.

Rewarding efficient water usage

Our 'Green Rewards' engagement tool, launched in 2018/2019 online and as a mobile app, monitors and rewards sustainable behaviours from our student and staff community. We will use this medium to incentivise specific sustainable behaviours including water efficiency. To date over 3,600 staff and students have signed up to Green Rewards.

Raising awareness through the curriculum

All NTU students receive sustainability education embedded within their course that is relevant to their subject, including water where appropriate. A Sustainability in Practice certificate is delivered both online and face to face.

In addition, a new Student Sustainability Induction Package was launched in 2020/21 which includes water efficiency awareness.

Staff Training

As part of NTU's commitment to sustainability, the voluntary Sustainability Awareness training package is delivered to all staff and includes a section on the importance of water efficiency.

Construction & Refurbishment

All new buildings will achieve BREEAM Excellent. All major refurbishments will achieve BREEAM Very Good. BREEAM assesses water performance in litres per person per day against a baseline and awards credits for performance above this.

Brackenhurst Residences

New building,
September 2019

BREEAM Excellent



Engineering Building

Clifton Campus, new building,
September 2019

BREEAM Excellent



MTIF

Clifton Campus, new building,
September 2020

BREEAM Excellent



Enterprise & Innovation

City Campus, new building,
April 2021

BREEAM Excellent



Clinical Skills

Clifton Campus, new building,
January 2022

BREEAM Excellent



Linking with the wider Sustainability Agenda

We will explicitly link Water Management with wider Sustainability aspects such as Carbon Reduction. This will ensure water efficiency is weighed alongside wider decisions on carbon reduction, upgrades and improvements. We aim to maximise co-benefits where possible rather than working in isolation.

Efficient Estate

We will continue our programme of estate modernisation that ensures our existing buildings are water efficient.

Mechanical & Metering upgrades

Opportunities for one-off refits, water efficient upgrades e.g. tap adaptor fittings and other similar projects, will continue to be identified. Where appropriate, sub-metering for additional buildings will also be installed. This allows for focused monitoring of usage and spotting problems such as leaks.

Long-term Maintenance

NTU will follow a programme of preventative maintenance which will maximise the lifespan of water infrastructure and optimise the water performance of various building services across our estate.

NTU's minimum specifications stipulate that all new water outlets will be fitted with water volume flow regulators.

Covid-19 Context

As part of NTU's Covid-19 response, an estate wide programme to replace any manually operated taps with sensor operated versions is underway. Across all campuses an estimated 605 taps will be replaced. Studies suggest an approximate water saving of between 60% and 80% when moving from manual to sensor operated taps. This is due to the reduced likelihood of leaks/drips, the inclusion of a flow regulator and removing the risk of taps being left on by users.

Specialist Equipment Procurement

Intensive laboratory buildings can use up to 40% more water than equivalent office buildings. The process for procuring water intensive equipment is being reviewed to ensure that water efficiency is a priority for buyers. This will be reflected in tender processes.

Leak Detection

We will investigate opportunities for proactive leak detection and repair. Leaks identified on Brackenhurst campus in 2016/17 were estimated as losing 6,439m³ of water.

At the time of publication, a major repair project is underway on our Brackenhurst campus which will replace sections of cast iron water main with medium-density polyethylene pipes to rectify an identified issue and reduce the likelihood of future leaks.